National Institute for Health and Care Excellence

Tobacco: preventing uptake, promoting quitting and treating dependence: update

[L] Evidence reviews for barriers and facilitators to using e-cigarettes for cessation or harm reduction

NICE guideline <number>

Evidence reviews underpinning recommendations 1.12.1 to 1.12.6, 1.12.13 to 1.12.17, and research recommendations in the NICE guideline

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Contents

1 Barriers and facilitators to using e-
2 cigarettes for cessation or harm reduction

3 Review question

4 What are the barriers and facilitators to people who smoke[a] using e-cigarettes[b] for smoking
5 cessation or harm reduction?

6 Introduction

7 Understanding patient choice and the decisions which contribute towards this choice is
8 important and may inform what information can or should be given to various groups about e-
9 cigarettes.

10 This review aims to explore factors which affect whether or not people who smoke use e-
11 cigarettes for smoking cessation and harm reduction. The evidence in this review will also be
12 considered in light of evidence about whether e-cigarettes are found to be effective for
13 cessation and harm reduction, and the evidence on long-term health effects.

14 PICO table

15 **Table 1: PICO inclusion criteria**

Population	People aged 18 and over who want to stop smoking or want to reduce their harm from smoking, or those who have quit or reduced their harm already. People do not need to be currently using or to have used e-cigarettes in the past in order to be included. People may have used e-cigarettes alone, or in combination with other treatments. **Excluded**: • Pregnant women. • People under age 18. • People who use e-cigarettes for purposes other than for cessation or harm reduction.
Setting	All settings in the United Kingdom
Themes	Salient data about barriers and facilitators might include: • Accessibility • Acceptability • Stigma • Beliefs about health benefits or harms
Outcomes	Qualitative evidence summary (thematic analysis) will include: • Primary material through direct quotations • Secondary analysis through author's analysis and summary of themes. **Excluded** Themes related to the legal or licensing status of e-cigarettes, or their marketing, except insofar as this affects their acceptability. Barriers or facilitators to using e-cigarettes for purposes other than smoking cessation or harm reduction.

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[a] Throughout, smoking refers to the use of all smoked tobacco products. 'Smoking' or 'smoking habitually' refers, unless specifically stated otherwise, to people who smoke weekly or more often.
[b] E-cigarettes refer throughout to any type of e-cigarette which contains nicotine.

1 Methods and process

2 This evidence review was developed using the methods and processes described in
3 Developing NICE guidelines: the manual (2018). Further methods are detailed in the
4 methods chapter for this guideline. Methods specific to this review question are described in
5 the review protocol in Appendix C.

6 Declarations of interest were recorded according to NICE's 2018 conflicts of interest policy.

7 See Methods document for details of rationale for CERQual judgements.

8 Identification of public health evidence

9 Included studies

10 This review is a new review for this guideline. A joint search was used to identify relevant
11 studies for review questions 4.1, 6.2, 6.3 and 6.4. Review 6.2 is presented in this document.
12 A systematic search was undertaken in January 2019 for studies published since 1998 and
13 in the English language. Further details on the search strategy are available in Appendix D.

14 After removal of duplicates 5280 unique database results were identified. 67 website results
15 were also identified and sifted. 35 papers were ordered for full-text review. Of these, 8
16 papers (8 studies) met the inclusion criteria for this review.

17 Rerun searches were carried out in November 2019. 1,560 articles were identified. Seven
18 were requested for full-paper assessment. One met the inclusion criteria for this review
19 (Hartwell 2019).

20 In total, 9 studies were included in this review.

21 Excluded studies

22 See Appendix F for a full list of excluded studies and the reasons for exclusion.

23 **Table 2: Summary of studies included in the evidence review**

Study	Setting	Population	Data Collection	Sample
Hartwell 2019	England (North, Central, South) Community setting	Adults, smokers or ex-smokers	Interviews Semi-structured	29 participants
Lucherini 2019	Scotland, central Community setting, focus on disadvantaged groups	16-25, smokers or ex-smokers	Interviews Focus groups (both face-to-face) Semi-structured	72 participants
McKeganey 2018	North England and Scotland Community setting	16-26, e-cigarette users	Interviews (channel unclear) Structure not reported	50 participants
Notley 2018	England Community setting	Ex-smokers or relapsed smokers, have used e-cigarettes	Interviews (telephone or face-to-face)	40 participants

Study	Setting	Population	Data Collection	Sample
			Semi-structured	
Rooke 2016	Scotland, Central Community setting, focus on disadvantaged groups	16+, smokers or ex-smokers	Interviews Focus groups (both face-to-face) Structure 'flexible'	64 participants
Sherratt 2016	England, North West Community setting	Users of stop smoking services (current or recent ex-smokers)	Interviews (telephone) Semi-structured	20 participants
Tamimi 2018	England, South East Community setting	E-cigarette users	Interviews (face-to-face or telephone) Semi-structured	15 participants
Vandrevala 2017	England, South East Community setting	18-40, smoking and using e-cigarettes	Interviews (face-to-face) Semi-structured	20 participants
Wadsworth 2018	England, London Community setting	18+, e-cigarette user in past year, current or ex-smoker	Interviews (face-to-face) Semi-structured	29 participants

1   See Appendix B for full evidence tables.

Synthesis and appraisal of public health studies included in the evidence review

3   • Studies included in this review (qualitative studies) were assessed for risk of bias
4   using the CASP qualitative checklist.
5   • GRADE CERQual was used to assess confidence in each review finding.

6   See Appendix A for full GRADE CERQual tables.

Economic evidence

8   Economic evidence was not included for this review.

Economic model

10   Economic modelling was not conducted for this review.
11

Summary of the evidence

13   This table is a very high-level overview of the review findings presented in the GRADE
14   CERQual tables (Appendix A). These results should not be considered apart from the tables,
15   which contain more information about confidence in the evidence and limitations.

1 **Table 3: Evidence summary**

Review Finding title from GRADE CERQual table	Confidence	Finding number
Convenience, 8 studies. E-cigarettes viewed as readily available, cheaper than smoking, and could be used indoors or when with children	Moderate	1
Diversity and personalisation, 6 studies. Mixed views about the diversity of devices available, influenced by changing generations of e-cigarette	Moderate	2
Managing day-to-day-use, 4 studies. Concern about ability to control levels of personal use, the lack of a clear end point	Moderate	3
Fear of addiction, 5 studies. Concern about becoming addicted to e-cigarettes in addition to or instead of smoking	Moderate	4
E-cigarettes as fun, 5 studies. E-cigarettes not always viewed as related to stopping smoking, some encouraged to use as they were fun to use	Low	5
Harm perceptions, 8 studies. Belief that e-cigarettes were likely to be less harmful than cigarettes; uncertainty around whether e-cigarettes would be harmful to their health	High	6
Stress, 3 studies. In stressful situations smoking was seen as more effective at relieving short-term stress than vaping	Low	7
Acceptability of e-cigarettes, 5 studies. Vaping generally seen as more socially and societally acceptable than smoking	Low	8
Similarity to smoking, 5 studies. Miixed views, e-cigarettes had replicated the hand-to-mouth action of smoking, but for some the similarities were negative	Low	9
Social influence, 4 studies. Influence of peers, family members and social circles on decisions about starting or continuing vaping	Moderate	10

2 **The committee's discussion of the evidence**

3 **Interpreting the evidence**

4 *The outcomes that matter most*

5 The committee were interested in evidence about barriers and facilitators to using e-
6 cigarettes. This evidence was sought in relation to using e-cigarettes for cessation or harm
7 reduction only, and therefore from people who smoke or have smoked. As this review was
8 qualitative, the committee did not specify what particular themes would be extracted, and
9 themes emerged from the data.

10 *Confidence in the evidence*

11 Confidence in the review findings ranged from high to low. According to GRADE CERQual,
12 this indicates that it was either very likely or possible that the findings were a reasonable
13 representation of the phenomenon of interest.

14 The committee's main concern about the evidence was the inclusion of one study
15 (McKeganey 2018) which had been funded by Fontem Ventures, an e-cigarette manufacturer

1 and non-tobacco based subsidiary of Imperial Brands Group. This study was assessed as at
2 high risk of bias according to the CASP checklist, based on an unclear statement of research
3 and limited information on research design, data collection, ethical approval and data
4 analysis. Based on this, the committee did not consider the evidence from this study to be
5 reliable. This study is included in this review in line with NICE's statement on engagement
6 with tobacco industry organisations (2018). As such, the committee considered what the
7 confidence in the evidence would have been without this study (see Table 4). This was used
8 to gain an understanding of what part the study played in the body of evidence. The main
9 findings, which included the McKeganey (2018) study, (Appendix A) were used to make
10 decisions about recommendations.

11 **Table 4: Confidence in the evidence without study funded by tobacco organisation**

Review Finding title	Original Confidence	Confidence after removal of McKeganey 2018	Reason
Convenience	Moderate	Moderate	Reduction in concerns about methodological limitations balanced with adequacy
Diversity and personalisation	Moderate	Moderate	McKeganey not included in this finding
Managing day-to-day-use	Moderate	Moderate	McKeganey not included in this finding
Fear of addiction	Moderate	Moderate	Reduction in concerns about methodological limitations balanced with adequacy
E-cigarettes as fun	Low	Low	Reduction in concerns about methodological limitations balanced with adequacy. Large amount of data about e-cigarettes being fun removed; fun being negative retained.
Harm perceptions	High	High	Confidence already high so cannot be increased.
Stress	Low	Low	McKeganey not included in this finding
Acceptability of e-cigarettes	Low	Moderate	Reduction in concerns about methodological limitations outweighs slightly increased concerns about adequacy.
Similarity to smoking	Low	Low	McKeganey not included in this finding
Social influence	Moderate	Moderate	McKeganey not included in this finding

12 Removal of the high risk of bias study leads to greater confidence in one finding, on
13 acceptability of e-cigarettes. In the remainder of findings, any reduction in methodological
14 concerns was balanced by increased concerns about adequacy, and so confidence is
15 unchanged.

16 Aside from this concern, the committee agreed that the studies were generally well
17 conducted, and they had no particular concerns about risk of bias. The fit between the data
18 and the review findings was generally good, resulting in limited concerns about coherence,
19 which were restricted mainly to the finding about convenience (where some data suggested
20 that cost of newer e-cigarette types could actually be prohibitive) and e-cigarettes as fun
21 (where some data suggested that e-cigarettes being seen as too serious or only for heavy
22 smokers could be a barrier to use).

1   The committee recognised but were not concerned by the presence of some studies which
2   included participants aged 16 and 17. They agreed that the proportion of these participants
3   was likely to be very small, and that although they might experience e-cigarettes differently
4   (for example, see finding 5) most of their experiences might not be meaningfully different
5   from participants over the age of 18, particularly in relation to the themes explored in this
6   review. Similarly, the inclusion of one study which included a small number of participants
7   who weren't and hadn't been smokers (McKeganey 2018, 3/50 participants not smokers)
8   was not a particular cause for concern due to the vast majority of the participants overall
9   being smokers.

10   The qualitative nature of this data does not allow an assumption of generalisability. But the
11   committee agreed that the evidence represented the views of a broad range of participants
12   and circumstances and therefore gave detailed and valuable insight. Some groups were not
13   represented (see 'other factors the committee took into account'). The committee pointed out
14   that although data saturation was not reached in a number of the review findings, the findings
15   themselves reflected their own expertise and understanding of the barriers and facilitators to
16   using e-cigarettes, as well as offering new and useful insights which were highly relevant to
17   the UK context.

18   ***Benefits and harms***

19   A separate review on the effectiveness of treatments for smoking cessation (review [K])
20   identified e-cigarettes as effective for cessation at 6 months, and as likely to be among the
21   more effective treatments. Therefore the committee agreed that addressing the barriers to
22   use of e-cigarettes for cessation would be likely to deliver an overall benefit to people trying
23   to stop smoking, while also noting the lack of information on long term health effects of using
24   e-cigarettes (review [M]).

25   The committee identified various levels at which the findings of this review might be used to
26   reduce the harm of smoking. They agreed that those involved in developing training for staff
27   involved in smoking cessation should be aware of the main barriers people face to using e-
28   cigarettes, in addition to up to date information on effectiveness, side effects, long term
29   health effects, and safe use. Clear communication of this information should improve the
30   consistency of advice given to people interested in stopping smoking using an e-cigarette, or
31   who have not been able to stop smoking using pharmacotherapies like varenicline and long
32   & short acting forms of NRT. Although some barriers, such as concerns about harms of e-
33   cigarettes, may not be able to be fully answered with current evidence, they may still be
34   addressed rather than avoided. The committee also noted the safety scenario analysis
35   suggested that e-cigarettes would need to cause very high number of adverse outcomes
36   before they were considered not to be cost-effective versus placebo

37   The most important themes that the committee agreed were important to prioritise were:

38   • Diversity and personalisation: a view of products as complicated might be a barrier to use.
39   Understanding the different products available and how to use them properly might
40   address this.

41   • Harm perceptions: although evidence in this area is not yet conclusive, an understanding
42   that e-cigarettes are likely to be much less harmful than smoking may reassure people.
43   This may be done by helping people understand that nicotine is not one of the harmful
44   components of smoking, and so continued use is not a concern when balanced with the
45   benefits of cessation. Increased use of the MHRA Yellow Card Scheme may also deliver
46   more evidence in the longer term, and so the committee chose to draw attention to it in
47   recommendations around e-cigarettes.

48   Convenience and managing day to day use: to ensure use of products that comply with the
49   Tobacco Products Directive (2016), and use of these products in a safe way, practitioners
50   may inform patients about where to access devices meeting the regulations. They may also
51   discourage the modification of devices or mixing of e-liquids.

1 Cost effectiveness and resource use

2 Cost effectiveness analysis did not form part of this review. There is cost effectiveness
3 analysis relating to e-cigarette use for smoking cessation in the review on the effectiveness
4 of treatments for smoking cessation (review K).

5 Other factors the committee took into account

6 Two studies (Lucherini 2019 and Rooke 2016) specifically included participants from
7 disadvantaged areas, with high background smoking rates. Aside from these studies, the
8 committee noted that none of the evidence in this review looked at groups known to have
9 high smoking rates or low cessation rates, for example those with mental health conditions.
10 These groups may face greater barriers to smoking cessation, and so the committee were
11 particularly interested in finding ways to overcome these. It remains unclear what the barriers
12 and facilitators to using e-cigarettes are among those at particular risk of not stopping
13 smoking using other means.

14 The committee also noted the absence of evidence about people's views on the existing
15 provision of stop smoking support, with the exception of some favourable views about e-
16 cigarettes in comparison to NRT in terms of satisfaction. As views on existing stop smoking
17 support was not the focus of this review, this is not unexpected.

18 Recommendations supported by this evidence review

19 This evidence review supports recommendations 1.12.1 to 1.12.6, 1.12.13 to 1.12.17, and
20 the research recommendation on factors that may influence the use of nicotine replacement
21 therapy and e-cigarettes. Other evidence supporting these recommendations can be found in
22 the evidence reviews on long-term health effects of e cigarettes (review M) and the evidence
23 review on cessation and harm-reduction treatments (review K).

24

25 References to included studies

26 Hartwell Greg, Egan Matt, and Petticrew Mark (2019) Understanding decisions to use e-
27 cigarettes or behavioural support to quit tobacco: a qualitative study of current and ex-
28 smokers and stop smoking service staff. Addiction (Abingdon, and England).

29 Lucherini Mark, Rooke Catriona, and Amos Amanda (2019) "They're thinking, well it's not as
30 bad, I probably won't get addicted to that. But it's still got the nicotine in it, so...": Maturity,
31 Control, and Socializing: Negotiating Identities in Relation to Smoking and Vaping-A
32 Qualitative Study of Young Adults in Scotland. Nicotine & tobacco research : official journal
33 of the Society for Research on Nicotine and Tobacco 21(1), 81-87

34 McKeganey Neil, Barnard Marina, and Russell Christopher (2018) Vapers and vaping: E-
35 cigarettes users views of vaping and smoking. Drugs: Education, and Prevention & Policy
36 25(1), 13-20

37 Notley Caitlin, Ward Emma, Dawkins Lynne, and Holland Richard (2018) The unique
38 contribution of e-cigarettes for tobacco harm reduction in supporting smoking relapse
39 prevention. Harm reduction journal 15(1), 31

40 Rooke Catriona, Cunningham-Burley Sarah, and Amos Amanda (2016) Smokers' and ex-
41 smokers' understanding of electronic cigarettes: a qualitative study. Tobacco control 25(e1),
42 e60-6

1 Sherratt Frances C, Newson Lisa, Marcus Michael W, Field John K, and Robinson Jude
2 (2016) Perceptions towards electronic cigarettes for smoking cessation among Stop Smoking
3 Service users. British journal of health psychology 21(2), 421-33

4 Tamimi Nancy (2018) Knowledge, attitudes and beliefs towards e-cigarettes among e-
5 cigarette users and stop smoking advisors in South East England: a qualitative study.
6 Primary health care research & development 19(2), 189-196

7 Vandrevala Tushna, Coyle Adrian, Walker Victoria, Cabrera Torres, Joshelyn , Ordona
8 Izobel, and Rahman Panna (2017) 'A good method of quitting smoking' or 'just an alternative
9 to smoking'? Comparative evaluations of e-cigarette and traditional cigarette usage by dual
10 users. Health psychology open 4(1), 2055102916684648

11 Wadsworth Elle, Neale Joanne, McNeill Ann, and Hitchman Sara C (2016) How and Why Do
12 Smokers Start Using E-Cigarettes? Qualitative Study of Vapers in London, UK. International
13 journal of environmental research and public health 13(7),

Appendices

Appendix A – GRADE CERQual tables

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
1. Convenience Most participants, most of whom had or still used e-cigarettes, believed them to be convenient in a variety of ways. Vaping was generally seen as much cheaper than smoking, particularly smoking pre-rolled cigarettes. Participants liked being able to use e-cigarettes indoors, or when with their children. This was particularly important where smoking was not the norm, and so using e-cigarettes allowed them to be more sociable. E-cigarettes were also seen as readily available in shops, and retailers able to provide information on types of devices and strengths of liquids, facilitating impulse buys. All these factors encouraged use of e-cigarettes and sometimes cessation – occasionally spontaneously. A minority of participants - mainly those who used e-cigarettes and still smoked - were concerned about falling back into smoking due to irregularity of access and not being able to get e-cigarettes when they needed them.	8 studies Hartwell 2019 Lucherini 2019 McKeganey 2018 Notley 2018 Sherratt 2016 Tamimi 2018 Vandrevala 2017 Wadsworth 2018	Minor to moderate concerns (one study funded by an e-cigarette manufacturer at high risk of bias, not central to this finding. Remaining studies at low (5) or some (2) risk of bias from lack of reflexivity and some gaps in reporting for data analysis / collection)	Minor concerns (some incoherence in relation to cost: 2 studies mentioned newer generations of e-cigs sometimes prohibitive)	Minor concerns (8 studies with moderately rich data – data on each component of convenience slightly less rich than the theme as a whole)	No or very minor concerns (Data from 2 studies may include some non-smokers: unclear and not possible to separate. One study includes people 16+ but not judged to impact finding)	Moderate confidence *Minor to moderate concerns about risk of bias and some outlying data about costs combine with minor concerns about adequacy of each of the elements within this finding to give us moderate confidence.*

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
Supporting quotations: In terms of convenience I just feel – wow, you know, really convenient. I didn't have to look for matches or lighters or anything like that. [ ] Convenient using it at work indoors, staying away from the cold as well. [ ] It's less invasive and it's so much more easier. (Bina) If you're spending a lot of money on cigarettes it, you know, it's a massive saving when you switch to vaping (F40) The other factor if I'm honest was because cigarettes are just going to go on going up…I'm retired now, I'm on a pension and e-cigarettes are cheaper. (S25: Ex-smoker, current vaper, non-SSS user, female) Financially yes, that's one of the reasons why I tried to move on to e-cigarettes. It's [smoking cigarettes] so expensive particularly if you smoke straights [pre-rolled cigarettes] that rinses you with money [requires a rapid financial outlay]. (Natalie) I didn't have to go outside and stand out there in the cold for five or ten minutes while I smoked the cigarette. I could just sort of, when the wife's not looking (yes) have a quick puff (M70) [I use e-cigarettes] every other weekend when I've got my son to look after. (Howard) The guy in the shop spoke to me about, like, how many I smoked a day, how often I smoked, what I was smoking, that kind of stuff and cos you can go up to 24 mg, but he said no because I was only on ten [cigarettes a day] (right) so 18 was probably the best one to start on (M36) If I find that I don't have this [e-cigarette] at hand – like cigarettes are still a lot more available than e-cigarettes I think so going into a shop and buying cigarettes is easier to get your hands on basically. So that fact if I didn't have this [e-cigarette] and I really wanted one then I know I could get a cigarette. (Holly) The thing is about cigarettes – if you run out of cigarettes there's always going to be somewhere open to buy cigarettes whereas if your electronic cigarette runs out of battery or it breaks you're, you know – what are you going to do? You're really screwed. (Natalie)						
2. Diversity and personalisation Participants had mixed views about the diversity of devices available. <u>Generations</u>: Cig-a-like (first generation) e-cigarettes were often people's first experience of an e-cigarette and were seen as readily available and conceptually accessible. They were usually not seen as most effective for stopping smoking because they tended not to provide a satisfying experience. However tank and modular	6 studies Hartwell 2019 Lucherini 2019 Notley 2018 Tamimi 2018 Vandrevala 2017 Wadsworth 2018	Minor concerns (four studies at low and two studies with some risk of bias from lack of reflexivity and some gaps in reporting for data collection and analysis. The	No or very minor concerns (views on personalisation positive. Views on mods vs. cig-a-likes mixed as expressed in finding.)	Moderate concerns (data from 6 studies was mixed and not rich enough to identify patterns)	No or very minor concerns (data from one study may include non-smokers: unclear and not possible to separate)	Moderate confidence *Moderate concerns about adequacy mean the finding expresses mixed views and uncertainty. Only minor methodological concerns and very*

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
devices (second and third generation), while seen as sophisticated and effective for cessation, were also 'intimidating' or 'bulky'. Personalisation: While a negative first experience put some people off using e-cigarettes altogether, for others it was a doorway into finding out what flavours and strength of nicotine helped them to abstain from smoking. Using different and more personalisable devices facilitated this.		study with most concerns was not central to this finding)				*few concerns about coherence or relevance*

Supporting quotations:

I think they had them in the shop down the road, just like the ones that looked like a cigarette, so I tried that to start with, but they're not very good, I don't think, and if you're seriously thinking of you're, like swapping that for cigarettes, for those sort of ones I think you try them, and think, 'actually they're nothing like it' and (yes) and I think that puts a lot of people off (F46)

Just picking up an e-cigarette from a newsagent and taking a puff and thinking no, that's no good, isn't the end of the story, because there are different brands, different tastes, different strengths and flavours, you can get it right, and it can be a substitute (M63)

Well, my ex had one [e-cigarette] and he lent me it … I rung him three hours later and made him bring me some fags … this one's stronger … it's so strong I can feel it … [it's] sort of like a fag but it just tastes nicer, you can still blow smoke out it has different strengths and I've got like the strongest nicotine one … it's definitely cut me down [in relation to cigarettes]. (Lorna)

One study reported that most participants preferred cig-a-like products which were seen as easier than tank / modular devices which most participants found to be 'bulky' and 'scary'.

| **3. Managing day-to-day use**
Many of those who had used e-cigarettes were concerned about being able to control the levels of their personal use. The lack of a clear start and end point and not knowing how to calibrate e-cigarette use against smoking meant people felt they and others overused e-cigarettes. For some, | 4 studies

Lucherini 2019
Notley 2018
Rooke 2016
Wadsworth 2018 | Minor concerns

(two studies at low risk of bias, and two with some concerns from lack of reflexivity and some gaps in | Minor concerns

(although most studies support this finding, not all participants within all studies talk about this, implying that | Moderate concerns

(data from 4 studies, somewhat rich data with repetition of | No or very minor concerns

(Two studies include people 16+ but not judged to impact finding) | Moderate confidence

Moderate concerns about data adequacy and minor concerns about coherence mean we have moderate |

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
the concern was great enough to be a barrier to cessation. A minority had adapted to 'grazing' throughout the day and found this pattern of use convenient.		reporting for data analysis / collection)	those who don't are not concerned about levels of use)	themes in this finding)		*confidence in this finding*

Supporting quotations:

William: It's not like, that's … five minutes and put it down … it still goes if it's got a charge … I was hazed [affected by vaping] in work all the time which would never happen with a cigarette … I think that's why I've kinda fallen back into smoking a bit more now cause I did have like a situation where I was like I've totally just [vaping too much]." (smoker and vaper)

I had one of those [e-cigarettes]… You didn't know when to stop. At least with a cigarette you get to the end of it and you stub it out and that's you for the next however long. But with that you could just sit and keep puffing away. (FG1-M-36-E)

I feel like I'm grazing on it constantly (yes), whereas with a cigarette it's, you know, when it's done you've had enough because it's finished, whereas with [e-cig] I never really know when I've had enough I suppose. (F36)

"It was hard to tell if, you know, you wanted the equivalent of one cigarette's worth of nicotine,(yeah) it was hard to gauge how much of that you had to take in, so I wasn't sure if it was more concentrated or not." (Yusef, current smoker and ex-vaper, aged 18–24 years).

I use it all day long, whenever, I suppose nicotine withdrawal is kicking in, but I'm not doing it for the numerous minutes that smoking a cigarette can take, so it's often two or three inhales, back in the pocket of the handbag, forget it for a little while (F62)

| **4. Fear of addiction**
Many saw addiction as negative, regardless of what the addiction was to. A fear of becoming addicted to e-cigarettes either in addition to or instead of smoking was held by many people who smoked, whether or not they had tried e-cigarettes. This fear was strong enough to put some people off continuing with or trying e-cigarettes and was compounded by personal anecdotes of friends and family who | 5 studies

Hartwell 2019
Lucherini 2019
McKeganey 2018
Sherratt 2016
Vandrevala 2017 | Minor concerns

(one study funded by an e-cigarette manufacturer at high risk of bias. Remaining four studies at low risk of bias, but with some concerns about | Minor concerns

(although most studies support this finding, not all participants within all studies talk about this, implying that those who don't are not concerned about levels of use) | Moderate concerns

(data from 5 studies, somewhat rich data with repetition of themes in this finding) | No or very minor concerns

(one study may include some non-smokers: unclear and impossible to separate. Two studies include people 16+ but not judged to impact finding) | Moderate confidence

Moderate concerns about data adequacy and minor concerns about coherence and potential bias mean we have moderate confidence in this finding |

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
had been using the devices for long periods of time.		lack of reflexivity)				

Supporting quotations:

 "I was going to try completely stop smoking normal cigarettes and then after a while come off the e-cigarette but I know plenty people that have been on the e-cigarette for over two years now, so they're just as addicted to that as they are normal cigarettes". (smoker, ever vaped, 19 years)

"anybody that I've heard has stopped smoking with them they've been on them since they stopped smoking for like however many years, they've been on them since … they've just constantly stuck to that." (smoker, ever vaped, 19 years

I thought it [e-cigarette usage] was going to be the answer … I don't think that replacing cigarettes is actually the answer. I think that if you start with anything, whether it's e-cigarettes … or putting patches on, you're not – it's just nicotine replacement rather than actually getting over it because it's an addiction … I do know that my best friend who gave up with – by starting an e-cigarette, she's on it all the time … [ ] so you really possibly can end up more addicted to that than you could to traditional cigarettes. (Howard)

I thought I could just vape and then if I could come off that [and] then you would eventually be a non-smoker but I think that because you've still got the nicotine in the vape there's – that's the addictive part, so you're either on one or the other, so it sort of falls into the same category for me … Whether you do it outdoors or it's electric or normal, it's still the same at the end of the day … I just don't think they're a good method of quitting smoking. I think it's just an alternative to smoking. (Jacob)

It got to one point I actually felt like I was addicted to my e-cig and cigarettes independently…and I couldn't, couldn't give either of them up. (S15: Ex-smoker, recent vaper, SSS user, male)

| **5. E-cigarettes as fun** E-cigarettes were not always seen as devices related to cessation or harm reduction. Some participants – mostly younger e-cigarette users – were encouraged to try the devices because they were fun to use, fashionable, tasted good, gave a 'rush' and could be used to perform tricks with the vapour. This effect was present among both those who smoked and those who weren't described as smokers. For others, this perception detracted from the devices being taken seriously as aids to cessation or harm reduction | 5 studies Lucherini 2019 McKeganey 2018 Notley 2018 Vandrevala 2017 Wadsworth 2018 | Minor to moderate concerns (one study funded by an e-cigarette manufacturer at high risk of bias, not central to this finding. Remaining studies at low (3) or some (1) risk of bias from lack | Moderate concerns (e-cigarettes were occasionally seen as only for heavy smokers, implying they were too serious of a measure for lighter smokers) | Moderate concerns (5 studies – data somewhat thin) | Moderate concerns (substantial amount of data about e-cigarettes being fun as a positive was from a study which may include some non-smokers: unclear and not possible to | Low confidence *Moderate concerns about coherence, adequacy and relevance means we have low confidence in this finding* |

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
and led to them thinking the devices weren't for them but were for younger people experimenting.		of reflexivity and some gaps in reporting for data collection)			separate. Could be that, for smokers, 'fun' is less of an incentive to use. Two studies include people 16+ but not judged to impact finding).	

Supporting quotations:

Well the flavour tasted really good and it was like fun, it was kind of a bit of fun really and it tasted good. It did give you a bit of a head rush…. (22 year old female occasional vaper).

Like I've never had a desire to do it, it's just if it's there and I can do cool things with it, just something to play with, it's not like I need to try it, like I feel I need to vape. I just like blowing circles with the smoke and trying like tricks and stuff like that it's kind of interesting seeing how smoke works. (17 year old female occasional vaper).

It was cool, it was a new trend coming out at the time and it was cool – you see everyone smoking the e-cigarette. I was on holidays and then most of my friends – they was already smoking e-cigarettes, they was vaping. Then I decided I would try it out and give it a go and then since then I'm a regular vaper. (Ben)

"I remember thinking it was a fad, like the herbal cigarettes my Mum used to smoke. I just remember thinking they were silly, so I never really thought anything of it, and then I tried them and realised it was actually quite effective." (Grace, ex-smoker and ex-vaper, aged 25–34).

Laura: You get all the wee [young people] jumping about, reckon they're cool, they're an ex-smoker and all that.

Malcolm: Like, young ones running about playing with them." (both smokers, ever vaped, 17years)

| **6. Harm perceptions**
Relative harm compared with smoking:
A large majority believed that e-cigarettes were likely to be less harmful than tobacco cigarettes. This was mainly explained in terms of various perceived contents of cigarettes being | 8 studies

Hartwell 2019
Lucherini 2019
McKeganey 2018 | Minor concerns

(one study funded by an e-cigarette manufacturer at high risk of bias. | No or very minor concerns

(close relationship between the | Minor concerns

(8 studies with moderately rich data) | No or very minor concerns

(Data from 2 studies may include some non-smokers: | High confidence

Minor concerns about risk of bias and adequacy lead to high confidence in this finding. |

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
absent from e-cigarettes: tar, fumes, CO_2, and toxins. The minority of participants who were concerned that e-cigarettes might be just as harmful as cigarettes focussed on mechanism of inhalation being the same as smoking. <u>Safety concerns about e-cigarettes:</u> People were uncertain about whether using e-cigarettes would be harmful to their health. Many did not trust that the contents of e-cigarette liquids were monitored or consistent, and felt that the places they were sold were not always credible or trustworthy. Others found the lack of proof of safety (e.g. in labelling) disconcerting. This did not usually prevent use for cessation or harm reduction, due to beliefs about the relative harm compared with smoking. Some of those who believed e-cigarettes were harmful were misinformed about contents of e-cigarettes, believing them to contain tar or tobacco	Rooke 2016 Sherratt 2016 Tamimi 2018 Vandrevala 2017 Wadsworth 2018	Remaining studies at low (5) or some (2) risk of bias from lack of reflexivity and some gaps in reporting for data collection / analysis)	evidence and the review finding)		unclear and not possible to separate. Two studies include people 16+ but not judged to impact finding)	

Supporting quotations:

<u>Relative harm compared with smoking:</u>

E-cigs are less harmful than smoking because it's not got the same toxins and fumes and tar in it. I'm not really aware of how harmful it is, but it's got to be better for you than smoking. (21 year old female occasional vaper)

Well obviously people know the damage that can be done by smoking tobacco and I think smoking tobacco is a lot worse to the user themselves and everyone around them because second hand smoke obviously can affect anyone. I'm not sure about the second hand smoke with vaping bit I'm guessing that it's really negligible the damage that can be done so I think definitely cigarettes and tobacco are still quite a bit worse than vape. (22 year old male occasional vaper)

'I can't see them being as harmful (as smoked tobacco) because there's no CO_2 in them' (40,Male, Ever).

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
I've always thought it probably will be quite harmful and in the future it'll come out that it's quite harmful but I don't know at the moment as I've not really heard anything about them being harmful. I don't know if I fully trust them because you're still taking things into your lungs and that's not really healthy to do that with anything. (22 year old male past vaper) Safety concerns about e-cigarettes: The only thing that worries me is not really knowing what those chemicals, 'cause you are breathing them in, not really knowing, (1) what they are, and (2), because […] I bought like four of them [refill bottles], for all my friends, and they were all cinnamon but they were all different colours. So, I mean, you don't even know who's mixing them, or what's actually in them, or is one stronger than the other. (Int02-F-47-E) M2: I'd be worried about what is exactly in any of the replacements.[…] This has got more warnings on it than a cigarette packet [Reading out warnings on refill bottle]. […] F1: Maybe if Boots [a UK pharmacy chain] did one or something you might trust it more, but all these…we've never even heard of this company. So I don't know, it just seems a bit… (FG1-36/29-E) 'My sense is that there's a lot of risk aversion around it because nobody can say it's safe, therefore it must be dangerous'. (11K, user) 'We don't know whether they [electronic cigarettes] are 100% safe at all' (9I, user) There's no long-term studies. That kind of worries' (12L, user) I'm sure, you know when you go to these shops and they ask you, what brand cigarettes you smoke and they fill the electronic cigarettes with, it's like a tar. That's what I heard now, I don't know, what I have just heard, but they put like a tar. . .(49, Female, Never) 'I just don't think that meself it's worth bothering with because you're still getting the tobacco aren't you?' (48, Male, Never).						
7. Stress Stressful situations were a barrier to transitioning completely to e-cigarettes. In these situations, smoking was seen as more effective at relieving short-term stress than vaping.	3 studies Lucherini 2019 Rooke 2016 Vandrevala 2017	Minor concerns (2 studies at low risk of bias and one study with some concerns, particularly regarding reflexivity and reporting of data analysis)	No or very minor concerns (finding representative of the data)	Serious concerns (three studies with thin data)	No or very minor concerns (studies are all relevant: one specifies dual users but remaining studies simply require people to be smokers	Low confidence *Serious concerns about adequacy combine with minor concerns about risk of bias to result in low confidence in this finding.*

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
					or ex-smokers. Two studies include people 16+ but not judged to impact finding)	

Supporting quotations:

Fred (smoker, vaper, 24 years) talking about being nervous before a job interview: "so I'll have a fag, and stand outside for ten minutes … but I try and not use the e-cig 'cause it doesn't help with the nerves … A fag kind of helps you a wee [small] bit there."

"Because […] there's a wee bit too much stress in my life at the moment that I had to go back on the cigarettes" (FG08-F-47-S).

If I have to be put into a stressful situation which I have no choice about, e-cigs just don't do the thing. Like it's not – you don't – it just doesn't feel the same as a normal cigarette and there's times when you need that – that harshness at the back of your throat. You need the – the lingering flavour in your mouth just to get through the next twenty minutes or so. (Jessica)

| **8. Acceptability of e-cigarettes** People were concerned about whether their behaviour was socially acceptable. Usually, vaping was seen as more socially accepted and valued by peers and broader society than smoking, which gave people confidence to use e-cigarettes in public. Most commonly, people referred to the way vapour smelt less unpleasant than smoke and clung less to clothes and car interiors. They also conceptualised 'smokers' more negatively than 'vapers', with dual users preferring not to identify with the former. Some felt that e-cigarette users were included in the stigma directed at smokers because both groups were addicted. | 5 studies

Hartwell 2019
McKeganey 2018
Notley 2018
Tamimi 2018
Vandrevala 2017 | Moderate concerns

(one study funded by an e-cigarette manufacturer at high risk of bias, two studies at some risk of bias and two studies at low risk of bias. Main concerns are reflexivity and reporting of data collection and analysis, plus design, | No or very minor concerns

(finding represents data well) | Moderate concerns

(5 studies with somewhat rich data – data on each component of acceptability less rich than the theme as a whole) | Minor concerns

(Data from 2 studies may include some non-smokers: unclear and not possible to separate. One study includes people 16+ but not judged to impact finding) | Low confidence

Moderate concerns about methodology and adequacy, and some minor concerns about relevance contribute to low confidence in this finding |

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
		recruitment, and ethics in the high risk study)				

Supporting quotations:

Because smoking is less healthier so vaping becomes more common if anything. I think smoking would be less accepted because it would be like well there's an alternative that's better for you, it's less offensive to people around you so why are you smoking when you could be vaping. I think it would make smoking less accepted if vaping got more popular. (22 year old male exsmoker occasional vaper)

It often smells quite pleasant and the vapour dissipates quite quickly, it doesn't stick to clothing, so you know I think people have got a better perception of it rather than tobacco smoke (M37)

If someone called me a smoker I would be offended. Even though I'm a smoker I wouldn't want to be called that … I'm one but, you know what I mean, I feel like I'm on the good end of it. (Abida)

Don't consider myself a smoker … Well I don't smoke, well not as much. So I see myself as a vaper rather than a smoker. [ ] Yeah, there's definitely a positive image. (Jake)

'I think the stigma that smokers had has kind of carried on to the e-cigarette users in the sense that the stigma surrounding the addiction itself. People see you as weak because you give in to the addiction because you obviously don't have willpower enough to stop, so it's kind of the moral judgement…' (12L, user).

| **9. Similarity to smoking** For those who had used e-cigarettes and since quit smoking, e-cigarettes had positively replicated the hand-to-mouth action of smoking and made stopping smoking feel like less of a sacrifice than when using nicotine replacement therapies (NRTs), which were not seen as satisfying to use. Some saw the similarities between vaping and smoking as negative: Many of those who had never used e-cigarettes felt vaping was just pretending to stop smoking. Recent ex-smokers saw the similarities to be a threat to their attempts to break the habit and were particularly concerned | 5 studies Notley 2018 Rooke 2016 Sherratt 2016 Vandrevala 2017 Wadsworth 2018 | Minor concerns (three studies at low risk of bias, 2 at some risk. Main concerns are reporting on data collection and analysis, and reflexivity) | Moderate concerns (perceived similarity – and views on whether similarity is good or bad – is mixed. Some dual users see vaping as similar.) | Moderate concerns (data from 5 studies was mixed and not rich enough to fully identify patterns) | No or very minor concerns (studies are all relevant. One study includes people 16+ but not judged to impact finding) | Low confidence *Moderate concerns about the match between data and the finding (coherence) and adequacy of that data to reflect these views in detail contribute to low confidence in the finding.* |

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
about swapping one addiction for another or slipping back into smoking. Meanwhile, dual users spoke about e-cigarettes not being similar enough to smoking for them to give up smoking entirely. Vaping was not rewarding or satisfying enough – a perception facilitated by being able to constantly compare the two experiences.						

Supporting quotations:

it felt like I was smoking, so I didn't have to kind of think up displacement activities, I didn't have to find something else to do with myself, I could do exactly what I'd always done, just with a slightly different device, and yes, I really, really took to it, and within five days I'd chucked out the last of my cigarettes… but you know within 5 days I'd stopped completely without meaning to (F38)

It has confirmed to me that it was just all habit with me because I don't actually need a fag – it's just the motion of going to my mouth and blowing smoke out. (Lorna)

'…the e-cigarettes [are] better than anything they have on the NHS' (7G, user)

I think the ways of giving up that as far as I know are on offer at the moment with, you know, gum and patches and stuff like that, that helps with the physical cravings, but it doesn't help with the habits, and it doesn't help with the feeling of breathing something in and breathing smoke out, which, you know, which is such a fundamental part of smoking that, you know, I think I wouldn't have given up if those had been the only alternatives offered (F38)

The ones that are Nicorette, you would do that if you just wanted to stop smoking and that's it, but the e-cigs, like, you want to stop smoking, but you still want to…have something. (Int03-F-31-S)

[…] putting them in packets like that [Skycig] makes them look as if you're still a smoker, it's very much replacing an awful lot of that paraphernalia round about smoking, which isn't encouraging people to stop really, it's encouraging people to try and pretend that they've stopped. (FG3-M-44-S)

'I haven't tried them. They are just as bad like (as regular cigarettes) – you're still putting something in your mouth' (25, Male, Never)

It [e-cigarette usage] doesn't satisfy you as much as a normal cigarette. It's a different texture, almost, of smoke … I thought it would be more like a cigarette as in the way it felt in the mouth and the – the way the smoke sort of, well the vapour, smelt … It just doesn't give you the same satisfaction outcomes as a normal cigarette. (Jacob)

"I love the smell of cigarettes. I love the way they taste, the disgusting taste that's perfect, the smoke that burns. That's something that I really enjoy... My boyfriend tried to convince me (to try an e-cigarette) . . . and I said . . . "I don't want to do it. Just leave me alone so I can smoke my cigarettes"." (Una, ex-smoker and current vaper, aged 25–34 years).

| **10. Social influence** | 4 studies | No or very minor concerns | No or very minor concerns | Moderate concerns | No or very minor concerns | Moderate confidence |

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
Social circles are a strong influence on people starting and continuing with vaping, and potentially reducing harm or stopping smoking. Peers and family members who have had positive experiences of e-cigarettes can create positive perceptions and a willingness to try e-cigarettes in others. E-cigarettes are often first experienced by trying someone else's device. However, too much pressure to use the devices can inadvertently influence intentions and decisions about vaping negatively. When smoking is seen as a social activity which helps to structure interactions – particularly social interactions involving alcohol – people tended to temporarily revert to smoking.	Lucherini 2019 Sherratt 2016 Vandrevala 2017 Wadsworth 2018	(4 studies at low risk of bias, minor concerns about reflexivity across studies)	(finding represents data well)	(4 studies presenting somewhat rich data	(studies are all relevant, and all include current or ex-smokers. One study includes people 16+ but not judged to impact finding)	*Although there are moderate concerns about adequacy of data, the studies were at low risk for bias, there is coherence between the finding and the data, and the data is highly relevant*

Supporting quotations:

I know that for certain people they do work. I have two sisters and a brother. Now the entire family smoke, err, and I know both of me sisters have tried going down the electronic cigarettes route. . . so while it's working for her, I do consider it a good thing. (40, Male, Never)

"When they tried those e-cigarettes a year or so ago, a mate goes to me, "It works". So I was like, "I have to give it a try". Then my brother, as well, my brother smokes, or used to smoke as well and he's the one that got me on e-cigarettes as well recently." (Liam, ex-smoker, ex-vaper, 25–34).

"I think it was my friend [who] encouraged it . . . She went and got it for me. She said, "I'll go to the shop and get you one, give me the money", and then she went and got it. She encouraged me . . . " (Holly, current smoker and current vaper, aged 25–34 years).

It depends on what sort of company I'm in cos I've got several friends which use e-cigarettes so if I'm with them then I'll just smoke them all the time but if, you know, I'm with other friends or at work then I'll just smoke normal cigarettes. I think, um, at work I tend to smoke normal cigarettes because e-cigarettes – people sort of laugh at you [laughs] with them a bit, um, they're not, um, well sort of supported really.

If I'm out drinking, just now and again I'll fancy just a proper fag. [ ] If I was out and all my friends were smoking and we all went out for a fag, I'd go out and have a real one with them. (Lorna)

Going out socially and drinking. The two seem to go hand in hand – I mean a traditional cigarette and, um, a drink of alcohol. (Howard)

Summary of review finding	Studies contributing to the review finding	Methodological limitations	Coherence	Adequacy	Relevance	CERQual assessment of confidence in the evidence
"Graham (smoker, ex-vaper, 19 years): I tried to stop [smoking] with a vapouriser but it only went so far … It doesn't work when you go out drinking. Gregory (smoker, ex-vaper, 21 years): It really doesn't … Used a vapouriser to try and stop. It wasn't good enough. Like Graham said, when you're going out for a drink it just doesn't do it."						

Appendix B – Evidence tables

Hartwell 2019

Bibliographic reference	Hartwell Greg, Egan Matt, and Petticrew Mark (2019) Understanding decisions to use e-cigarettes or behavioural support to quit tobacco: a qualitative study of current and ex-smokers and stop smoking service staff. Addiction (Abingdon, and England).	
Trial registration	NR	
Study type	Qualitative: interviews	
Study dates	Oct 2017 to August 2018	
Aim	To examine factors influencing smokers' decisions to use e-cigarettes or behavioural support, including the potential impact of any differences in perspectives between smokers and their local stop smoking services (SSS). Only data from smokers (not SSS) is relevant for this review and is extracted here.	
Country/geographical location	England – 3 sites: North, Central, South.	
Setting	Community setting.	
Inclusion criteria	Desire to stop / reduce smoking: not included in criteria Age: Not specified Have experience with e-cigarettes: not included in criteria Smoking: required to be smokers or ex-smokers Additional: were required to have used e-cigarettes or tobacco cigarettes regularly within the previous 18 months	
Exclusion criteria	Not specified	
Follow up	Not applicable	
Qualitative methods	Research question(s)	What are the factors influencing smokers' decisions to use e-cigarettes or behavioural support?
	Theoretical approach	The COM-B model was used to structure findings (Capability, Opportunity, Motivation leading to Behaviour)
	Population and sample recruitment	Flyers for SSS staff to give to service-using smokers; snowball recommendations from service users, local newspapers and Facebook advertising for non-service-users.
	Sample description	29 participant aged 18-67 years (mean 43) 10 men, 19 women 12 current, 17 ex-smokers 12 current, 5 ex- and 12 never vapers 6 current, 11 ex- and 12 never users of SSS
	Data collection	29 individual interviews Topic guide: semi-structured. Consent: Forms signed by participants Incentive / reward: £20 gift voucher for participation. Interviews recorded.
	Method and process of analysis	Recordings were transcribed verbatim. Initial codes set from codes in topic guide and inductive codes from reviewing transcripts.

Tobacco: evidence reviews for facilitators and barriers to e-cigarettes (June 2021)

Bibliographic reference	**Hartwell Greg, Egan Matt, and Petticrew Mark (2019) Understanding decisions to use e-cigarettes or behavioural support to quit tobacco: a qualitative study of current and ex-smokers and stop smoking service staff. Addiction (Abingdon, and England).**	
	Discussed and agreed with 2 other authors.	
	Transcripts coded in NVivo 12. Final findings mapped onto the COM-B framework.	
Results	Outcomes: Barriers and facilitators to using e-cigarettes for cessation or harm reduction	
	Key themes	
	Absolute and relative harm of e-cigarettes	Most people using e-cigarettes believed that e-cigarettes were less harmful than tobacco cigarettes.
		Some, particularly those who don't use e-cigarettes and are sceptical towards them, believed e-cigarettes could be more dangerous:
		"I think it's very cleverly worded, all the [e-cigarette] posters, 95% safer than tobacco. But what about that 5% I think…Tobacco is not good but then you know where you stand with tobacco, done many research…Well yeah, it's got the links to lots of horrible diseases." (S8: Current smoker, non-vaper, SSS user, female)
		On the other hand, non-vapers who were supportive felt that the differences between e-cigarettes and cigarettes were "*black and white*", and e-cigarettes were "*very much safer than tobacco*".
		Some participants did not feel confident about e-cigarettes because of a perceived lack of research:
		"I don't think I will vape long term because I still feel like there's not enough research about it" (S1: Ex-smoker, current vaper, SSS user, female)
	Experimenting with types of e-cigarettes	Many vapers agreed that trying different models was key to finding one that matched personal preference, and many valued vape shops for this purpose:
		"I think it takes a bit of learning, what to do and how, but if you go to an e-cigarette vape shop then they'll explain everything and it's, I think it would be easier than going to the NHS Stop quitting service" (S19: Current smoker, current vaper, non-SSS user, female)
	E-cigarettes as cheaper than tobacco	Many vapers felt that e-cigarettes were cheaper than tobacco and this was a factor in their decision to use e-cigarettes
		"the other factor if I'm honest was because cigarettes are just going to go on going up…I'm retired now, I'm on a pension and e-cigarettes are cheaper" (S25: Ex-smoker, current vaper, non-SSS user, female)

Bibliographic reference	Hartwell Greg, Egan Matt, and Petticrew Mark (2019) Understanding decisions to use e-cigarettes or behavioural support to quit tobacco: a qualitative study of current and ex-smokers and stop smoking service staff. Addiction (Abingdon, and England).		
	Quitting e-cigarettes	Many smokers felt that people should be offered support to quit e-cigarettes if desired. *"maybe they'll have more information on how I could help me to stop the actual vaping…sometimes they have better ideas than you have yourself" (S1: Ex-smoker, current vaper, SSS user, female)*	
	E-cigarettes in SSS	Smokers who had accessed SSS generally didn't feel that e-cigarettes were readily discussed, and suggested that advisers were reticent to give information on them, talking about them only if the person seeking treatment raised the topic. *"They said, they wouldn't mention it to me, until I mentioned it... And, yeah, not too much was said about e-cigarettes". (S4: Ex-smoker, non-vaper, SSS user, male)*	
	Fear of addiction	Vapers who did not intend to vape long term were often concerned about becoming addicted to vaping: *"It got to one point I actually felt like I was addicted to my e-cig and cigarettes independently…and I couldn't, couldn't give either of them up." (S15: Ex-smoker, recent vaper, SSS user, male)* Non-vapers who were sceptical about vaping often associated vaping with smoking: *"you're not really quitting smoking, you're quitting smoking cigarettes, but you're still a smoker as such aren't you, because you're vaping?" (S23: Current smoker, non-vaper, non SSS user, female)*	
	Social element of vaping	Some mentioned that vaping allowed them to still be included in social activities with smokers – for example the smoking break: *"I'm thinking of getting a vape, so I can still be included, and at break times go outside. It might sound silly, but it's like a social glue for me" (S4, Ex-smoker, non-vaper, SSS user, male)*	
Risk of bias	Item	Yes/No/Can't tell	Comments
	1. Was there a clear statement of the aim of the research?	Yes	Aim of research and population clearly stated
	2. Is a qualitative methodology appropriate?	Yes	Subjective experiences and barriers / facilitators sought

Tobacco: evidence reviews for facilitators and barriers to e-cigarettes (June 2021)

Bibliographic reference	Hartwell Greg, Egan Matt, and Petticrew Mark (2019) Understanding decisions to use e-cigarettes or behavioural support to quit tobacco: a qualitative study of current and ex-smokers and stop smoking service staff. Addiction (Abingdon, and England).		
	3. Was the research design appropriate to address the aims of the research?	Yes	interviews appropriate
	4. Was the recruitment strategy appropriate to the aims of the research?	Yes	Range of sites within England justified. Differences between sites explained but themes don't explore differences between sites for smokers.
	5. Was the data collected in a way that addressed the research issue?	Yes	Yes – topic guide provided. Data collection described. Saturation not described.
	6. Has the relationship between researcher and participants been adequately considered?	Can't tell	Somewhat. Interviews took place in participants homes or public places but otherwise not discussed.
	7. Have ethical issues been taken into consideration?	Yes	Consent forms used, ethical approval obtained.
	8. Was the data analysis sufficiently rigorous?	Yes	Analysis process described. Two further authors checked coding but did not independently code. Discussion between authors when refining codes. Selection of quotations not described. Data of medium richness: some concepts explained but not supported by data.
	9. Is there a clear statement of findings?	Yes	Findings are explicit and include examples of contrasting findings.
	10. Is the research valuable?	Yes	Contribution discussed; generalisability assessed as limited

Bibliographic reference	**Hartwell Greg, Egan Matt, and Petticrew Mark (2019) Understanding decisions to use e-cigarettes or behavioural support to quit tobacco: a qualitative study of current and ex-smokers and stop smoking service staff. Addiction (Abingdon, and England).**
Overall risk of bias	Low
Source of funding	Not stated. Authors from London School of Hygiene and Tropical Medicine and NIHR School for Public Health Research
Comments	None

Lucherini 2019

Bibliographic reference	**Lucherini Mark, Rooke Catriona, and Amos Amanda (2019) "They're thinking, well it's not as bad, I probably won't get addicted to that. But it's still got the nicotine in it, so...": Maturity, Control, and Socializing: Negotiating Identities in Relation to Smoking and Vaping-A Qualitative Study of Young Adults in Scotland. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 21(1), 81-87**	
Trial registration	NR	
Study type	Qualitative: focus group and interview	
Study dates	Sept 2015-Apr 2016	
Aim	To explore the understandings of and engagement with e-cigarettes, of young adults from disadvantaged backgrounds, and how these may have an impact on existing smoking identities.	
Country/geographical location	Scotland, Central	
Setting	Community setting.	
Inclusion criteria	Desire to stop / reduce smoking: not included in criteria Age: 16-25 Have experience with e-cigarettes: not included in criteria Smoking: required to be smokers or ex-smokers	
Exclusion criteria	People judged to be from more affluent backgrounds (judged by, for example, type of employment or educational institution).	
Follow up	Not applicable	
Qualitative methods	Research question(s)	What are the understandings of and engagement with e-cigarettes, of young adults from disadvantaged backgrounds, and how these may have an impact on existing smoking identities?
	Theoretical approach	Grounded theory combined with thematic analysis based on literature.
	Population and sample recruitment	Recruitment through community organisations which assist disadvantaged young people' workplaces an educational institutions, adverts on Gumtree (website). Participants were asked to attend with a friendship group (1-3 friends) to aid naturalistic setting.
	Sample description	72 participants aged 16-24. 11 attended alone. Employment / education: 31 not in either; 19 in training, 22 working / volunteering. 39 female, 33 male. Average age 19.6.

Bibliographic reference		**Lucherini Mark, Rooke Catriona, and Amos Amanda (2019) "They're thinking, well it's not as bad, I probably won't get addicted to that. But it's still got the nicotine in it, so...": Maturity, Control, and Socializing: Negotiating Identities in Relation to Smoking and Vaping-A Qualitative Study of Young Adults in Scotland. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 21(1), 81-87**
		Smoking: 44 smokers, 13 ex-regular smokers, 9 ever smoked, 5 never smoked (not relevant for this review), 1 undetermined. Vaping: 14 vapers, 5 ex-regular vapers, 41 ever vaped, 10 never vaped, 2 undetermined.
	Data collection	22 focus groups, 11 individual interviews Topic guide: semi-structured. Pictures and examples of products used to spark conversation too. Consent: Forms signed by participants Incentive / reward: £15 gift voucher for participation. Interviews recorded. Conducted until data saturation reached.
	Method and process of analysis	Recordings were transcribed and then analysed in NVIVO. 1. Grounded theory approach: open coding of data 2. Thematic coding: informed by literature, grouping initial open codes 3. Focused coding: to add detail to the overarching codes.
Results		Outcomes: Barriers and facilitators to using e-cigarettes for cessation or harm reduction
		Key themes
	E-cigarettes and maturity	E-cigarettes were for those who were less mature (experimentation) or more mature (quitting smoking), not the study sample: *"Malcolm: Maybe, like, older people that smoke. They probably have more patience to smoke one of them [an e-cigarette]. But I dinnae [do not] think younger people … very many of them [will use e-cigarettes].* *Laura: You get all the wee [young people] jumping about, reckon they're cool, they're an ex-smoker and all that.* *Malcolm: Like, young ones running about playing with them."* (both smokers, ever vaped, 17years) *"A lot of people when they get to a certain age are more scared; they want to look after their body … I don't know if it's just a thing with me or young people …some people are just arrogant. … But, truly the only people that I've heard that have benefitted from these [e-cigarettes] are people that are smoking, like, 60/70 fags a day."* (smoker, ever vaped, 21years)
	Moderating use of e-cigs vs smoking	Various participants saw e-cigarettes as potentially more addictive or harder to regulate use of, compared with smoking:

Bibliographic reference	Lucherini Mark, Rooke Catriona, and Amos Amanda (2019) "They're thinking, well it's not as bad, I probably won't get addicted to that. But it's still got the nicotine in it, so...": Maturity, Control, and Socializing: Negotiating Identities in Relation to Smoking and Vaping-A Qualitative Study of Young Adults in Scotland. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 21(1), 81-87	
		"Kevin: Like you're constantly doing it [vaping] because you can smoke it indoors. *William: And there isn't an ending point, the only ending point is when the liquid runs out.* *Kevin: Just keep puffing it …* *William: It's not like, that's … five minutes and put it down … it still goes if it's got a charge … I was hazed [affected by vaping] in work all the time which would never happen with a cigarette … I think that's why I've kinda fallen back into smoking a bit more now cause I did have like a situation where I was like I've totally just [vaping too much]." (both smokers and vapers, 25 and 21 years)* *"A lot of people I've seen using these just sort of seem to have them hanging out their mouth the whole time … It's so easy to pick these up … you don't even need to go outside … I think I'd probably be … smoking more than I usually do but just through not noticing, not actively trying to smoke more." (smoker, ever vaped, 23 years)* However, not everyone felt this way: *"You kinda reach a natural end of … 'right, I've been using this for four minutes, that's like a fag, I'm going to put this away now', so it was weird to see someone just sitting constantly [vaping]." (smoker, ever vaped, 22 years)*
	Worry about becoming addicted to e-cigarettes	Some people avoided using e-cigarettes because they were worried about becoming addicted to them, even if this was in place of being addicted to cigarettes: *"I was going to try completely stop smoking normal cigarettes and then after a while come off the e-cigarette but I know plenty people that have been on the e-cigarette for over two years now, so they're just as addicted to that as they are normal cigarettes". (smoker, ever vaped, 19 years)* *"anybody that I've heard has stopped smoking with them they've been on them since they stopped smoking for like however many years, they've been on them since … they've just constantly stuck to that." (smoker, ever vaped, 19 years)*
	E-cigarette generations	Authors report some information on views towards "box mods" (3rd generation e-cigarettes): • High up-front cost • Extravagant features

Bibliographic reference	Lucherini Mark, Rooke Catriona, and Amos Amanda (2019) "They're thinking, well it's not as bad, I probably won't get addicted to that. But it's still got the nicotine in it, so...": Maturity, Control, and Socializing: Negotiating Identities in Relation to Smoking and Vaping-A Qualitative Study of Young Adults in Scotland. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 21(1), 81-87	
		• Among users: cost effective in the long term, have sophisticated features, were personalisable, believed to be effective for smoking cessation (no quotations reported)
	Social value of smoking	Participants expressed the view that e-cigarettes were not sociable compared with smoking: *"Julia (smoker, ever vaped, 21 years): Well it was a big social thing, when you had a fag, and you went out for a drink and a quick fag.* *Kate (ex-smoker, ever vaped, 19 years): You'd be like, 'excuse me, have you got a light'? And now, it's like, you just keep [to] yourself, you don't see people speaking.* *Interviewer: And do you think the e-cigarettes and the vapourisers have contributed to that?* *Kate: Probably.* *Julia: Aye.* *Kate: It must've, 'cause you can't go to someone, 'can I charge one?'! … 'Have you got a spare battery'? You know what I mean, it's gone really weird."* This meant that for some, e-cigarettes failed as a cessation method: *"Graham (smoker, ex-vaper, 19 years): I tried to stop [smoking] with a vapouriser but it only went so far … It doesn't work when you go out drinking.* *Gregory (smoker, ex-vaper, 21 years): It really doesn't … Used a vapouriser to try and stop. It wasn't good enough. Like Graham said, when you're going out for a drink it just doesn't do it."* However, others found the way they were personalisable and less sociable helpful for avoiding social smoking cues (no quotations provided).
	E-cigarettes ineffective for stress relief	Some participants smoked to relieve stress of their everyday lives. E-cigarettes were not generally seen as serving the same purpose: *Fred (smoker, vaper, 24 years) talking about being nervous before a job interview:* *"so I'll have a fag, and stand outside for ten minutes … but I try and not use the e-cig 'cause it doesn't help with the nerves … A fag kind of helps you a wee [small] bit there."*
Risk of bias	Item	Yes/No/Can't tell	Comments

Bibliographic reference	Lucherini Mark, Rooke Catriona, and Amos Amanda (2019) "They're thinking, well it's not as bad, I probably won't get addicted to that. But it's still got the nicotine in it, so...": Maturity, Control, and Socializing: Negotiating Identities in Relation to Smoking and Vaping-A Qualitative Study of Young Adults in Scotland. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 21(1), 81-87		
	1. Was there a clear statement of the aim of the research?	Yes	Aim of research and population clearly stated
	2. Is a qualitative methodology appropriate?	Yes	Subjective experiences and barriers / facilitators sought
	3. Was the research design appropriate to address the aims of the research?	Yes	Friendship group method justified; analysis justified.
	4. Was the recruitment strategy appropriate to the aims of the research?	Yes	Purposive selection. Recruitment mostly explained. No discussion about why some people decided to come on their own and others as friendship groups.
	5. Was the data collected in a way that addressed the research issue?	Yes	Setting of data collection not detailed beyond "community venues". Data collection described. Data type and saturation described.
	6. Has the relationship between researcher and participants been adequately considered?	Can't tell	Brief consideration of impact of researcher if asking about SES (so this is avoided). No other consideration reported.
	7. Have ethical issues been taken into consideration?	Yes	Consent forms used, information provided to potential participants, opportunities to ask questions given. Ethical approval obtained.
	8. Was the data analysis	Yes	Analysis process described. Second author independently coded a

Bibliographic reference	Lucherini Mark, Rooke Catriona, and Amos Amanda (2019) "They're thinking, well it's not as bad, I probably won't get addicted to that. But it's still got the nicotine in it, so...": Maturity, Control, and Socializing: Negotiating Identities in Relation to Smoking and Vaping-A Qualitative Study of Young Adults in Scotland. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 21(1), 81-87		
	sufficiently rigorous?		sample. Discussion between authors when refining codes (presumed to address bias). Selection of quotations not described. Data of medium richness: some concepts explained but not supported by data.
	9. Is there a clear statement of findings?	Yes	Findings are explicit and include examples of contrasting findings.
	10. Is the research valuable?	Yes	Contribution discussed (mainly beneficial because disadvantaged group where smoking is a norm). Transferability assessed as limited.
Overall risk of bias	Low		
Source of funding	Cancer Research UK Tobacco Advisory Grant award.		
Comments	- Authors point out that setting has a high background level of smoking so that smoking is seen as the norm. Some participants started smoking very early. - Participants often used 'smoking' interchangeably for vaping and smoking. - Similar (setting, authors) to Rooke 2016 (included study)		

McKeganey 2018

Bibliographic reference	McKeganey Neil, Barnard Marina, and Russell Christopher (2018) Vapers and vaping: E-cigarettes users views of vaping and smoking. Drugs: Education, and Prevention & Policy 25(1), 13-20
Trial registration	NR
Study type	Qualitative: interviews
Study dates	Approx. 2016 (not reported)
Aim	To investigate the views of e-cigarette users about how they came to start vaping, what they like most and least about vaping, their beliefs about the relative harms of smoking and vaping and how similar or dissimilar these activities are, and whether in their view their likelihood of smoking had increased or decreased as a result of their vaping. Also what they think about proposals to ban e-cigarette
Country/geographical location	North England and Scotland

Bibliographic reference	McKeganey Neil, Barnard Marina, and Russell Christopher (2018) Vapers and vaping: E-cigarettes users views of vaping and smoking. Drugs: Education, and Prevention & Policy 25(1), 13-20	
Setting	Community setting	
Inclusion criteria	Desire to stop / reduce smoking: not included in criteria Age: 16-26 Have experience with e-cigarettes: must be e-cigarette users (not defined) Smoking: not included in criteria	
Exclusion criteria	Not reported	
Follow up	Not applicable	
Qualitative methods	Research question(s)	Unclear. Various aims (see aims above)
	Theoretical approach	Not reported
	Population and sample recruitment	Recruitment through a range of educational settings (universities / colleges), leisure and work settings. Draws on networks of young people within the various settings.
	Sample description	50 e-cigarette users 16-26 (average age 20.9). 32 male, 18 female. 28 current smoker; 19 former smoker; 3 never smokers (never smokers not relevant for this review).
	Data collection	Undertaken by 'peer interviewers' trained by an author. Interviewers aged 17-30. First interviews reviewed with the author. Location of interviews unclear. Topic guide: present Consent: Not reported Incentive / reward: Payment of £15 to cover time and costs of attending interview.
	Method and process of analysis	Not reported
Results	Outcomes: Barriers and facilitators to using e-cigarettes for cessation or harm reduction	
	Key themes	
	Settings for e-cigarette use	Participants liked being able to use e-cigarettes in a wider variety of settings than traditional cigarettes: *"[I] liked being able to smoke indoors as well. That was a big thing for me because until I moved to University I was never able to smoke indoor so I quite liked the novelty of lying smoking my e-cig in bed. (22 year old male occasional vaper/smoker)."* *"Well the fact that in some places you can vape in-doors so I think people don't feel not victimised exactly but like if you smoke tobacco you've got to go outside to smoke and I feel like people are not discriminated exactly. I can't think of the word I'm trying to say but they might not feel part of the group because they've got to keep going outside to smoke but it's a more social thing to be able to use them indoors. (21 year old male current vaper)"*

Bibliographic reference	McKeganey Neil, Barnard Marina, and Russell Christopher (2018) Vapers and vaping: E-cigarettes users views of vaping and smoking. Drugs: Education, and Prevention & Policy 25(1), 13-20	
	Fun of e-cigarette use	Various participants mentioned 'fun' as one of the reasons for starting and then continuing to use e-cigarettes: *Well the flavour tasted really good and it was like fun, it was kind of a bit of fun really and it tasted good. It did give you a bit of a head rush really and the fact that it's slightly healthier gives you a lot of motivation to do it instead of smoking. (22 year old female occasional vaper).* *Like I've never had a desire to do it, it's just if it's there and I can do cool things with it, just something to play with, it's not like I need to try it, like I feel I need to vape. I just like blowing circles with the smoke and trying like tricks and stuff like that it's kind of interesting seeing how smoke works. (17 year old female occasional vaper).*
	Harm perceptions of e-cigarette use	Interviewees had mixed impressions of the harm of e-cigarettes relative to traditional cigarettes. Most perceived them as less harmful, and for some, this explained their interest in trying e-cigarettes out: *The fact that they supposedly are not as harmful as cigarettes and just because I was curious what it would be like and how it would be similar to smoking actual normal tobacco, just the curiosity basically. (19 year old female occasional vaper)* *E-cigs are less harmful than smoking because it's not got the same toxins and fumes and tar in it. I'm not really aware of how harmful it is, but it's got to be better for you than smoking. (21 year old female occasional vaper).* *Well obviously people know the damage that can be done by smoking tobacco and I think smoking tobacco is a lot worse to the user themselves and everyone around them because second hand smoke obviously can affect anyone. I'm not sure about the second hand smoke with vaping bit I'm guessing that it's really negligible the damage that can be done so I think definitely cigarettes and tobacco are still quite a bit worse than vape. (22 year old male occasional vaper).* There was uncertainty for some on the potential harms of e-cigarettes, some of which had been researched online: *I've read a few studies online like initially when they were brought out everyone was like they're not harmful but then there were studies that said vaping was just as harmful because there's chemicals in it and I can't remember exactly but the chemicals in it are just equal to smoking almost, you know, there's just so many unknown chemicals that you're breathing in that can*

Tobacco: evidence reviews for facilitators and barriers to e-cigarettes (June 2021)

Bibliographic reference	McKeganey Neil, Barnard Marina, and Russell Christopher (2018) Vapers and vaping: E-cigarettes users views of vaping and smoking. Drugs: Education, and Prevention & Policy 25(1), 13-20	
		damage you so I think they can be bad but there's this belief that it isn't bad and a lot of people think that it's good for you and that's why some people can start vaping because they're like oh yeah it's just like smoking and it's not damaging you but in reality anything with chemicals in it is bad for you. (22 year old female occasional vaper). *I think it took over 40 years for them to find out smoking was really bad for you so I don't know whether they will come out with something in the long term that will say it's bad for you but I don't think they've went into it. (21 year old male past vaper).* *I've always thought it probably will be quite harmful and in the future it'll come out that it's quite harmful but I don't know at the moment as I've not really heard anything about them being harmful. I don't know if I fully trust them because you're still taking things into your lungs and that's not really healthy to do that with anything. (22 year old male past vaper)* *I'm not a hundred per-cent sure exactly what it does for you other than it doesn't have the tar, it doesn't create the tar but I still think it isn't good to be addicted to something and people are constantly using them, like there's people addicted to alcohol and there's others who are addicted to, I don't know, drinking too much coke (coca cola) or something and although it might not be as harmful it can impact on other things like you might have to depend on it and I think that's bad because you shouldn't have to depend on something. (22 year old female occasional vaper)*
	Unpleasantness of smoking in comparison to e-cigarette use	Some participants compared e-cigarettes favourably to traditional cigarettes in terms of their smell, and the impressions of other people: *Because when you're vaping it smells nice. I mean sometimes I'll like the smell of a cigarette but the smell of a vape everyone likes if you know what I mean. When I was about eighteen I was using them but they weren't about stopping smoking or anything because I was smoking at the same time. (22 year old male occasional vaper/smoker).* *In comparison to cigarettes I'd probably say it smells better in the long run, it doesn't get in your clothes or whatever… (21 year old male occasional vaper/smoker).* *Because smoking is less healthier so vaping becomes more common if anything. I think smoking would be less*

Bibliographic reference	McKeganey Neil, Barnard Marina, and Russell Christopher (2018) Vapers and vaping: E-cigarettes users views of vaping and smoking. Drugs: Education, and Prevention & Policy 25(1), 13-20		
		accepted because it would be like well there's an alternative that's better for you, it's less offensive to people around you so why are you smoking when you could be vaping. I think it would make smoking less accepted if vaping got more popular. (22 year old male exsmoker occasional vaper)	
	Addictiveness of e-cigarettes	Authors report that none of the interviewees described their continued use of e-cigarettes in terms of a felt need to relieve the effects of nicotine withdrawal. But none of the participants explicitly talk about e-cigarettes as part of a planned attempt to stop smoking (harm reduction attempts not mentioned so study not excluded). However, participants did sometimes see other people's e-cigarette use as an addiction: *It's exactly the same addiction and habit and your funding the same thing. . .it's all the same basically so in terms of quitting smoking I think e -cigarettes are just the easy route, it is literally just swopping your addiction from smoking tobacco smoking nicotine filled liquid you've never kicked the habit it's still there and if you broke your e-cig you'd probably end up going into the shop and buying tobacco. (16 year old occasional vaper/smoker).*	
Risk of bias	Item	Yes/No/Can't tell	Comments
	1. Was there a clear statement of the aim of the research?	No	There is a list of topics the study wishes to cover but no coherent statement of the aims overall.
	2. Is a qualitative methodology appropriate?	Yes	The study is investigating people's preferences, judgements and experiences so qualitative is appropriate.
	3. Was the research design appropriate to address the aims of the research?	Can't tell	No discussion of discussion about what method to use
	4. Was the recruitment strategy appropriate to the aims of the research?	Can't tell	Recruitment strategy not clearly explained: range of settings but no method described.
	5. Was the data collected in a way that addressed the research issue?	Can't tell	Peer interviewers used which likely to assist discussions. Locations not described. Interviews recorded, transcribed. Data saturation not discussed.

Bibliographic reference	**McKeganey Neil, Barnard Marina, and Russell Christopher (2018) Vapers and vaping: E-cigarettes users views of vaping and smoking. Drugs: Education, and Prevention & Policy 25(1), 13-20**		
	6. Has the relationship between researcher and participants been adequately considered?	No	Peer interviewers used but not clear why: whether for purpose of improving relationship or for practicality. Researcher bias not discussed.
	7. Have ethical issues been taken into consideration?	Can't tell	Very limited. Study reports that the research received a favourable assessment from the ethics committee at Strathclyde University, Glasgow but does not appear to have received ethical approval. No mention of consent forms or informing participants.
	8. Was the data analysis sufficiently rigorous?	Can't tell	No in depth description other than to say content analysis around key themes was undertaken. Contradictory accounts sometimes presented but approach to them is not discussed
	9. Is there a clear statement of findings?	Yes	Supporting statements given, clear discussion. No description of validation or triangulation with another analyst. Brought back to the research areas (not questions – no specific questions available) effectively.
	10. Is the research valuable?	Yes	Situates research within its context, but as it is funded by an e-cigarette manufacturer this context may be presented in a biased way.
Overall risk of bias	High risk of bias		
Source of funding	Fontem Ventures (e-cigarette manufacturer and non-tobacco based subsidiary of Imperial Brands Group)		
Comments	Very limited description of methods. Funding source could indicate bias. Participants are quite young and it is not obvious that they are using e-cigarettes to quit or reduce harm (study included because it is not obvious that they are *not* using them for either of these purposes). Population may therefore be tangential to the population of interest.		

Notley 2018

Bibliographic reference	**Notley Caitlin, Ward Emma, Dawkins Lynne, and Holland Richard (2018) The unique contribution of e-cigarettes for tobacco harm reduction in supporting smoking relapse prevention. Harm reduction journal 15(1), 31**
Trial registration	NR
Study type	Qualitative: semi-structured interviews
Study dates	September 2016-May 2017
Aim	To explore patterns of use and reported experiences of vapers quitting smoking using an e-cigarette in relation to long-term smoking status (abstinence or relapse)
Country/geographical location	England (mainly East Anglia but some participants from other areas)
Setting	Community setting
Inclusion criteria	Desire to stop / reduce smoking: not included in criteria Age: not included in criteria Have experience with e-cigarettes: Participants must have used e-cigarettes in relation to their quit Smoking: Participants must have quit smoking at some point (purposefully or accidentally) and may have remained abstinent or have relapsed (more than five instances of reported relapse to tobacco smoking after a quit attempt of at least 48 hours).
Exclusion criteria	Dual users and trailers – those who use e-cigarettes alongside tobacco smoking without making a serious quit attempt.
Follow up	Not applicable

Qualitative methods	Research question(s)	1) What is the experience of e-cigarette use over time? 2) What are vapers' reported experiences of either tobacco smoking abstinence or relapse?
	Theoretical approach	Not reported
	Population and sample recruitment	Recruitment used established personal networks of the research team, self-referral through advertising in local, national and social media, and snowballing. Purposive sampling was used to identify 40 participants who were matched by gender and age to a sampling frame of UK quitters (taken from 2015-2016).
	Sample description	40 participants Mean age 41 (SD 14.0, range 21-70). 50% female, 50% male. 37/40 white British, 3/40 white European. 31 participants were vaping and abstinent from tobacco (19 of these had reported lapses); six participants had relapsed at data collection (five were dual using); and three were no longer using either e-cigarettes or tobacco.
	Data collection	Topic guide: semi-structured guide used. Consent: written consent for interviews given. Incentive / reward: None reported Interviews took place via telephone, or face-to-face. No information given on which were which Interviews were

Bibliographic reference	Notley Caitlin, Ward Emma, Dawkins Lynne, and Holland Richard (2018) The unique contribution of e-cigarettes for tobacco harm reduction in supporting smoking relapse prevention. Harm reduction journal 15(1), 31	
		transcribed and anonymised. Codes used to refer to participants.
	Method and process of analysis	Thematic analysis undertaken by two researchers, who both coded 10% of the transcripts to compare coding. Analysis discussed at regular team meetings. Anomalies agreed by consensus. Pathway diagrams plotted to illustrate journeys of participants and compare / find patterns.
Results	Outcomes: Barriers and facilitators to using e-cigarettes for cessation or harm reduction	
	Key themes	
	E-cigarettes being easily available	Authors described some participants as having accidentally quit when not planned, due to the visibility and availability of e-cigarettes:

One evening I went to the local shop, which is very close to here, to get some cigarettes, and they had run out of the brand that I smoked, and I don't know why, but instead of choosing another brand which I could of done, and occasionally had done in the past, I said 'oh well, I'll try one of those e things, I'll just try one' and so I bought it, it was a disposable thing and looking back on it, it didn't taste very nice, it had a sort of metallic taste to it, and I know that it wasn't a brand that I would now seek out, but I did, that's what I did, I just bought it and brought it home, and I said to my wife that evening, 'you know, this is all right, it's sufficiently satisfying' (ok) that I think I might investigate this (ok) and I have never smoked tobacco since that day (really), not one drag, and I have never felt that I wanted to (M63)

The guy in the shop spoke to me about, like, how many I smoked a day, how often I smoked, what I was smoking, that kind of stuff and cos you can go up to 24 mg, but he said no because I was only on ten [cigarettes a day] (right) so 18 was probably the best one to start on (M36) |
| | Similarities / differences compared with smoking | Many participants described the similarities between smoking and using e-cigarettes as helpful when quitting / cutting down / preventing relapse:

it felt like I was smoking, so I didn't have to kind of think up displacement activities, I didn't have to find something else to do with myself, I could do exactly what I'd always done, just with a slightly different device, and yes, I really, really took to it, and within five days I'd chucked out the last of my cigarettes… but you know within 5 days I'd stopped completely without meaning to (F38) |

Bibliographic reference	Notley Caitlin, Ward Emma, Dawkins Lynne, and Holland Richard (2018) The unique contribution of e-cigarettes for tobacco harm reduction in supporting smoking relapse prevention. Harm reduction journal 15(1), 31	
		even the addiction, like the nicotine necessarily, I don't think it's the habit of it, and the like, it's very embedded in my psyche, like, I enjoy going and standing outside in the evening and having a cigarette, it's not even, I mean the cigarette is a big part of it, but it's the habit and the like, the ritual of it as well (F24) Some explained that, compared to other available treatment, this made e-cigarettes preferable: *I think the ways of giving up that as far as I know are on offer at the moment with, you know, gum and patches and stuff like that, that helps with the physical cravings, but it doesn't help with the habits, and it doesn't help with the feeling of breathing something in and breathing smoke out, which, you know, which is such a fundamental part of smoking that, you know, I think I wouldn't have given up if those had been the only alternatives offered (F38)* *the vaporiser is a very similar form of receiving the nicotine whereas if you just stick a mint (NRT) in your mouth that's completely different to smoking (M37)*
	E-cigarettes as enjoyable in themselves	Many participants described using e-cigarettes as a pleasurable experience in and of itself: *it actually tasted nicer than a cigarette (F36)* *it often smells quite pleasant and the vapour dissipates quite quickly, it doesn't stick to clothing, so you know I think people have got a better perception of it rather than tobacco smoke (M37)* *it's actively pleasurable, it's a nice thing. It's that bit that means it's fundamentally different in my mind between a patch or chewing gum or the spray. (M39)* For some people, this meant that quitting smoking was less of a struggle or a sacrifice: *it was a natural progression because I enjoyed it, it was easy to do, I didn't even think about, like I said, if I put myself under pressure I probably fail at it, and think 'oh, I have to do this', but as I didn't, I just, it just organically happened really for me (F34)* *having tried so often and failed so often and not having got on with anything else, I was expecting it to be really*

Bibliographic reference	Notley Caitlin, Ward Emma, Dawkins Lynne, and Holland Richard (2018) The unique contribution of e-cigarettes for tobacco harm reduction in supporting smoking relapse prevention. Harm reduction journal 15(1), 31	
		really hard (ok) but I think the combination of finding something that reproduced the experience but without so many of the carcinogens was the thing that worked for me. So I found it remarkably easy, it sounds silly to say, but having tried and failed so often, having been a smoker for such a long time I didn't find it hard. (M53)
	Dual use	The authors describe the difference between switching (replacing smoking with e-cigarette use in one go) and sliding (having a period of dual use before stopping smoking fully). Some participants found sliding a helpful route to stopping smoking:
		I didn't stop like one day… as one went down and the other went up (ok) so it sort of replaced one with the other rather than cold turkey… it was easier to smoke it (the e-cigarette), so that made it better (yes) and then at some point I thought 'I'm not buying another packet' (of tobacco cigarettes), so then you sort of force the issue and you're not smoking much at all (F36b)
	Type / generation of e-cigarette	Although cig-a-like (first generation) e-cigarettes were often people's first experience of an e-cigarette and were seen as easily accessible, they were not seen as best for stopping smoking:
		I think they had them in the shop down the road, just like the ones that looked like a cigarette, so I tried that to start with, but they're not very good, I don't think, and if you're seriously thinking of you're, like swapping that for cigarettes, for those sort of ones I think you try them, and think, 'actually they're nothing like it' and (yes) and I think that puts a lot of people off (F46)
	Variation in available types of e-cigarettes	Participants generally had to try different types of e-cigarettes and learn to adapt their use for their needs in order for vaping to help them achieve abstinence. This was assisted by the types of e-cigarettes available:
		just picking up an e-cigarette from a newsagent and taking a puff and thinking no, that's no good, isn't the end of the story, because there are different brands, different tastes, different strengths and flavours, you can get it right, and it can be a substitute (M63)
		However, it was not always clear to people how e-cigarettes worked or how to calibrate their use to match their previous cigarette use:
		The batteries, I weren't too sure how long they would last and when I first started I thought "oh my god what about if that run out?" and so I bought another one

Bibliographic reference	Notley Caitlin, Ward Emma, Dawkins Lynne, and Holland Richard (2018) The unique contribution of e-cigarettes for tobacco harm reduction in supporting smoking relapse prevention. Harm reduction journal 15(1), 31	
		exactly the same (ok) so I have one battery on and one already charged up. (F60) *The guy in the shop spoke to me about, like, how many I smoked a day, how often I smoked, what I was smoking, that kind of stuff and cos you can go up to 24 mg, but he said no because I was only on ten [cigarettes a day] (right) so 18 was probably the best one to start on (M36)*
	Grazing	Although some people used e-cigarettes in a similar way to how they had used traditional cigarettes, most had identified a new way of using the devices which worked for them: *I feel like I'm grazing on it constantly (yes), whereas with a cigarette it's, you know, when it's done you've had enough because it's finished, whereas with [e-cig] I n never really know when I've had enough I suppose. (F36)* *I use it all day long, whenever, I suppose nicotine withdrawal is kicking in, but I'm not doing it for the numerous minutes that smoking a cigarette can take, so it's often two or three inhales, back in the pocket of the handbag, forget it for a little while (F62)* *That was the annoying thing about cigarettes, they stop and you've got to then say right I'm not going to light another one I'm going to leave it for a certain amount of time, so you immediately start withdrawing as soon as you've stubbed one out. You're kind of like 'I want another one now, but I'm not going to' and then 'oh I'll give in, I'll have another one', but with this I have one little puff every now and then. (F52)* However, some were perturbed by the grazing pattern of use and worried that this meant they may be increasing their addiction to nicotine: *It's so easy and less invasive I probably, yes I don't know, if I vape more than I would smoke (M40)*
	Practicality and convenience	Accessibility was multi-faceted. E-cigarettes were enjoyed because of their accessibility for everyday use and convenience: *if you're spending a lot of money on cigarettes it, you know, it's a massive saving when you switch to vaping (F40)*

Bibliographic reference	Notley Caitlin, Ward Emma, Dawkins Lynne, and Holland Richard (2018) The unique contribution of e-cigarettes for tobacco harm reduction in supporting smoking relapse prevention. Harm reduction journal 15(1), 31		
		It's a small little tight unit that fits in my pocket. Yes just it just does everything and its tiny, I think that's the thing that works for me, it's small, compact and it's not much hassle. (M26)	
		Partly, the convenience aspect was enjoyed as vaping could be easily and discreetly incorporated into everyday situations:	
		I didn't have to go outside and stand out there in the cold for five or ten minutes while I smoked the cigarette. I could just sort of, when the wife's not looking (yes) have a quick puff (M70)	
	Reduced harm / health benefits compared with smoking	Some participants discussed perceived health benefits since quitting smoking, even when remaining abstinent by vaping:	
		I could tell that my sort of breathing was a lot better, my skin was good, my teeth were good, hair and nails were growing well, and generally just felt a lot better in myself (F27)	
		In the first sort of six weeks I noticed the usual sort of, blimey what's that nasty smell, I never used to smell that before, but yes the usual taste and smell thing. (M58)	
Risk of bias	Item	Yes/No/Can't tell	Comments
	1. Was there a clear statement of the aim of the research?	Yes	Clear statement of the aim and referred back to throughout
	2. Is a qualitative methodology appropriate?	Yes	Experiences of vapers quitting is appropriate. Patters of use could potentially be better explored through another method.
	3. Was the research design appropriate to address the aims of the research?	Yes	Appropriate research design. Interviews analysed using thematic analysis.
	4. Was the recruitment strategy appropriate to the aims of the research?	Yes	Personal networks could have led to a bias in type of people recruited but unclear how many participants were recruited in this way.
	5. Was the data collected in a way that	Can't tell	Setting not described. Description of methods fairly clear. Consent obtained. Saturation of data

Bibliographic reference	Notley Caitlin, Ward Emma, Dawkins Lynne, and Holland Richard (2018) The unique contribution of e-cigarettes for tobacco harm reduction in supporting smoking relapse prevention. Harm reduction journal 15(1), 31		
	addressed the research issue?		considered, although set at 40 interviews rather than saturation of themes determined throughout data collection. Telephone and face to face methods combined – author reports that themes were similar between the two modes.
	6. Has the relationship between researcher and participants been adequately considered?	Can't tell	Researcher does not report examining their own role.
	7. Have ethical issues been taken into consideration?	Yes	Ethical approval granted. Consent obtained from participants. Anonymity given in publication.
	8. Was the data analysis sufficiently rigorous?	Yes	Thematic analysis undertaken by two researchers, who both coded 10% of the transcripts to compare coding. Analysis discussed at regular team meetings. Anomalies agreed by consensus
	9. Is there a clear statement of findings?	Yes	Findings displayed according to themes which are states along a pathway. Coherent with aims.
	10. Is the research valuable?	Yes	Situates findings in context of wider research
Overall risk of bias	Some risk of bias		
Source of funding	Cancer Research UK. Lead author was a Research Fellow of the Society for the Study of Addiction when undertaking the study.		
Comments	- New Nicotine Alliance were involved in the project (guidance, conceptualising study design, interpretation of the analysis, drafting article for publication). - Participants have all quit smoking at some point: most intentionally, a minority quit unintentionally as a result of using e-cigarettes.		

Rooke 2016

Bibliographic reference	Rooke Catriona, Cunningham-Burley Sarah, and Amos Amanda (2016) Smokers' and ex-smokers' understanding of electronic cigarettes: a qualitative study. Tobacco control 25(e1), e60-6
Trial registration	NR
Study type	Qualitative: focus group and interview
Study dates	Sept 2013 and Feb 2014

Bibliographic reference	**Rooke Catriona, Cunningham-Burley Sarah, and Amos Amanda (2016) Smokers' and ex-smokers' understanding of electronic cigarettes: a qualitative study. Tobacco control 25(e1), e60-6**	
Aim	To explore among a diverse range of smokers and recent ex-smokers, particularly those from disadvantaged groups, how nicotine-containing products, particularly e-cigarettes, are understood and experienced.	
Country/geographical location	Scotland, Central	
Setting	Community setting.	
Inclusion criteria	Desire to stop / reduce smoking: not included in criteria Age: 16+ Have experience with e-cigarettes: not included in criteria Smoking: required to be smokers or ex-smokers	
Exclusion criteria	Not reported	
Follow up	Not applicable	
Qualitative methods	Research question(s)	How are nicotine-containing products, particularly e-cigarettes, understood and experienced by smokers and recent ex-smokers, particularly those from disadvantaged groups?
	Theoretical approach	None reported
	Population and sample recruitment	Recruitment through community and interest groups which serve disadvantaged areas of central Scotland (NHS stop smoking groups, employment and retraining programmes, education or training, support groups, community resource centre for people with mental health problems). Adverts on Gumtree (website). Participants were recruited in small groups (unclear whether groups put together by authors or participants).
	Sample description	64 participants: 11 individual interviews, 12 focus groups Table 1 Study participants |	Focus group	Interview	Total
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Smoker	32	8	40
Ex-smoker	18	3	21
Female	25	8	33
Male	28	3	31
Age (mean) (SD)	35 years (15.8)	39 years (8.9)	36 years (14.9)
Total	53	11	64	
	Data collection	Topic guide: Topic guide used flexibly. Pictures and examples of products used to spark conversation too. Consent: Forms signed by participants after information sheet seen and opportunity for questions. Incentive / reward: £15 gift card for participation. Locations: focus groups were hosted in community venues where participants ordinarily met, interviews took place in locations convenient for participants. Sessions recorded.

Bibliographic reference	**Rooke Catriona, Cunningham-Burley Sarah, and Amos Amanda (2016) Smokers' and ex-smokers' understanding of electronic cigarettes: a qualitative study. Tobacco control 25(e1), e60-6**	
	Method and process of analysis	Recordings were transcribed and then analysed in NVIVO. Codes were systematically compared to identify cross-cutting themes. Themes discussed between coauthors.
Results	Outcomes: Barriers and facilitators to using e-cigarettes for cessation or harm reduction	
	Key themes	
	E-cigarettes compared with NRT	Authors report that while NRTs are seen as trusted (prescribed or sold by reputable / trustworthy groups), they were not always seen as very effective. Gum was "disgusting".

In contrast, e-cigarettes were ambiguous and less associated with quitting smoking than NRT is. They were readily available, but were more closely associated with smoking: being described as 'electronic fags' or 'vaporisers', and use of them as 'using' and 'smoking:

The ones that are Nicorette, you would do that if you just wanted to stop smoking and that's it, but the e-cigs, like, you want to stop smoking, but you still want to…have something. (Int03-F-31-S) |
| | Interpretation of e-cigarettes: more satisfying replacement for smoking | People who saw e-cigarettes as a more satisfying replacement for smoking were generally those who were interested in stopping smoking but did not feel able (as opposed to those not interested in quitting; those unsure; and those unhappy with their smoking and interested in / planning on quitting).
People might not feel able to quit for a variety of reasons: authors report that those with mental health problems fell into this group frequently, as did those experiencing stress (although this also meant some people went back to tobacco):

"I don't feel like I've stopped smoking, I just feel like I smoke them instead" (Int02-F-47-E).

"Because […] there's a wee bit too much stress in my life at the moment that I had to go back on the cigarettes" (FG08-F-47-S).

People in this group liked the similarity to smoking (the 'hit' and hand-to-mouth action). |
| | Interpretation of e-cigarettes: ambiguous but potentially useful | People with this view were diverse. Some thought they might use e-cigarettes in the short term to wean themselves off smoking. Some were interested because they were cheaper than smoking, or might have relative health benefits. But they were still uncertain about them, and potentially overusing them: |

Bibliographic reference	Rooke Catriona, Cunningham-Burley Sarah, and Amos Amanda (2016) Smokers' and ex-smokers' understanding of electronic cigarettes: a qualitative study. Tobacco control 25(e1), e60-6	
		I had one of those [e-cigarettes]… You didn't know when to stop. At least with a cigarette you get to the end of it and you stub it out and that's you for the next however long. But with that you could just sit and keep puffing away. (FG1-M-36-E) Authors report that people were often unsure because they were self-conscious about using e-cigarettes in public.
	Interpretation of e-cigarettes: a less desirable cigarette	Authors report that this group were not interested in e-cigarettes because they thought of them as similar to cigarettes. While they were interested in packaging and flavours, they were content smoking cigarettes. They tended to be younger. Sometimes their lack of interest was because of confusion about relative health: *M1, 18-S: What's the point of smoking that? It's not healthy for you. What's the point? Those fags are just the same, they're not healthy, you might as well just smoke fags.* *M3, 20-S: Those ones are alright, man.* *M1, 18-S: They're not healthy.* *M3, 20-S: They've got tar and carbon monoxide in them.* *M1, 18-S: You're still smoking nicotine, but.*
	Interpretation of e-cigarettes: a threat to smoking cessation	Authors report that this group saw the similarities between e-cigarettes and smoking to be a threat to their attempts to break the habit. A particular concern was swapping one addiction for another with nicotine as a common factor. *[…] putting them in packets like that [Skycig] makes them look as if you're still a smoker, it's very much replacing an awful lot of that paraphernalia round about smoking, which isn't encouraging people to stop really, it's encouraging people to try and pretend that they've stopped. (FG3-M-44-S)* Authors report that recent ex-smokers were particularly focused on maintaining abstinence from tobacco and nicotine.
	Safety and trust	Authors state that most participants believed e-cigarettes to be safer or healthier than smoking. However, participants voiced uncertainties about contents and nicotine: *The only thing that worries me is not really knowing what those chemicals, 'cause you are breathing them in, not really knowing, (1) what they are, and (2), because […] I bought like four of them [refill bottles], for all my friends, and they were all cinnamon but they were all*

Bibliographic reference	Rooke Catriona, Cunningham-Burley Sarah, and Amos Amanda (2016) Smokers' and ex-smokers' understanding of electronic cigarettes: a qualitative study. Tobacco control 25(e1), e60-6		
	different colours. So, I mean, you don't even know who's mixing them, or what's actually in them, or is one stronger than the other. (Int02-F-47-E) *M2: I'd be worried about what is exactly in any of the replacements.[…] This has got more warnings on it than a cigarette packet [Reading out warnings on refill bottle]. […]* *F1: Maybe if Boots [a UK pharmacy chain] did one or something you might trust it more, but all these…we've never even heard of this company. So I don't know, it just seems a bit… (FG1-36/29-E)* Sometimes the uncertainty about e-cigarettes meant that people felt more confident sticking with smoking: *Obviously there's not been many tests run on these things, that's why I'm saying I'm sceptical, I'm going, no… I'm all right with my tobacco, thanks very much. I've been smoking that for the past 20 years. I know it's doing me damage as cigarettes do. (FG8-M-50-S)*		
Risk of bias	Item	Yes/No/Can't tell	Comments
	1. Was there a clear statement of the aim of the research?	Yes	Objective clearly stated.
	2. Is a qualitative methodology appropriate?	Yes	Personal experiences and understandings of e-cigarettes sought
	3. Was the research design appropriate to address the aims of the research?	Yes	Focus groups chosen to stimulate discussion of unfamiliar ideas and products; interviews allowed exploration of individuals' understandings. Not clear whether intentionally chose both designs or whether this was incidental to recruitment.
	4. Was the recruitment strategy appropriate to the aims of the research?	Yes	Recruitment avenues explained but not clearly justified. Decisions not to take part not discussed.
	5. Was the data collected in a way that addressed the research issue?	Yes	Settings for data collection described (community venues; locations convenient for participants). Data collection described including visual aids. Saturation not described.

Bibliographic reference	**Rooke Catriona, Cunningham-Burley Sarah, and Amos Amanda (2016) Smokers' and ex-smokers' understanding of electronic cigarettes: a qualitative study. Tobacco control 25(e1), e60-6**		
	6. Has the relationship between researcher and participants been adequately considered?	Can't tell	No mention of role of researcher in interviews / reflexivity etc.
	7. Have ethical issues been taken into consideration?	Yes	Consent forms used, information provided to potential participants, opportunities to ask questions given. Ethical approval obtained.
	8. Was the data analysis sufficiently rigorous?	Can't tell	Analysis process described. Codes were systematically compared to identify cross-cutting themes. Themes discussed between coauthors. Contradictory results not detailed. Selection of quotations not described. Data not rich.
	9. Is there a clear statement of findings?	Yes	Clear statement of findings. Some themes are analytical rather than descriptive. Some triangulation (between authors). Brought back to the original research question.
	10. Is the research valuable?	Yes	Research described in relation to the regulatory context of e-cigarettes and the (at the point of publishing the study) upcoming EU Tobacco Products Directive.
Overall risk of bias	Some risk of bias		
Source of funding	Cancer Research UK Tobacco Advisory Grant award.		
Comments	- Similar (setting, authors) to Lucherini 2019 (included study) - Authors state that findings cannot be generalised more widely than the setting.		

Sherratt 2016

Bibliographic reference	**Sherratt Frances C, Newson Lisa, Marcus Michael W, Field John K, and Robinson Jude (2016) Perceptions towards electronic cigarettes for smoking cessation among Stop Smoking Service users. British journal of health psychology 21(2), 421-33**
Trial registration	Not reported
Study type	Qualitative: semi-structured interviews
Study dates	Not reported
Aim	To gain knowledge regarding the motivations of e-cigarette use among Stop Smoking Service (SSS) users, and to identify gaps in understanding of service users about e-cigarettes.

Bibliographic reference	Sherratt Frances C, Newson Lisa, Marcus Michael W, Field John K, and Robinson Jude (2016) Perceptions towards electronic cigarettes for smoking cessation among Stop Smoking Service users. British journal of health psychology 21(2), 421-33	
Country/geographical location	England, North West	
Setting	Community setting	
Inclusion criteria	Desire to stop / reduce smoking: Yes – must be users of SSS Age: Not included in criteria Have experience with e-cigarettes: Not included in criteria Smoking: People who smoke currently or are recent former smokers	
Exclusion criteria	Not reported	
Follow up	Not applicable	
Qualitative methods	Research question(s)	What are the motivations for e-cigarette use among Stop Smoking Service (SSS) users, and what are the gaps in understanding of service users about e-cigarettes?
	Theoretical approach	Data is related to the Theory of Planned Behaviour (Azjen 1991), and to the diffusion of innovations theory (Rogers 2003) in the discussion, but this does not appear to have been a framework for the analysis.
	Population and sample recruitment	Recruitment was undertaken through SSS in the North West of England. The sample was an opportunity sample. Drop-in sessions are delivered by SSS and hosted in community venues (e.g. GPs, children's centres, libraries). SSS advisers introduced service users to the author. The study was explained and an information sheet given.
	Sample description	20 participants. 19/20 were White British (remaining participant not described). Median age 51.5 (range 25-59) 13/20 were recent former smokers. 6/20 had used e-cigarettes.
	Data collection	Telephone interviews Topic guide: Topic guide prepared based on previous pilot work and wider literature. Semi-structured. Consent: Informed consent provided prior to being contacted for a telephone interview Incentive / reward: None reported Interviews took place by telephone and were 'digitally recorded'.
	Method and process of analysis	Interview recordings were transcribed. Thematic analysis informed by Braun and Clarke's (2006) step-by-step guide. Initial codes were collated into potential themes using NVIVO 10 (QSR International, 2012), and were discussed between three authors to ensure applicability to the data. A thematic map was generated. Quotations selected to illustrate themes.
Results	Outcomes: Barriers and facilitators to using e-cigarettes for cessation or harm reduction	

Bibliographic reference	Sherratt Frances C, Newson Lisa, Marcus Michael W, Field John K, and Robinson Jude (2016) Perceptions towards electronic cigarettes for smoking cessation among Stop Smoking Service users. British journal of health psychology 21(2), 421-33	
	Key themes	
	Uncertainty about e-cigarettes	Participants were often uncertain about e-cigarettes, which was most evident among never e-cigarette users: *I don't know, it's some kind of oil isn't it? And it's a flavour, you know, you pick your flavour of your ciggy? You know, what you used to smoke and stuff and I do know quite a few that have them but they don't smoke it like you would smoke a ciggy.(59, Female, Never)* *I bought one, but at the same time, I don't, I just don't trust them. Everyone keeps saying 'oh it's vapour' but I don't trust them' (57, female, Ever)*
	Misunderstandings	Some of the uncertainties and misgivings about e-cigarettes in the participants could be attributed to misunderstandings about how they work and what they contain: *I'm sure, you know when you go to these shops and they ask you, what brand cigarettes you smoke and they fill the electronic cigarettes with, it's like a tar. That's what I heard now, I don't know, what I have just heard, but they put like a tar. . .(49, Female, Never)* *'I just don't think that meself it's worth bothering with because you're still getting the tobacco aren't you?' (48, Male, Never).*
	Perceived safety of e-cigarettes in relation to smoking	Safety was an important concern for all participants. People who used e-cigarettes tended to view them as safer than smoking, although the language indicates their judgements are relative rather than stating there are no health risks to using e-cigarettes per se: *'Well I mean, to me, I know they're not as harmful as cigarettes' (59, Male, Ever).* *'I can't see them being as harmful (as smoked tobacco) because there's no CO2 in them' (40,Male, Ever).* Those who had safety concerns often saw e-cigarettes as similar to smoking, or commented on the lack of evidence of long-term effects: *'I think there might be (risks) because looking at them, it's just like having a ciggy. It's just there all the time and I know it's not smoke or whatever it is but it was just all the time' (58, Male, Never),*

Bibliographic reference	Sherratt Frances C, Newson Lisa, Marcus Michael W, Field John K, and Robinson Jude (2016) Perceptions towards electronic cigarettes for smoking cessation among Stop Smoking Service users. British journal of health psychology 21(2), 421-33	
		As I say, they've done studies on it and stuff but no one really knows if there is any health risks at the moment with using them. . . well there could be a toxin in it that we don't realise and that could be damaging your health in time.(38, Male, Never)
	Potential for smoking cessation	Participants did generally support the assumption that for some smokers, e-cigarettes may enhance smoking cessation: *'It does do your cravings' (56, Male, Ever)* *'I thought it was good that if you do feel like a ciggy' (59, Female, Ever).* *'Well personally, I see it as an aid to stopping' (40, Male, Never)* *'I don't know, it might work for some people' (58, Male, Never).*
	Similarities between e-cigarettes and smoking	Both ever and never e-cigarette users identified unfavourable similarities between e-cigarettes and smoked tobacco in terms of maintaining the hand-to-mouth habit: *'I haven't tried them. They are just as bad like (as regular cigarettes) – you're still putting something in your mouth' (25, Male, Never)* While another mentioned the 'hit': *'It has this steam of like. . . and the same hit that I was getting from cigarette' (59, Male, Ever).*
	Addiction	Many participants believed that e-cigarette users often become reliant on them long-term, which was typically viewed negatively. This deterred some people from trying e-cigarettes as a smoking cessation aid and implies that participants 'typically did not characterise smoking cessation success simply by cessation of smoked tobacco, but by cessation of both smoked tobacco and nicotine containing products overall': *'It's still nicotine filled isn't it? So, to me, you're fooling yourself really. . . 'cause you're still getting the nicotine that your body is craving' (34, Male, Never).* *'I was speaking to a fella the other day and he's been on one of them for three years!' (56, Male, Ever).*

Bibliographic reference	Sherratt Frances C, Newson Lisa, Marcus Michael W, Field John K, and Robinson Jude (2016) Perceptions towards electronic cigarettes for smoking cessation among Stop Smoking Service users. British journal of health psychology 21(2), 421-33	
		'I don't think they're ever going to give up. They're just substituting rather than, or probably still smoking with it' (53, Male, Never). *'I didn't want to buy one (e-cigarette) because it still reminded me of smoking' (38, Male, Never).*
	Regulations	Participants discussed e-cigarettes and the extent to which they were regulated. No participants expressed views against regulating e-cigarettes, and some suggest lack of regulation may be a barrier to using e-cigarettes for cessation: *I do think there needs to be regulations too. Well regulations may be too far but something to actually make sure they've got safe limits because I've read some of the things in the news and they were saying in some of the liquid, they were actually finding toxins.(40, Male, Never)* *The refills on them, you can go anywhere to buy them and who's controlling it? Is it those that you're getting? . . . I thought you might need ah, I don't know, a prescription to go the chemist, which is sort of controlled you know.(53, Male, Never)*
	Social networks	Social networks appeared to be a powerful cue for e-cigarette use: *'It could help people come off. I know a few people who have come off through them, that have, you know?' (56, Male, Ever).* *I know that for certain people they do work. I have two sisters and a brother. Now the entire family smoke, err, and I know both of me sisters have tried going down the electronic cigarettes route. . . so while it's working for her, I do consider it a good thing.(40, Male, Never)*
	Cost	While cost was a factor that attracted people to e-cigarettes (relative to smoking), people did still find them to be expensive: *'Well, I think that's why a lot of people have gone for those electronic cigarettes because ok, I know apparently they're not cheap, you know, once you buy the cigarette, it's the stuff that you pay for to go in the cigarette. Obviously it's going to be cheaper than buying cheaper cigarettes' (49, Female, Never).*

Bibliographic reference	**Sherratt Frances C, Newson Lisa, Marcus Michael W, Field John K, and Robinson Jude (2016) Perceptions towards electronic cigarettes for smoking cessation among Stop Smoking Service users. British journal of health psychology 21(2), 421-33**		
		'Yeah, well they're quite expensive aren't they? I think they should drop a little bit and give everybody a chance' (48, Male, Never).	
Risk of bias	Item	Yes/No/Can't tell	Comments
	1. Was there a clear statement of the aim of the research?	Yes	Clear goal referred to throughout
	2. Is a qualitative methodology appropriate?	Yes	Evaluating perceptions
	3. Was the research design appropriate to address the aims of the research?	Yes	Semi-structured interviews appropriate for eliciting the responses needed to answer the research question.
	4. Was the recruitment strategy appropriate to the aims of the research?	Yes	Yes – views of people who are interested in quitting smoking. Not all who are interested in quitting will use SSS.
	5. Was the data collected in a way that addressed the research issue?	Yes	Telephone interviews potentially less useful than in-person interviews for gaining rapport and exploring issues, but consistent throughout. Data saturation not discussed.
	6. Has the relationship between researcher and participants been adequately considered?	Can't tell	Somewhat. Researcher describes themselves and the process of introductions to the interviewers in person in advance of the telephone interviews. No further exploration.
	7. Have ethical issues been taken into consideration?	Yes	Informed consent provided prior to being contacted for a telephone interview. Ethical approval from National Research Ethics Service committee. Efforts made to inform participants of the research and of their rights
	8. Was the data analysis sufficiently rigorous?	Yes	Theoretical structure for analysis briefly explained, discussion between multiple authors. Quotations presented to illustrate the these identified. Results contradicting main themes also sometimes given.

Tobacco: evidence reviews for facilitators and barriers to e-cigarettes (June 2021)

Bibliographic reference	**Sherratt Frances C, Newson Lisa, Marcus Michael W, Field John K, and Robinson Jude (2016) Perceptions towards electronic cigarettes for smoking cessation among Stop Smoking Service users. British journal of health psychology 21(2), 421-33**		
	9. Is there a clear statement of findings?	Yes	Clear statement of findings.
	10. Is the research valuable?	Yes	Study is situated in context of surrounding research
Overall risk of bias	Low risk of bias		
Source of funding	Liverpool Clinical Commissioning Group and Liverpool Primary Care Trust		
Comments	- Study is about users of SSS only - Study slightly over-represents men and White British people. - While all participants are or have recently been smokers, only just over a quarter (6/20) have used e-cigarettes at the time of the study.		

Tamimi 2018

Bibliographic reference	**Tamimi Nancy (2018) Knowledge, attitudes and beliefs towards e-cigarettes among e-cigarette users and stop smoking advisors in South East England: a qualitative study. Primary health care research & development 19(2), 189-196**	
Trial registration	NR	
Study type	Qualitative: semi-structured interviews	
Study dates	2014-2015	
Aim	To explore how e-cigarettes are perceived by a group of e-cigarette users (and a group of Stop Smoking Advisers [SSAs] – not included as outside of scope) and the risks and benefits they associate with e-cigarettes.	
Country/geographical location	England, South East	
Setting	Community setting: participants recruited in community settings	
Inclusion criteria	Desire to stop / reduce smoking: not included in criteria Age: not included in criteria Have experience with e-cigarettes: must be e-cigarette users (not defined) Smoking: Not included in criteria	
Exclusion criteria	Not reported	
Follow up	Not applicable	
Qualitative methods	Research question(s)	(1) How are e-cigarettes perceived by the e-cigarette users and SSAs? (2) what are the risks and benefits associated with e-cigarettes, as perceived by both groups? (3) how do these understandings shape participants' attitude towards e-cigarettes?
	Theoretical approach	Not reported
	Population and sample recruitment	SSAs were invited to participate in the research and invite their clients who use e-cigarettes to participate. Leaflets and posters were distributed at some local shops and e-cigarette stores and an advert was put on

Bibliographic reference	**Tamimi Nancy (2018) Knowledge, attitudes and beliefs towards e-cigarettes among e-cigarette users and stop smoking advisors in South East England: a qualitative study. Primary health care research & development 19(2), 189-196**	
		some social media platforms and on the University [assumed Brunel University London] website; inviting e-cigarette users to participate.
	Sample description	15 e-cigarette users. Median age 44 (range 21-67). 60% male, 40% female. All had been smokers; 8 had given up completely at the time of interview. Duration of e-cigarette use ranged between 4 and 36 months.
	Data collection	Topic guide: draft topic guide based on literature used, semi-structured. Consent: Not reported Incentive / reward: Not reported. Study author conducted interviews face-to-face or via phone (phone interviews offered to participants if they found it more convenient). Numbers of each interview method not reported. Interviews recorded.
	Method and process of analysis	Interviews were transcribed. QSR NVivo10 was used for analysis. Thematic analysis undertaken applying the six phases framework proposed by Braun and Clarke (2006).
Results	Outcomes: Barriers and facilitators to using e-cigarettes for cessation or harm reduction	
	Key themes	
	Reasons for using e-cigarettes	The authors briefly describe reasons that people use e-cigarettes: - Replicating habits and rituals of smoking - Offering comfort and pleasure - Delivering nicotine effectively and relieving withdrawal symptoms and helping avoid relapse - Modern features and flavours - Reduced cost compared with cigarettes - Tobacco-free smell - Possible increased social acceptability - Possibility of customising to individual needs and desires - As a hobby and social activity *'I started with nicotine to smoke, weaned myself off nicotine till it's nothing and now [….] I use it as a hobby' (9I, user)*
	Status or definition of e-cigarettes	Participants' understanding of what e-cigarettes were (conceptually) was mixed: *'For me it's a treatment. It's a way to keep me off tobacco'. (14N, user)*

Tobacco: evidence reviews for facilitators and barriers to e-cigarettes (June 2021)

Bibliographic reference	Tamimi Nancy (2018) Knowledge, attitudes and beliefs towards e-cigarettes among e-cigarette users and stop smoking advisors in South East England: a qualitative study. Primary health care research & development 19(2), 189-196		
		'It is not a medicine and is certainly not a treatment'. (2B, user) *'…the e-cigarettes [are] better than anything they have on the NHS' (7G, user)*	
	Risks of e-cigarettes	Participants' beliefs about the risks of e-cigarettes were also mixed. They were reportedly perceived as safer than smoking, having long-term threats or as dangerous depending on the individual: *'My sense is that there's a lot of risk aversion around it because nobody can say it's safe, therefore it must be dangerous'. (11K, user)* *'we don't know whether they [electronic cigarettes] are 100% safe at all' (9I, user)* *There's no long-term studies. That kind of worries' (12L, user)* *'Obviously this is less harmful to you and people around you' (10J, user)* *'I mean there are no health warnings on it, because no one has discovered any health dis-benefits apart from the fact that it will keep you addicted to nicotine. And I think most people who smoke electronic cigarettes, I think, know that nicotine is highly addictive' (14N, user)*	
	Stigma of using e-cigarettes	There were varied perceptions of stigma in participants, but some felt that they were judged for using them: *'I think the stigma that smokers had has kind of carried on to the e-cigarette users in the sense that the stigma surrounding the addiction itself. People see you as weak because you give in to the addiction because you obviously don't have willpower enough to stop, so it's kind of the moral judgement…' (12L, user).* *'My children don't like the fact I use them at all but they are proud of me giving up smoking, my husband prefers it' (1A, user)*	
Risk of bias	Item	Yes/No/Can't tell	Comments
	1. Was there a clear statement of the aim of the research?	Yes	Clear aim and research questions

Bibliographic reference	Tamimi Nancy (2018) Knowledge, attitudes and beliefs towards e-cigarettes among e-cigarette users and stop smoking advisors in South East England: a qualitative study. Primary health care research & development 19(2), 189-196		
	2. Is a qualitative methodology appropriate?	Yes	Investigating people's views and attitudes
	3. Was the research design appropriate to address the aims of the research?	Yes	Interviews analysed using thematic analysis.
	4. Was the recruitment strategy appropriate to the aims of the research?	Can't tell	Limited information about the recruitment strategy. Locations outlined. Convenience sampling undertaken which might not deliver a range of responses.
	5. Was the data collected in a way that addressed the research issue?	Can't tell	Setting for data collection not described. Some description of methods (audio recording). Consent etc not described. Saturation of data not discussed. Telephone and face to face methods combined – author reports that themes were similar between the two modes.
	6. Has the relationship between researcher and participants been adequately considered?	Can't tell	Researcher does not report examining their own role.
	7. Have ethical issues been taken into consideration?	Yes	Ethical approval received. Explanation of research to participants not reported. Anonymity given in publication.
	8. Was the data analysis sufficiently rigorous?	Can't tell	Briefly described. Inductive thematic analysis. Some theory referenced. Sufficient data to support some themes is not reported. No information on how data was selected or about contradictory results. Themes revised with PhD supervisors.
	9. Is there a clear statement of findings?	Yes	Clear statement of findings present and brought back to original research question.
	10. Is the research valuable?	Yes	Researcher places findings in the context of wider research. Identifies opportunities for future research.

Tobacco: evidence reviews for facilitators and barriers to e-cigarettes (June 2021)

Bibliographic reference	**Tamimi Nancy (2018) Knowledge, attitudes and beliefs towards e-cigarettes among e-cigarette users and stop smoking advisors in South East England: a qualitative study. Primary health care research & development 19(2), 189-196**
Overall risk of bias	Some risk of bias
Source of funding	Self-funded PhD.
Comments	- Study also included SSAs but data was not extracted for this group - All participants had smoked in the past or smoked currently, and all used e-cigarettes - Limited information available on methodology.

Vandrevala 2017

Bibliographic reference	**Vandrevala Tushna, Coyle Adrian, Walker Victoria, Cabrera Torres, Joshelyn , Ordona Izobel, and Rahman Panna (2017) 'A good method of quitting smoking' or 'just an alternative to smoking'? Comparative evaluations of e-cigarette and traditional cigarette usage by dual users. Health psychology open 4(1), 2055102916684648**	
Trial registration	NR	
Study type	Qualitative: semi-structured interviews	
Study dates	Not reported	
Aim	To examine the factors that dual users consider to have been influential in their decisions to use e-cigarettes, and their comparative evaluations of e-cigarettes and traditional cigarettes.	
Country/geographical location	England, South East.	
Setting	Community setting.	
Inclusion criteria	Desire to stop / reduce smoking: not included in criteria Age: 18-40 (authors state that people in this age range have been identified as more likely to use e-cigarettes) Have experience with e-cigarettes: currently using e-cigarettes Smoking: currently smoking People were also required to be fluent in English and able to be interviewed face-to-face.	
Exclusion criteria	Not reported	
Follow up	Not applicable	
Qualitative methods	Research question(s)	What are the factors that a group of dual users of e-cigarettes and traditional tobacco cigarettes consider to have been influential in their decisions to use e-cigarettes and what are their experience-based comparative evaluations of e-cigarettes and traditional cigarettes?
	Theoretical approach	Draws on theories of identity and meaning-making in terms of how a new phenomenon is understood and placed in context: social identity approach; identity process theory and social representations theory.
	Population and sample recruitment	Participants were recruited via an advertisement that was placed on social media, in a university and in local shops in an urban location in south east England. Those interested were contacted b the researchers, further

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Bibliographic reference	**Vandrevala Tushna, Coyle Adrian, Walker Victoria, Cabrera Torres, Joshelyn , Ordona Izobel, and Rahman Panna (2017) 'A good method of quitting smoking' or 'just an alternative to smoking'? Comparative evaluations of e-cigarette and traditional cigarette usage by dual users. Health psychology open 4(1), 2055102916684648**	
		information was provided, and an interview was arranged.
	Sample description	20 participants 55% female, 44% male. 70% 18-25; 30% 26-40. 35% White, 25% Asian or British Asian, 20% Mixed race, 20% other. Number of tobacco cigarettes smoked per day 1–5 ... 13 (65%) 6–10 ... 2 (10%) 11–14 ... 3 (15%) 15–20 ... 2 (10%) Number of years smoking tobacco cigarettes Less than 1 year ... 1 (5%) 1–5 years ... 13 (65%) 6–10 years ... 3 (15%) 11–14 years ... 1 (5%) 15–20 years ... 1 (5%) More than 20 years ... 1 (5%) Length of time using e-cigarettes 3–5 months ... 8 (40%) 6–12 months ... 4 (20%) 1–2 years ... 7 (35%) More than 2 years ... 1 (5%)
	Data collection	Topic guide: Interview schedule for semi-structured interviews Consent: Not reported, but authors report that the study 'had obtained a favourable ethical opinion from a university ethics committee'. Incentive / reward: None reported Interviews conducted in 'locations that were convenient for participants'. Four interviewers were involved and conducted interviews separately. Interviews were 30-60 minutes. Audio-recorded.
	Method and process of analysis	Thematic analysis. Interviewers analysed their own interviews in collaboration with the authors. Six stages of familiarisation process followed. Theoretical concepts were introduced after themes identified, to analyse themes.
Results	Outcomes: Barriers and facilitators to using e-cigarettes for cessation or harm reduction	
	Key themes	
	Safety of e-cigarettes relative to smoking	Participants were aware of the health risks of smoking, and some chose to reduce this by replacing some smoking with e-cigarette use: *The reason I started to use e-cigarettes is because I want to give up – give up on real smoking … to change, to make myself better, you know … more … to avoid future like problems of like lung cancer and all of that … I don't want tar in my lungs. (Abida)*

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		However, some participants were unsure about whether e-cigarettes were safer at all, or how much safer they were (but had still chosen to use them): *Nothing's ever come out to say it's one hundred per cent safe. Nothing's come out to say it's ever good. (Liam)* *[Re e-cigarettes] At the start said it was much better for you which obviously hearing things now that it's not better for you … you hear, you know, in the news now and stuff that it's not good for you. Obviously you see the labels of the liquids that they're quite toxic … I think it took us a long time as a human race to figure out that smoking was bad for you and it's taken us a lot, erm, quicker to find out that e-cigarettes are, um, we found out a lot sooner that there's negative side-effects.*
	Practical convenience of using e-cigarettes	There were several practical considerations that had steered participants towards using e-cigarettes as well as smoking: *Financially yes, that's one of the reasons why I tried to move on to e-cigarettes. It's [smoking cigarettes] so expensive particularly if you smoke straights [pre-rolled cigarettes] that rinses you with money [requires a rapid financial outlay]. (Natalie)* *In most places anyway, you can use it inside, I'll constantly smoke [e-cigarettes] instead of just going out for a cigarette once every hour. (Natalie)* *[I use e-cigarettes] every other weekend when I've got my son to look after. (Howard)*
	Smell	Some participants reported wanting to use e-cigarettes because they did not leave a smell on clothing and in their home: *I started using these ones now, the vape ones, because you know they don't smell. I can smoke when I drive. You know, it don't smell my car. Main reasons really. [ ] Just because you know it's not going to smell, it's not gonna smell my hands and stuff like that. (Liam)*
	E-cigarettes as cool and novel	E-cigarettes were seen by some to be fashionable, motivating them to try them: *It was cool, it was a new trend coming out at the time and it was cool – you see everyone smoking the e-cigarette. I was on holidays and then most of my friends*

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		– they was already smoking e-cigarettes, they was vaping. Then I decided I would try it out and give it a go and then since then I'm a regular vaper. (Ben)
	Social acceptance of e-cigarettes in relation to smoking	Most participants saw smoking as not very socially acceptable, whereas e-cigarettes were valued more by peers and broader society. Awareness of this led some participants to shape their behaviour towards what was acceptable in the context: *It depends on what sort of company I'm in cos I've got several friends which use e-cigarettes so if I'm with them then I'll just smoke them all the time but if, you know, I'm with other friends or at work then I'll just smoke normal cigarettes. I think, um, at work I tend to smoke normal cigarettes because e-cigarettes – people sort of laugh at you [laughs] with them a bit, um, they're not, um, well sort of supported really.* *Vaping is the new cool thing, even for adults. [ ] When I stared vaping, I was more confident [than with cigarettes] to do it front of everybody. (Sonia)* The different views about e-cigarettes and smoking extended to 'vapers' and 'smokers'. Most participants did not want to be labelled as a smoker, preferring the associations of being a 'vaper'. Confusion about how to define themselves was present: *A smoker has – tends to have like a negative connotation to it. It's like someone who has lung cancer or doesn't make good life choices. [ ] Negative because at the end of the day everyone knows that smoking isn't good for your body, it's not good for your health. (Veena)* *Smelly, tar, dirty nails, yellow teeth, inconsiderate. (Holly)* *You know, I don't really think-think of myself … I'm not saying I'm not a smoker obviously but I don't really kind of classify myself as a smoker … I don't know. (Howard)* *If someone called me a smoker I would be offended. Even though I'm a smoker I wouldn't want to be called that … I'm one but, you know what I mean, I feel like I'm on the good end of it. (Abida)* *I'd rather see myself as like a vape – a vaper, you know. [ ] I just see myself like more as a vaper. Like if*

Bibliographic reference	Vandrevala Tushna, Coyle Adrian, Walker Victoria, Cabrera Torres, Joshelyn , Ordona Izobel, and Rahman Panna (2017) 'A good method of quitting smoking' or 'just an alternative to smoking'? Comparative evaluations of e-cigarette and traditional cigarette usage by dual users. Health psychology open 4(1), 2055102916684648	
		someone said to me 'Do you smoke?', I would say 'No, I vape' [ ] Yeah, I don't see myself as a smoker any more. Now I vape so I see myself as a vaper, if anything. (Liam) *Don't consider myself a smoker … Well I don't smoke, well not as much. So I see myself as a vaper rather than a smoker. [ ] Yeah, there's definitely a positive image. (Jake)*
	Customisability of e-cigarettes	Participants appreciated that e-cigarettes could be customised in terms of temperature, heat and nicotine strength: *You can set a temperature on an e-cigarette so if you want it to like – if you want it to burn at a higher temperature or low temperature … You get different kinds of flavours so mine is a crunchy nut flavour. (Matt)* *They got so much flavours … you can have, like, nicotine flavours and stuff. It feels better than smoking cigarettes in my opinion, um, and also the thing is some people smoke shisha as well. I think this is better than shisha, like you can taste the flavour more, you can enjoy it more. (Adam)* *Well, my ex had one [e-cigarette] and he lent me it … I rung him three hours later and made him bring me some fags … this one's stronger … it's so strong I can feel it … [it's] sort of like a fag but it just tastes nicer, you can still blow smoke out it has different strengths and I've got like the strongest nicotine one … it's definitely cut me down [in relation to cigarettes]. (Lorna)*
	E-cigarettes as complicated to use and less readily available than cigarettes	E-cigarettes were frequently represented as more complicated and refills less readily available than cigarettes. This may be particularly in relation to second / third generation e-cigarettes but it's not explicit in the study: *When I first got it, it kept breaking so I ended up going back to cigarettes to like compensate so it wasn't a really smooth transition from cigarettes to e-cigarettes. [ ] Yeah it's a bit annoying because you can't hold it properly like it's quite heavy so you like go to like smoke how you would a cigarette and it falls out of your hand so you have to sort of hold it like with a whole grip. So it's like quite foreign or like you hold it sort of like, that your thumb supports it. And where my one is, it has a button so I sort of hold it like that [demonstrates to the interviewer]. But yeah I mean it takes some getting used*

Bibliographic reference	**Vandrevala Tushna, Coyle Adrian, Walker Victoria, Cabrera Torres, Joshelyn , Ordona Izobel, and Rahman Panna (2017) 'A good method of quitting smoking' or 'just an alternative to smoking'? Comparative evaluations of e-cigarette and traditional cigarette usage by dual users. Health psychology open 4(1), 2055102916684648**	
		to and you have to be tough on yourself sort of thing. (Stacey) *If I find that I don't have this [e-cigarette] at hand – like cigarettes are still a lot more available than e-cigarettes I think so going into a shop and buying cigarettes is easier to get your hands on basically. So that fact if I didn't have this [e-cigarette] and I really wanted one then I know I could get a cigarette. (Holly)* *The thing is about cigarettes – if you run out of cigarettes there's always going to be somewhere open to buy cigarettes whereas if your electronic cigarette runs out of battery or it breaks you're, you know – what are you going to do? You're really screwed. (Natalie)* Some participants did find e-cigarettes to be convenient: *In terms of convenience I just feel – wow, you know, really convenient. I didn't have to look for matches or lighters or anything like that. [ ] Convenient using it at work indoors, staying away from the cold as well. [ ] It's less invasive and it's so much more easier. (Bina)*
	Alcohol as a trigger for cigarette use	Among dual users, alcohol was often cited as being a trigger for smoking rather than using e-cigarettes: *If I'm out drinking, just now and again I'll fancy just a proper fag. [ ] If I was out and all my friends were smoking and we all went out for a fag, I'd go out and have a real one with them. (Lorna)* *Going out socially and drinking. The two seem to go hand in hand – I mean a traditional cigarette and, um, a drink of alcohol. (Howard)*
	Similarities between e-cigarettes and traditional cigarettes	Participants had mixed views about whether or not e-cigarettes replicated the experience of smoking. When compared to other forms of cessation treatment, judgements were favourable, and some agreed that the hand-to-mouth movement was key: *I've tried other things like patches and gum and stuff and that [e-cigarette usage] did seem like a better way, that you're still doing the smoking action but without the bad stuff supposedly going into you. (Jacob)* *It has confirmed to me that it was just all habit with me because I don't actually need a fag – it's just the motion of going to my mouth and blowing smoke out. (Lorna)*

Bibliographic reference	Vandrevala Tushna, Coyle Adrian, Walker Victoria, Cabrera Torres, Joshelyn , Ordona Izobel, and Rahman Panna (2017) 'A good method of quitting smoking' or 'just an alternative to smoking'? Comparative evaluations of e-cigarette and traditional cigarette usage by dual users. Health psychology open 4(1), 2055102916684648	
		However, others felt that they did not satisfy the craving for a cigarette effectively. The authors suggest that this might be due to ongoing present-time comparative context allowed by the fact that the participants are dual users:
		It [e-cigarette usage] doesn't satisfy you as much as a normal cigarette. It's a different texture, almost, of smoke … I thought it would be more like a cigarette as in the way it felt in the mouth and the – the way the smoke sort of, well the vapour, smelt … It just doesn't give you the same satisfaction outcomes as a normal cigarette. (Jacob)
		After I used it for the first time, I realised that it doesn't have the same effect do you know what I mean [ ] as normal cigarettes. It just wasn't the same. [ ] I mean in terms of its purpose, I mean yeah, but in terms of rewards it just wasn't. (Abida)
	Smoking and stress	Stressful situations were mentioned by some participants as triggers for smoking, where e-cigarette use did not satisfy:
		If I have to be put into a stressful situation which I have no choice about, e-cigs just don't do the thing. Like it's not – you don't – it just doesn't feel the same as a normal cigarette and there's times when you need that – that harshness at the back of your throat. You need the – the lingering flavour in your mouth just to get through the next twenty minutes or so. (Jessica)
	Aversion to addiction	Some dual users saw addiction as a key concept, and therefore felt that switching one addiction (cigarettes) for another (e-cigarettes) did not accomplish anything. These participants are still dual users and so have chosen to use e-cigarettes as well, but may be discouraged from quitting smoking by this concept (or be using this concept to avoid quitting):
		I thought I could just vape and then if I could come off that [and] then you would eventually be a non-smoker but I think that because you've still got the nicotine in the vape there's – that's the addictive part, so you're either on one or the other, so it sort of falls into the same category for me … Whether you do it outdoors or it's electric or normal, it's still the same at the end of the day … I just don't think they're a good method of quitting smoking. I think it's just an alternative to smoking. (Jacob)

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		I thought it [e-cigarette usage] was going to be the answer … I don't think that replacing cigarettes is actually the answer. I think that if you start with anything, whether it's e-cigarettes … or putting patches on, you're not – it's just nicotine replacement rather than actually getting over it because it's an addiction … I do know that my best friend who gave up with – by starting an e-cigarette, she's on it all the time … [ ] so you really possibly can end up more addicted to that than you could to traditional cigarettes. (Howard)	
Risk of bias	Item	Yes/No/Can't tell	Comments
	1. Was there a clear statement of the aim of the research?	Yes	Clear goal referred to throughout
	2. Is a qualitative methodology appropriate?	Yes	Evaluating perceptions
	3. Was the research design appropriate to address the aims of the research?	Yes	Semi-structured interviews appropriate for eliciting the responses needed to answer the research question.
	4. Was the recruitment strategy appropriate to the aims of the research?	Yes	Research strategy briefly explained. Uses a variety of sources. Clear inclusion criteria.
	5. Was the data collected in a way that addressed the research issue?	Yes	Setting justified. Data collection clear. Data saturation not discussed.
	6. Has the relationship between researcher and participants been adequately considered?	Can't tell	Relationship not discussed.
	7. Have ethical issues been taken into consideration?	Yes	Pseudonyms used. Consent unclear but ethical approval received. Further information supplied by the research team to the participants before they joined.

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	8. Was the data analysis sufficiently rigorous?	Yes	Description of credibility checks. Selection of themes described: 'because of their capacity to do justice to the nature of the data set and to answer the research question'. Theoretical basis for the study, and theory used to interpret responses. Analysis by four separate interviewers could have introduced differences in methods, but they were supervised by the authors to reduce this.
	9. Is there a clear statement of findings?	Yes	Findings are clear and explicit. Plenty of data to illustrate findings. More than one analyst viewed the analysis. Brought back to original review question.
	10. Is the research valuable?	Yes	Study compares findings with other studies and place in context.
Overall risk of bias	Low risk of bias		
Source of funding	No funding was received for the research. Main author is affiliated with Kingston University, London.		
Comments	- Participants are all dual users, so have already made the decision to use e-cigarettes but have not yet quit smoking. - Context is likely to have relatively low levels of smoking		

Wadsworth 2018

Bibliographic reference	**Wadsworth Elle, Neale Joanne, McNeill Ann, and Hitchman Sara C (2016) How and Why Do Smokers Start Using E-Cigarettes? Qualitative Study of Vapers in London, UK. International journal of environmental research and public health 13(7),**
Trial registration	NR
Study type	Qualitative, semi-structured interviews
Study dates	June-September 2014
Aim	To describe how and why smokers start to vape and what products they use, and to relate findings to the COM-B theory of behaviour change. Considering the implications for e-cigarette policy research. Study part of a wider study looking at e-cigarette trajectories of use, wider study not further described.
Country/geographical location	England, London
Setting	Community setting (recruitment and interviews in varied settings)

Bibliographic reference	Wadsworth Elle, Neale Joanne, McNeill Ann, and Hitchman Sara C (2016) How and Why Do Smokers Start Using E-Cigarettes? Qualitative Study of Vapers in London, UK. International journal of environmental research and public health 13(7),		
Inclusion criteria	Desire to stop / reduce smoking: not included in criteria Age: 18 and over Have experience with e-cigarettes: Required to currently use or have used e-cigarettes at least weekly for a month in the past year. Smoking: Required to be current or ex-smokers.		
Exclusion criteria	Not reported		
Follow up	Not applicable		
Qualitative methods	Research question(s)	How and why do smokers start to vape, and what products do they choose to use?	
	Theoretical approach	The COM-B theory of behaviour change (three conditions are necessary for behaviour change (B): capability (C), opportunity (O), and motivation (M).	
	Population and sample recruitment	Participants were recruited via Gumtree, a UK website for free classified advertisements (n = 14), a university mail base of research volunteers (n = 13), word of mouth (n = 2), and posters in local newsagents (n = 1).	
	Sample description	13 Males, 16 females. Age range 18-60. 18-24: 9; 25-34: 10; 35-49: 8; 50-59: 2; 60+: 1. Ethnicity: various, but all lived in London at the time of interview (White British, White Irish, Other White, Mixed British, Other Asian British, and Black British) Nationalities: various- American, Australian, British, Irish, Italian, Lithuanian, Polish, Spanish, and Other Eastern European. 	
	Data collection	Topic guide: semi-structured, open-ended questions on smoking history, use of other products, views and experiences of e-cigarettes, cost of e-cigarettes, e-cigarette marketing and regulations. Consent: consent form sent with study details after participants volunteered (and were given information about removing themselves from the study and confidentiality) Incentive / reward: £20 compensation for time and travel expenses on completion of interview. Interviews conducted in a private room at university campus, lasted ~50mins and were audio-recorded.	
	Method and process of analysis	Recordings transcribed (some by researchers, some by professional company, reasoning not given).	

Bibliographic reference	Wadsworth Elle, Neale Joanne, McNeill Ann, and Hitchman Sara C (2016) How and Why Do Smokers Start Using E-Cigarettes? Qualitative Study of Vapers in London, UK. International journal of environmental research and public health 13(7),	
		MaxQDA used for systematic coding. Coding framework was a mix of deductive codes (from topic guide) and inductive codes (emerging from interviews). One researcher coded, in discussion with others. Anything coded as 'initiation' was exported and used in this study. Iterative categorisation used and emerging themes mapped onto the 6 COM-B components (physical capability; psychological capability; physical opportunity; social opportunity; automatic motivation; reflective motivation).
Results	Outcomes: Barriers and facilitators to using e-cigarettes for cessation or harm reduction	
	Key themes	
	Type of device	Most participants preferred cigalike products which were seen as easier than tank / modular devices which most participants found to be 'bulky' and 'scary'. Authors report cigalike products being those first used, due in part to their ready availability in shops.
	Physical capability	People generally found e-cigarettes easy to use, but not always easy to calibrate to their previous cigarette use. *"It was hard to tell if, you know, you wanted the equivalent of one cigarette's worth of nicotine,(yeah) it was hard to gauge how much of that you had to take in, so I wasn't sure if it was more concentrated or not. Obviously, you can easily inhale, you know, and I think you usually get like a flash of light on the end." (Yusef, current smoker and ex-vaper, aged 18–24 years).*
	Psychological capability (understanding e-cigarettes)	Most people reported that cigarettes were bad and that e-cigarettes were probably comparatively better and might help them quit: *"I almost use the e-cigarette to relieve myself from the dirt I'm putting into my system, to givemyself a break, almost. So that way I'm still getting my nicotine . . . The problem with cigarettes, obviously, is that you see it's not only the nicotine, it's the other stuff and I'm very aware of that." (Fraser, current smoker and ex-vaper, aged 35–49 years).* But there was still a lack of understanding which comes from the general uncertainty about e-cigarettes: *"One of the biggest negatives is the sort of constant, um, uneducated debate about it . . . even almost to the point of . . . I don't actually know anything about them. I just use them and then you get, like, there's a newspaper article or something (reporting that) these things are killing our*

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		kids." Connor, ex-smoker and current vaper, aged 18–24 years). Authors report that a minority of participants had actively searched for information on e-cigarettes before initiation
	Physical opportunity to initiate e-cigarettes	Participants generally reported e-cigarettes as being readily available in a variety of retail settings. Retailers often encouraged purchase and use, resulting in most participants purchasing e-cigarettes on impulse: *"He (shop assistant) was just, "Have you smoked or do you smoke?" and I was like, "Yeah" and (he) was like, "Try this". He didn't have to do much. I was curious about the product." (Ethan, current smoker and current vaper, aged 18–24).* *"The local pound shop started selling like, er, disposable e-cigarettes with the promise that buying one was equivalent to like a pack of twenty. So £1 versus £6, £7, £8. So you know, it seemed like a good deal." (Yusef, current smoker and ex-vaper, aged 18–24).* Authors report that while using e-cigarettes indoors was a motivation for some to initiate using them, others were concerned that they did not know where it was socially acceptable to use the devices, and worried about e-cigarette etiquette and social acceptability.
	Social opportunity	Most participants reported that they had been encouraged to move from cigarettes to e-cigarettes by family or friends. Sometimes this was successful: *"I think it was my friend [who] encouraged it . . . She went and got it for me. She said, "I'll go to the shop and get you one, give me the money", and then she went and got it. She encouraged me . . . " (Holly, current smoker and current vaper, aged 25–34 years).* Authors report that sometimes pressure was too much and inadvertently influenced intentions and decisions about vaping negatively
	Friends as introduction to e-cigarettes	Sometimes participants first experience of using an e-cigarette was when offered by a friend or colleague, usually when in a social situation instead of smoking: *"When they tried those e-cigarettes a year or so ago, a mate goes to me, "It works". So I was like, "I have to give it a try". Then my brother, as well, my brother smokes, or used to smoke as well and he's the one that got me on e-*

Bibliographic reference	Wadsworth Elle, Neale Joanne, McNeill Ann, and Hitchman Sara C (2016) How and Why Do Smokers Start Using E-Cigarettes? Qualitative Study of Vapers in London, UK. International journal of environmental research and public health 13(7),	
		cigarettes as well recently." (Liam, ex-smoker, ex-vaper, 25–34).
	Automatic motivation: e-cigarettes as fun	Often, participants had tried e-cigarettes because they were curious, and because e-cigarettes were "cool" and "fun". Others saw this as a negative: *"I remember thinking it was a fad, like the herbal cigarettes my Mum used to smoke. I just remember thinking they were silly, so I never really thought anything of it, and then I tried them and realised it was actually quite effective." (Grace, ex-smoker and ex-vaper, aged 25–34).*
	Comparison of e-cigarettes and cigarettes	Some participants reflected on how the hand-to-mouth actions of smoking and vaping were very similar, with both satisfying a psychological need to put something in the mouth: *"Just chewing gum or putting a patch on, it's not the same. You need to have your cigarette, like light up and everything . . . So . . . it's either you have your normal cigarettes and like cut down or go for the e-cigarette. So obviously I decided to go for the e-cigarette." (Belle, ex-smoker and ex-vaper, aged 18–24 years).* Others felt that e-cigarettes were not similar enough to cigarettes to tempt them to swap: *"I love the smell of cigarettes. I love the way they taste, the disgusting taste that's perfect, the smoke that burns. That's something that I really enjoy... My boyfriend tried to convince me (to try an e-cigarette) . . . and I said . . . "I don't want to do it. Just leave me alone so I can smoke my cigarettes"." (Una, ex-smoker and current vaper, aged 25–34 years).* Still others were concerned that e-cigarettes mirrored the action of smoking too closely to break the habit of smoking.
	Desire to reduce harm	Many participants gave considered reasons for initiating vaping, for example to improve their health: *"If I'm gonna be an addict to an e-cigarette, it's gotta be better. I mean, if all I'm gonna go do is swap my addiction over to an e-cigarette then, I think it's worth doing." (Holly, current smoker and current vaper, aged 25–34 years).*
Risk of bias	Item	Yes/No/Can't tell	Comments
	1. Was there a clear statement of	Yes	Statement of research clearly articulated and maintained throughout study

Bibliographic reference	**Wadsworth Elle, Neale Joanne, McNeill Ann, and Hitchman Sara C (2016) How and Why Do Smokers Start Using E-Cigarettes? Qualitative Study of Vapers in London, UK. International journal of environmental research and public health 13(7),**		
	the aim of the research?		
	2. Is a qualitative methodology appropriate?	Yes	Yes: subjective experiences and motivations being explored
	3. Was the research design appropriate to address the aims of the research?	Can't tell	Justified theoretical approach clearly. Research design received less focus
	4. Was the recruitment strategy appropriate to the aims of the research?	Yes	Maximum variation sampling was used to ensure a variation of views explored. Recruitment strategy diverse. Number small but justified as generating new insights.
	5. Was the data collected in a way that addressed the research issue?	Yes	Neutral setting; data collection clear, topic guide included in publication and data format is clear. Saturation not explicitly discussed, but authors state that 30 participants is sufficient for generating theory. Unclear reasons for transcriptions being undertaken by two bodies.
	6. Has the relationship between researcher and participants been adequately considered?	Can't tell	The researcher does not discuss their own role and potential bias within the study.
	7. Have ethical issues been taken into consideration?	Yes	Ethical approval received; consent sought from participants. Participants informed about their rights, Pseudonyms used for participants and anonymity retained.
	8. Was the data analysis sufficiently rigorous?	Yes	Analytical process described, use of COM-B described. Selection of results for presenting in paper is unclear. Contradictory results appear to be included (various views presented) but not discussed specifically. Team involvement in analysis.

Bibliographic reference	**Wadsworth Elle, Neale Joanne, McNeill Ann, and Hitchman Sara C (2016) How and Why Do Smokers Start Using E-Cigarettes? Qualitative Study of Vapers in London, UK. International journal of environmental research and public health 13(7),**		
	9. Is there a clear statement of findings?	Yes	Findings are clearly stated and related to research question. Credibility not discussed.
	10. Is the research valuable?	Yes	Findings are applied to existing knowledge (literature published to date) and extrapolated to speculate what policy research is required in this area.
Overall risk of bias	Low		
Source of funding	Funding from the Medical Research Council, British Heart Foundation, Cancer Research UK, Economic and Social Research Council and the National Institute for Health Research under the auspices of the UK Clinical Research Collaboration. Authors part-funded by National Institute for Health Research (NIHR) Biomedical Research Centre for Mental Health at South London and Maudsley NHS Foundation Trust and King's College London.		
Comments	- Participants are all people who have smoked and used e-cigarettes - Study is designed to be inductive and generate theories - Although set in the UK, participants are diverse in terms of nationalities, and their views on e-cigarettes may have been shaped by a wide range of regulatory and cultural contexts.		

1 # Appendix C – Review protocols

2 **Review protocol for barriers and facilitators to using e-cigarettes**
3

ID	Field (based on PRISMA-P)	Content
I	Review question	What are the barriers and facilitators to people who smoke[3] using e-cigarettes[4] for smoking cessation or harm reduction?
II	Type of review question	Qualitative
III	Objective of the review	Understanding patient choice and the decisions which contribute towards this choice is important and may inform what information can or should be given to various groups about e-cigarettes. This will be considered alongside evidence about whether e-cigarettes are found to be effective for cessation and harm reduction. This review aims to explore factors which affect people's choice about whether or not to use e-cigarettes for smoking cessation and harm reduction.
IV	Eligibility criteria – population/disease/condition/issue/domain	**Included**: People aged 18 and over who want to stop smoking or want to reduce their harm from smoking, or those who have quit or reduced their harm already.

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[3] Throughout, smoking refers to the use of all smoked tobacco products. 'Smoking' or 'smoking habitually' refers, unless specifically stated otherwise, to people who smoke weekly or more often.
[4] E-cigarettes refer throughout to any type of e-cigarette which contains nicotine.

		People do not need to be currently using or to have used e-cigarettes in the past in order to be included. People may have used e-cigarettes alone, or in combination with other treatments. **Excluded**: Pregnant women. People under age 18. People who use e-cigarettes for purposes other than for cessation or harm reduction. **Settings:** All settings in the United Kingdom
	Themes	Salient data about barriers and facilitators might include: • Accessibility • Acceptability • Stigma • Beliefs about health benefits or harms
VII	Outcomes and prioritisation	Qualitative evidence summary (thematic analysis): • Primary material through direct quotations • Secondary analysis through author's analysis and summary of themes. **Excluded**

		Themes related to the legal or licensing status of e-cigarettes, or their marketing, except insofar as this affects their acceptability. Barriers or facilitators to using e-cigarettes for purposes other than smoking cessation or harm reduction.
VIII	Eligibility criteria – study design	**Included study designs**: Qualitative studies, and systematic reviews of qualitative studies: • Interviews – unstructured, semi-structured or structured (face to face, via telephone or SMS, or online). • Focus groups. Mixed methods studies: • Effectiveness or other studies where e-cigarettes have been used as an intervention, which also include qualitative data (only the qualitative data will be used). **Excluded study designs**: Quantitative studies, including: • Systematic reviews of effectiveness studies • Randomised controlled trials (RCTs), including cluster RCTs • Non-randomised controlled trials • Cohort studies

		'Before-and-after' intervention studies - Cross-sectional studies - Correlation studies - Case control studies Other types of qualitative methods including participant observation.
IX	Other inclusion exclusion criteria	**Studies** This is a new review for the Tobacco update. Only papers published in the English language will be included. Only studies carried out in the United Kingdom will be included. Only studies published in 1998 onwards will be included. Only full published studies (not protocols or summaries, even where they contain some data) will be included.
X	Proposed sensitivity/sub-group analysis, or meta-regression	Not applicable for this qualitative question.
XI	Selection process – duplicate screening/selection/analysis	The review will use the priority screening function within the EPPI-reviewer systematic reviewing software. Double screening will be carried out for 10% of titles and abstracts by a second reviewer. Disagreements will be resolved by discussion. Inter-rater reliability will be

		assessed and reported. If below 90%, a second round of 10% double screening will be considered. The study inclusion and exclusion lists will be checked with members of the PHAC to ensure no studies are excluded inappropriately.
XII	Data management (software)	EPPI Reviewer will be used: • to store lists of citations • to sift studies based on title and abstract • to record decisions about full text papers • to order freely available papers via retrieval function • to request papers via NICE guideline Information Services • to store extracted data Cochrane Review Manager 5 will be used to perform meta-analyses. Any meta-regression analyses will be undertaken using the R software package. Qualitative data will be summarised using secondary thematic analysis. A matrix approach will be used to compare findings with quantitative evidence.
XIII	Information sources – databases and dates	The same search will be used to identify evidence for RQ4.1, RQ6.2, RQ6.3 and RQ 6.4 as the search terms overlap. The results will be updated as appropriate before each review commences. The following methods will be used to identify the evidence: • the databases listed below will be searched with an appropriate strategy. • the websites listed below will be searched or browsed with an appropriate strategy.

- selected studies that are potentially relevant to the current review will be identified from the bibliography of any systematic reviews identified during the search process that are not being included in their own right.
- forward citation searching and reference harvesting will be done using selected studies prioritised from any scoping searches or relevant papers identified in the search process.

Database strategies

The principal search strategy is listed in Appendix A. The search strategy will take this broad approach:

> (E-cigarettes OR Vaping) AND Limits

Feedback on the principal database strategy will be sought from PHAC members.

The principal search strategy will be developed in MEDLINE (Ovid interface) and then adapted, as appropriate, for use in the other sources listed, taking into account their size, search functionality and subject coverage. The databases will be:

- Applied Social Science Index and Abstracts (ASSIA) via ProQuest
- Cochrane Central Register of Controlled Trials (CENTRAL) via Wiley
- Cochrane Database of Systematic Reviews (CDSR) via Wiley
- Embase via Ovid
- Educational Resources Information Center (ERIC) via ProQuest
- Health Management Information Consortium (HMIC) via Ovid
- MEDLINE via Ovid
- MEDLINE-in-Process (including Epub Ahead-of-Print) via Ovid
- PsycINFO via Ovid
- Social Policy and Practice (SPP) via Ovid

| | | **Database search limits**
Database functionality will be used, where available, to exclude:

• non-English language papers
• animal studies
• editorials, letters and commentaries
• conference abstracts and posters
• registry entries for ongoing or unpublished clinical trials
• duplicates.

Sources will not be limited by date. The database search strategies will not use any search filters for specific study types.

Web of Science
Forwards citation searching and reference harvesting will be conducted using Web of Science (WOS) Core Collection. Only those references which NICE can access through its WOS subscription will be added to the search results. Only papers published in the English language will be included in the search results. Duplicates will be removed in WOS before downloading.

Websites
The following websites will be searched with an appropriate strategy:

• Health Services/Technology Assessment Texts (HSTAT) https://www.ncbi.nlm.nih.gov/books/NBK16710
• NICE Evidence Search https://www.evidence.nhs.uk

The websites of relevant organisations, including the ones below, will be browsed:

• Action on Smoking and Health (ASH) http://ash.org.uk/home |

| | | | Local Government Association https://www.local.gov.uk National Centre for Smoking Cessation and Training http://www.ncsct.co.uk NHS Digital https://digital.nhs.uk Northern Ireland Assembly http://www.niassembly.gov.uk/ Public Health England https://www.gov.uk/government/organisations/public-health-england Royal College of Paediatrics and Child Health https://www.rcpch.ac.uk/ Royal College of Physicians https://www.rcplondon.ac.uk Scottish Government https://www.gov.scot Smokefree NHS https://www.nhs.uk/smokefree Smoking Toolkit Study http://www.smokinginengland.info Treat Tobacco http://www.treatobacco.net/en/index.php UK Centre for Tobacco and Alcohol Studies http://ukctas.net/index.html University of Bath Tobacco Control Research Group https://researchportal.bath.ac.uk/en/organisations/uk-centre-for-tobacco-control-studies University of Stirling Centre for Tobacco Control Research https://www.stir.ac.uk/about/faculties-and-services/health-sciences-sport/research/research-groups/centre-for-tobacco-control-research/publications Welsh Government https://gov.wales/?lang=en World Health Organization Europe http://www.euro.who.int/en/health-topics/disease-prevention/tobacco Additional searches will be conducted using Google. It may be necessary to restrict the search results to particular file types (e.g. pdf or Word), to particular countries (e.g. UK), the most recent results (e.g. 2008-current) or to review on screen a limited number pages (e.g. the first 100 results), depending on the number of results retrieved. This will be done in consultation with the review team. |

		• Google https://www.google.co.uk The website results will be reviewed on screen and documents in English and that are potentially relevant will be listed with their title and abstract (if available) in a Word document. The initial screening decision will be made using this Word file. Any items selected for review at full text will be added to EPPI-Reviewer. **Quality assurance** The guidance Information Services team at NICE will quality assure the principal search strategy and peer review the strategies for the other databases. Any revisions or additional steps will be agreed by the review team before being implemented. Any deviations and a rationale for them will be recorded alongside the search strategies. **Search results** The database search results will be downloaded to EndNote before duplicates are removed using automated and manual processes. The de-duplicated file will be exported in RIS format for loading into EPPI-Reviewer for data screening.
XIV	Identify if an update	This question is a new question for the Tobacco update.
XV	Author contacts	Please see the guideline development page.
XVI	Highlight if amendment to previous protocol	For details please see section 4.5 of Developing NICE guidelines: the manual
XVII	Search strategy – for one database	For details please see appendix B

XVIII	Data collection process – forms/duplicate	A standardised evidence table format will be used, and published as appendix D (effectiveness evidence tables) or H (economic evidence tables).
XIX	Data items – define all variables to be collected	For details please see evidence tables in appendix D (effectiveness evidence tables) or H (economic evidence tables).
XX	Methods for assessing bias at outcome/study level	Standard study checklists will be used to critically appraise individual studies. For details please see Appendix H of Developing NICE guidelines: the manual GRADE-CERQual will be used to assess confidence in the findings from qualitative evidence syntheses.
XXI	Criteria for quantitative synthesis (where suitable)	For details please see section 6.4 of Developing NICE guidelines: the manual
XXII	Methods for analysis – combining studies and exploring (in)consistency	Thematic analysis will be undertaken and CERQual will be used to assess confidence in the data.
XXIII	Meta-bias assessment – publication bias, selective reporting bias	For details please see Appendix H of Developing NICE guidelines: the manual.
XXIV	Assessment of confidence in cumulative evidence	For details please see sections 6.4 and 9.1 of Developing NICE guidelines: the manual.
XXV	Rationale/context – Current management	For details please see the introduction to the evidence review.
XXVI	Describe contributions of authors and guarantor	A multidisciplinary committee will develop the guideline. The committee will be convened by Public Health Internal Guidelines Development (PH-IGD) team and chaired by Sharon Hopkins in line with section 3 of Developing NICE guidelines: the manual. Staff from Public Health Internal Guidelines Development team will undertake systematic literature searches, appraise the evidence, conduct meta-analysis where

		appropriate and draft the guideline in collaboration with the committee. Cost-effectiveness analysis will be conducted by YHEC where appropriate. For details please see Developing NICE guidelines: the manual.
XXVII	Sources of funding/support	PH-IGD is funded and hosted by NICE
XXVIII	Name of sponsor	PH-IGD is funded and hosted by NICE
XXIX	Roles of sponsor	NICE funds PH-IGD to develop guidelines for those working in the NHS, public health and social care in England.
XXX	PROSPERO registration number	NA

1

1 Appendix D – Literature search strategies

2   Search approach

3   The strategy comprehensively covered e-cigarettes and vaping, without including any
4   search terms for the population or outcomes. One search was done to cover review
5   questions 4.1, 6.2, 6.3 and 6.4. Review 6.2 is presented in this document.

6   The MEDLINE strategy below was run after QA, peer review and consultation with
7   the committee. The strategy was adapted as appropriate to the other databases
8   listed in the protocol (see the sources tables below). The searches were done on 7
9   January 2019.

10 Additional search results were identified from the scoping searches for this topic.
11 These were used for forwards citation searching and reference harvesting using Web
12 of Science.

13 Further searches were undertaken for grey literature using the websites listed in the
14 protocol. 67 results were identified through the websites and these were screened
15 separately in Word.

16 Full details of all the search strategies are available in a separate document from the
17 NICE guidance Information Services team.

18 Sources searched to identify the evidence

Database name	Date searched	Database Platform	Database segment or version	No. of records
Applied Social Science Index and Abstracts (ASSIA)	07/01/2019	ProQuest	1987 - current	673
Cochrane Central Register of Controlled Trials (CENTRAL)	07/01/2019	Wiley	Cochrane Central Register of Controlled Trials Issue 1 of 12, January 2019	413
Cochrane Database of Systematic Reviews (CDSR)	07/01/2019	Wiley	Cochrane Database of Systematic Reviews Issue 1 of 12, January 2019	16
Embase	07/01/2019	Ovid	Embase 1974 to 2019 January 04	2493
Educational Resources Information Center (ERIC)	07/01/2019	ProQuest	1966 - current	69
Health Management Information Consortium (HMIC)	07/01/2019	Ovid	HMIC Health Management Information Consortium 1979 to September 2018	117
MEDLINE	07/01/2019	Ovid	Ovid MEDLINE(R) 1946 to January 04, 2019	2530
MEDLINE-in-Process (including	07/01/2019	Ovid	Ovid MEDLINE(R) Epub Ahead of Print January 04, 2019, Ovid MEDLINE(R) In-	1278

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Epub Ahead-of-Print)			Process & Other Non-Indexed Citations January 04, 2019	
PsycINFO	07/01/2019	Ovid	PsycINFO 1806 to December Week 5 2018	1387
Social Policy and Practice (SPP)	07/01/2019	Ovid	Social Policy and Practice 201810	5
Scoping searches	07/01/2019	-	-	7
Web of Science	07/01/2019	Clarivate	Web of Science Core Collection (1990-present)	546

1   Database strategy – main search as run in MEDLINE and adapted for other sources

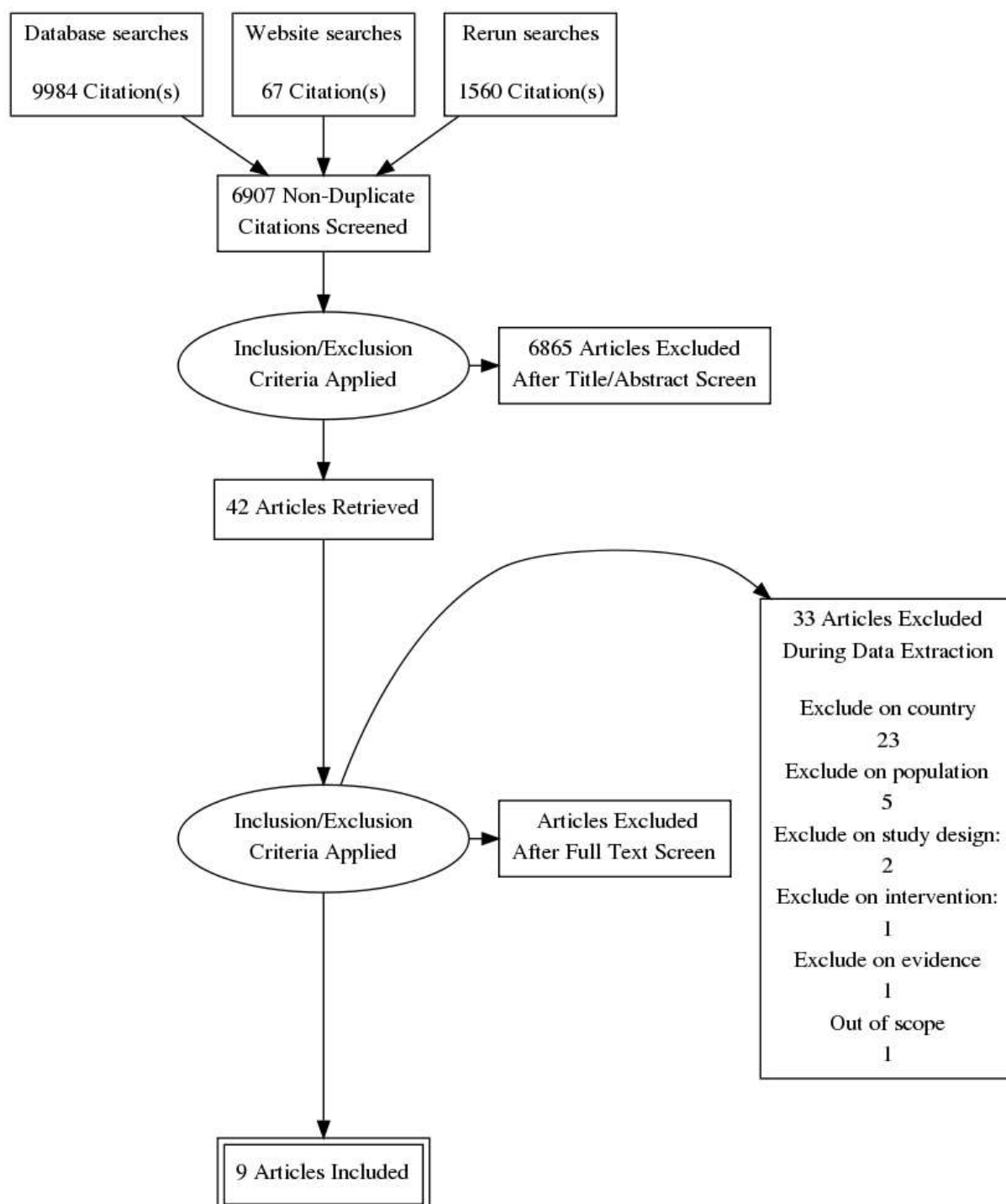2   Database(s): Ovid MEDLINE(R) 1946 to January 04, 2019

#	Searches	Results
1	Electronic Nicotine Delivery Systems/	2118
2	Vaping/	221
3	(ecig* or e-cig* or e-voke* or juul* or vape* or vaping* or ENNDS).ti,ab.	2000
4	(electronic* adj3 (tobacco* or nicotin* or cigar* or cigs or vapor* or vapour*)).ti,ab.	1596
5	((tobacco* or nicotin* or cigar* or cigs) adj3 (vapor* or vapour* or device* or inhalator* or inhaler*)).ti,ab.	613
6	((tobacco* or nicotin* or cigar* or cigs) adj3 (dual* or multiple* or multi) adj3 ("use" or uses or user* or usage* or using*)).ti,ab.	287
7	(nicotin* and (ENDS or ANDS)).ti,ab.	221
8	(nicotin* adj3 deliver* system*).ti,ab.	251
9	(polytobacco* or poly tobacco* or poly-tobacco* or multitobacco* or multi tobacco* or multi-tobacco*).ti,ab.	68
10	or/1-9	3464
11	Animals/ not (Animals/ and Humans/)	4499580
12	10 not 11	3292
13	limit 12 to (letter or historical article or comment or editorial or news or case reports)	635
14	12 not 13	2657
15	limit 14 to english language	2530

3   Key to search operators

/	Medical Subject Heading (MeSH) term
.ti	Searches the title field
.ab	Searches the abstract field
*	Truncation symbol (searches all word endings after the stem)
adj*n*	Adjacency operator to retrieve records containing the terms within a specified number (*n*) of words of each other

4

Appendix E – Public health evidence study selection

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┌──────────────────┐   ┌──────────────────┐   ┌──────────────────┐
│ Database searches│   │ Website searches │   │  Rerun searches  │
│                  │   │                  │   │                  │
│ 9984 Citation(s) │   │  67 Citation(s)  │   │ 1560 Citation(s) │
└──────────────────┘   └──────────────────┘   └──────────────────┘
```

6907 Non-Duplicate
Citations Screened

Inclusion/Exclusion
Criteria Applied → 6865 Articles Excluded
After Title/Abstract Screen

42 Articles Retrieved

33 Articles Excluded
During Data Extraction

Exclude on country
23
Exclude on population
5
Exclude on study design:
2
Exclude on intervention:
1
Exclude on evidence
1
Out of scope
1

Inclusion/Exclusion
Criteria Applied → Articles Excluded
After Full Text Screen

9 Articles Included

Appendix F – Excluded studies

Public health studies

Study Citation	Reason for excluding
Barbeau Amanda M, Burda Jennifer, and Siegel Michael (2013) Perceived efficacy of e-cigarettes versus nicotine replacement therapy among successful e-cigarette users: a qualitative approach. Addiction science & clinical practice 8, 5	**Exclude on country** - USA
Cioe Patricia A, Gordon Rebecca E. F, Guthrie Kate M, Freiberg Matthew S, and Kahler Christopher W (2018) Perceived barriers to smoking cessation and perceptions of electronic cigarettes among persons living with HIV. AIDS care 30(11), 1469-1475	**Exclude on country** - USA
Collins Susan E, Orfaly Victoria E, Wu Teresa, Chang Sunny, Hardy Robert V, Nash Amia, Jones Matthew B, Mares Leslie, Taylor Emily M, Nelson Lonnie A, and Clifasefi Seema L (2018) Content analysis of homeless smokers' perspectives on established and alternative smoking interventions. The International journal on drug policy 51, 10-1	**Exclude on country** - USA
Cooper Maria, Harrell Melissa B, and Perry Cheryl L (2016) Comparing young adults to older adults in e-cigarette perceptions and motivations for use: implications for health communication. Health education research 31(4), 429-38	**Exclude on country** - USA
Cooper Maria, Harrell Melissa B, and Perry Cheryl L (2016) A Qualitative Approach to Understanding Real-World Electronic Cigarette Use: Implications for Measurement and Regulation. Preventing chronic disease 13, E07	**Exclude on country** - USA
Daniluk A, Gawlikowska-Sroka A, Stepien-Slodkowska M, Dzieciolowska-Baran E, and Michnik K (2018) Electronic Cigarettes and Awareness of Their Health Effects. Advances in experimental medicine and biology 1039, 1-8	**Exclude on country** - Poland
Diamond William D (2016) Consumer perceptions and intentions toward smoking cessation tools. Journal of Consumer Marketing 33(5), 324-331	**Exclude on country** - USA
Dockrell Martin, Morrison Rory, Bauld Linda, and McNeill Ann (2013) E-cigarettes: prevalence and attitudes in Great Britain. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 15(10), 1737-44	**Exclude on evidence** – data not open-ended responses
Farrimond Hannah (2016) E-cigarette regulation and policy: UK vapers' perspectives. Addiction (Abingdon, and England) 111(6), 1077-83	**Out of scope** – views on regulation only.
Gentry Sarah, Forouhi Nita, and Notley Caitlin (2018) Are Electronic Cigarettes an Effective Aid to Smoking Cessation or Reduction Among Vulnerable Groups? A Systematic Review of Quantitative and Qualitative Evidence. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco ,	**Exclude on study design** – systematic review checked for citations
Hrabovsky Sharilee Myer (2018) Adult cigarette smokers: How they learn about and use electronic cigarettes. Dissertation Abstracts International Section A: Humanities and Social Sciences 79(12-A(E)), No-Specified	**Exclude on country** - USA
King Bill, Ndoen Enjelita, and Borland Ron (2018) Smokers' risk perceptions and misperceptions of cigarettes, e-cigarettes and nicotine replacement therapies. Drug and alcohol review 37(6), 810-817	**Exclude on country** - Australia

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Kotecha Shrinal, Jawad Mohammed, and Iliffe Steve (2016) Knowledge, attitudes and beliefs towards waterpipe tobacco smoking and electronic shisha (e-shisha) among young adults in London: a qualitative analysis. Primary health care research & development 17(2), 166-74	**Exclude on population** – not intending to reduce harm or quit smoking
McKeganey Neil, and Dickson Tiffany (2017) Why Don't More Smokers Switch to Using E-Cigarettes: The Views of Confirmed Smokers. International journal of environmental research and public health 14(6),	**Exclude on population** – not intending to reduce harm or quit smoking
Measham Fiona, O'Brien Kate, and Turnbull Gavin (2016) "Skittles & Red Bull Is My Favourite Flavour": E-Cigarettes, Smoking, Vaping and the Changing Landscape of Nicotine Consumption amongst British Teenagers--Implications for the Normalisation Debate. Drugs: Education, and Prevention & Policy 23(3), 224-237	**Exclude on population** – 16-18 with no separate analysis for 18+. Most are never-smokers.
Meurk Carla, Ford Pauline, Sharma Ratika, Fitzgerald Lisa, and Gartner Coral (2016) Views and Preferences for Nicotine Products as an Alternative to Smoking: A Focus Group Study of People Living with Mental Disorders. International journal of environmental research and public health 13(11),	**Exclude on country** - Australia
Pokhrel Pallav, Herzog Thaddeus A, Muranaka Nicholas, and Fagan Pebbles (2015) Young adult e-cigarette users' reasons for liking and not liking e-cigarettes: A qualitative study. Psychology & health 30(12), 1450-69	**Exclude on country** - USA
Pokhrel Pallav, Herzog Thaddeus A, Muranaka Nicholas, Regmi Sakshi, and Fagan Pebbles (2015) Contexts of cigarette and e-cigarette use among dual users: a qualitative study. BMC public health 15, 859	**Exclude on country** - USA
Russell Christopher, Dickson Tiffany, and McKeganey Neil (2018) Advice From Former-Smoking E-Cigarette Users to Current Smokers on How to Use E-Cigarettes as Part of an Attempt to Quit Smoking. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 20(8), 977-984	**Exclude on country** – international online survey, minority of participants from UK.
Simmons Vani Nath, Quinn Gwendolyn P, Harrell Paul T, Meltzer Lauren R, Correa John B, Unrod Marina, and Brandon Thomas H (2016) E-cigarette use in adults: a qualitative study of users' perceptions and future use intentions. Addiction research & theory 24(4), 313-321	**Exclude on country** - USA
Singh Binu, Hrywna Mary, Wackowski Olivia A, Delnevo Cristine D, Jane Lewis, M , and Steinberg Michael B (2017) "Knowledge, recommendation, and beliefs of e-cigarettes among physicians involved in tobacco cessation: A qualitative study". Preventive medicine reports 8, 25-29	**Exclude on country** - USA
Soule Eric K, Nasim Aashir, and Rosas Scott (2016) Adverse Effects of Electronic Cigarette Use: A Concept Mapping Approach. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 18(5), 678-85	**Exclude on country** - USA
Stanley Samantha J, and Pitts Margaret Jane (2018) "I'm Scared of the Disappointment": Young Adult Smokers' Relational Identity Gaps and Management Strategies as Sites of Communication Intervention. Health communication , 1-8	**Exclude on country** - USA
Vasconcelos Vanessa, and Gilbert Hazel (2018) Smokers' knowledge and perception of electronic cigarettes (e-cigarettes): a qualitative study of non-quitting smokers in a North London general practice. Primary health care research & development , 1-9	**Exclude on population** – not intending to reduce harm or quit smoking
Wagoner Kimberly G, Cornacchione Jennifer, Wiseman Kimberly D, Teal Randall, Moracco Kathryn E, and Sutfin Erin L (2016) E-cigarettes, Hookah Pens and Vapes: Adolescent and Young Adult	**Exclude on country** - USA

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Perceptions of Electronic Nicotine Delivery Systems. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 18(10), 2006-12	
Wiseman Kimberly D, Cornacchione Jennifer, Wagoner Kimberly G, Noar Seth M, Moracco Kathryn E, Teal Randall, Wolfson Mark, and Sutfin Erin L (2016) Adolescents' and Young Adults' Knowledge and Beliefs About Constituents in Novel Tobacco Products. Nicotine & tobacco research : official journal of the Society for Research on Nicotine and Tobacco 18(7), 1581-	**Exclude on country** - USA
Zare Samane, Nemati Mehdi, and Zheng Yuqing (2018) A systematic review of consumer preference for e-cigarette attributes: Flavor, nicotine strength, and type. PloS one 13(3), e0194145	**Exclude on study design** – systematic review checked for citations

Rerun searches

Study Citation	Reason for excluding
Chen Yvonnes, Tilden Chris, and Vernberg Dee Katherine (2019) Adolescents' interpretations of e-cigarette advertising and their engagement with e-cigarette information: results from five focus groups. Psychology & health , 1-14	**Exclude on intervention**: about e-cigarette communication, not e-cigarettes
James Shirley A, Cheney Marshall K, Smith Katie M, and Beebe Laura A (2019) Experiences of women with cervical dysplasia and associated diagnoses using electronic cigarettes for smoking substitution. Health expectations : an international journal of public participation in health care and health policy 22(5), 931-938	**Exclude on country**: USA
Kinouani Sherazade, Leflot Chloe, Vanderkam Paul, Auriacombe Marc, Langlois Emmanuel, and Tzourio Christophe (2019) Motivations for using electronic cigarettes in young adults: A systematic review. Substance abuse , 1-8	**Exclude on country**: studies identified not based in UK
Langley Tessa, Bell-Williams Rebecca, Pattinson Julie, Britton John, and Bains Manpreet (2019) 'I Felt Welcomed in Like They're a Little Family in There, I Felt Like I Was Joining a Team or Something': Vape Shop Customers' Experiences of E-Cigarette Use, Vape Shops and the Vaping Community. International journal of environmental research and public health 16(13),	**Exclude on population**: most of sample are not smokers / ex-smokers
Mays Darren, Villanti Andrea, Niaura Raymond S, Lindblom Eric N, and Strasser Andrew A (2019) The effects of varying electronic cigarette warning label design features on attention, recall, and product perceptions among young adults. Health Communication 34(3), 317-324	**Exclude on country**: USA
Owusu Daniel, Lawley Rachel, Yang Bo, Henderson Katherine, Bethea Brittaney, LaRose Christopher, Stallworth Sam, and Popova Lucy (2019) 'The lesser devil you don't know': a qualitative study of smokers' responses to messages communicating comparative risk of electronic and combusted cigarettes. Tobacco control ,	**Exclude on country**: USA

Appendix G – Research recommendations

Research recommendation 10

Which factors may prevent people who currently smoke tobacco from using other forms of nicotine such as nicotine replacement therapy and nicotine-containing e-cigarettes? Does this vary according to population group, particularly among under-served groups?

Why this is important

Nicotine replacement therapy and nicotine-containing e-cigarettes are both used by people who are trying to stop smoking. However more evidence is needed about factors that may prevent those who smoke from using other forms of nicotine, particularly among population groups with higher smoking prevalence.

Rationale for research recommendation

Importance to 'patients' or the population	There are alternative forms of nicotine that may support people in their attempts to stop smoking. However, some factors such as concerns over side effects, health effects and practical issues around the use of these products may prevent people from using these options. Identifying and addressing these concerns would help people to make informed choices. This is particularly important among under-served groups who may face additional challenges to stopping smoking.
Relevance to NICE guidance	It is important to identify the factors that may prevent people who are trying to stop smoking, from using alternative forms of nicotine, in order to inform guideline development. To help address inequalities in health in this area, it is particularly important to identify these factors among under-served groups.
Relevance to the NHS	Identifying these factors will help to those working in stop-smoking support and stop smoking services to acknowledge and address people's concerns about the use of these products and ensure that clear and consistent advice can be given about their use.
National priorities	It is important to understand the factors that may prevent people using certain aids to smoking cessation, particularly among groups with higher rates of smoking prevalence and lower rates of smoking cessation.

Tobacco: evidence reviews for facilitators and barriers to e-cigarettes (June 2021)

Current evidence base	A qualitative review carried out for this guideline represented the views of a broad range of participants and circumstances and therefore gave detailed and valuable insight. However, some groups were not represented.
Equality considerations	Although two studies included participants from disadvantaged areas, with high background smoking rates. the committee noted that none of the evidence they reviewed looked at groups known to have high smoking rates or low cessation rates, such as those with mental health conditions. These groups may face additional challenges to smoking cessation.

Modified PICO table

Population	People who smoke but do not wish to use alternative forms of nicotine as part of an attempt to stop smoking. This includes those from under-served groups.
Intervention	Use of nicotine replacement therapy or nicotine-containing e-cigarettes to support attempts to stop smoking.
Outcome	Views on, experiences of, and challenges to using other forms of nicotine.