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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

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ABSTRACT *(n=300)*

Aim   To examine factors influencing current and ex-smokers' decisions to use e-cigarettes or behavioural support, including potential impacts of any differences in perspectives between smokers and their local stop smoking services (SSSs). **Design**   Semi-structured qualitative interviews followed by framework analysis, with the 'capability', 'opportunity', 'motivation' and 'behaviour' (COM-B) model of behaviour change used to frame findings. **Setting**   SSSs and surrounding local areas in England. **Participants**   Interviewees (n=46) were current or recent smokers (n=29) and SSS staff or stakeholders (n=17). **Measurements**   Interview topic guides explored influences on smokers' choice of quit method and characteristics of support offered by local SSSs. **Findings**   Current and ex-smokers showed a range of views on potential risks from long-term vaping, which appeared to be particularly relevant for the capability dimension of COM-B. These different attitudes to vaping appeared to be linked to variations in people's perceived capability to assess evidence around e-cigarettes' safety. Motivations for using or avoiding e-cigarettes and SSSs often appeared to overlap: attitudes to both e-cigarettes and nicotine replacement therapy from SSSs often reflected personal experiences and views on whether switching from smoking to these alternatives represented successful quitting or simply ongoing nicotine addiction. For smokers, opportunities to use e-cigarettes or SSSs appeared to be largely determined by perceived time requirements. Interviews with SSS professionals furthermore suggested that opportunities to access SSSs, for ex-smokers who were now regular vapers, may be being influenced by different e-cigarette policies adopted in individual areas. **Conclusions**   In England, smokers' decisions to use e-cigarettes and local stop smoking services (SSSs) appear to be determined by varied influences across the 'capability', 'opportunity', 'motivation' and 'behaviour' (COM-B) framework. Both smokers and SSS professionals display diverse views about potential risks from e-cigarettes, which has relevance for the provision of behavioural support as well as the uptake of vaping.

Keywords: Smoking, E-cigarettes, Stop smoking services, Behavioural support, Qualitative, COM-B

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INTRODUCTION

The majority of adult smokers report a desire to quit and around 30% attempt to do so annually (1,2). The UK stop smoking services (SSSs) were established in 1999 to provide pharmacotherapy and behavioural support to any smokers desiring additional assistance to quit. The services have been repeatedly evaluated and shown to increase smokers' odds of success up to fourfold (3,4), yet attendance rates have been dropping for six consecutive years (5). In contrast, e-cigarettes are the most common aid used by UK smokers trying to quit (2), with an estimated 3.2 million adults now vaping, up from 700,000 in 2012 (6). The evidence base for e-cigarettes is inevitably still emerging however, particularly in relation to their effectiveness as quit aids and health impacts for long-term users (7).

Service monitoring data and other SSS reporting suggests smokers who combine behavioural support with e-cigarettes may have amongst the highest quit rates of all SSS users (8,9). There have thus been repeated calls by national bodies for SSSs to welcome smokers using e-cigarettes and to provide them with behavioural support (10,11). Many SSSs do now brand themselves 'e-cigarette friendly', but surveys of services have suggested that advice provided on e-cigarettes varies across England and that many individual practitioners continue to have concerns about recommending vaping (8,12–14).

While previous research has examined broad reasons for e-cigarette use amongst vapers (15–17), and – to a more limited extent – general influences on SSS uptake (18–20), there is currently little knowledge about how decisions to use e-cigarettes might relate to decision-making around accessing behavioural support. This is particularly important to understand given concerns that e-cigarettes could potentially undermine uptake of more effective routes to quitting smoking, such as SSSs (5,21–23).

Models of behaviour change, which have always been integral to the SSSs' work (24,25), offer a useful way of understanding smokers' decision-making in this area. The Stages of Change model, for instance, proved influential internationally in smoking cessation work, but systematic research has cast considerable doubt on its effectiveness, leading to it being largely discredited (26). The COM-B model, part of the wider Behaviour Change Wheel framework (27), is now favoured within the smoking cessation sector in the UK and beyond (28,29), and also underpins Public Health England's SSS commissioning guidance for councils (30). COM-B posits that 'behaviour' is a product of 'motivation' (reflective and automatic brain processes), 'opportunity' (factors external to an individual) and 'capability' (psychological and physical capacities). Previous research has

demonstrated its applicability to the uptake of vaping and behavioural support respectively (28,31), as well as to smoking-related behaviours more generally (27).

This paper aims 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 SSSs. It uses the COM-B model to frame these factors thematically and to understand any inter-relations between them.

METHODS

Ethical approval was received from an NHS Research Ethics Committee (REC), as well as the host university's REC. Data were collected through 46 semi-structured interviews in three sites with 29 current and ex-smokers and 17 SSS staff and stakeholders (stakeholders included council commissioners and public health consultants).

[Insert Table 1 here]

Interviews were conducted from October 2017 to August 2018 at three research sites in England, each comprising a SSS and its corresponding catchment area (Table 1 and Supporting information, Appendix S1). The sites were selected for broad geographical diversity (North, Central, South England) and to capture a range of local SSS policies towards e-cigarettes, based on advice from a small number of national and regional smoking experts. Smoker interviews (10 men, 19 women; ages 18-67 years) were conducted in participants' homes or public places of their suggestion. SSS interviews (5 men, 12 women; 3 managers, 9 practitioners, 5 stakeholders) were conducted at service or council premises. SSS staff provided flyers to service-using smokers who then contacted the lead researcher for further details if considering participating. Non-users of SSSs were recruited through snowball recommendations from service users or via local newspaper and Facebook advertising. Participants were eligible if they were currently using tobacco or e-cigarettes or had used either regularly within the previous 18 months. Staff and stakeholder interviewees were identified through discussions with service managers and staff at team meetings. Participants all gave written informed consent to be interviewed.

All interviews were conducted in person by the lead researcher using a topic guide (Supporting information, Appendix S2), with a reflective fieldwork note logbook maintained throughout. The guide for smokers focused on potential influences on their use of e-cigarettes and SSSs; the guide for SSS professionals explored the policies services had in place regarding e-

cigarettes and how this was translated into practice. All interviews were audio recorded before being transcribed verbatim. Total transcript time equalled 28 hours, 38 minutes: smoker interviews lasted from 22-49 minutes (median 35), while staff/stakeholder interviews lasted from 23-51 minutes (median 42). Participants were offered a £20 shopping voucher to compensate them for their time.

Data were analysed using framework analysis, which has been shown to be applicable for studying influences on the uptake of behavioural support and vaping (18,32,33), including the role health professionals may play in such decisions (34). A sample of transcripts were carefully examined by the lead author in order to produce initial coding/thematic frames for the smoker and SSS interviews respectively. These brought together deductive codes from the topic guides with inductive codes from the reviewed transcripts and were discussed and agreed with the other two authors. All transcripts were then coded (or 'indexed') line-by-line by the lead author within NVivo 12, with the two coding frames undergoing minor refinements as required during this process. Matrices[1] were exported to Excel to facilitate initial charting of the dataset by codes and cases, while data related to individual themes were exported into Microsoft Word documents to enable analysis of factors influencing smokers' decisions to use e-cigarettes and behavioural support, through discussion with all authors. The research team thus collectively refined several iterations of the analysis to map and interpret underlying patterns. A typology relating to vaping behaviour was developed inductively and agreed during this process. Final findings were mapped onto the COM-B framework to identify how smokers' 'capability', 'opportunities' and 'motivation' influenced their 'behaviour' in relation to using e-cigarettes or behavioural support. Data from SSS professionals provided additional insights into factors influencing smokers' 'opportunities' to use these two quit options that lay within the services' control. Quotations are shown below from smoker (S) and SSS professional (P) interviews.

FINDINGS

Typology

In relation to smokers' views and experiences of e-cigarettes, a simple typology (Table 2) emerged during data analysis. Interviewees with recent, regular e-cigarette use split into 'Finite' and 'Forever'

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[1] Matrices were created using the standard 'export framework matrix' function within NVivo12, so were essentially tables where rows were interviewees, columns were codes, and cells thus contained the relevant data for each interviewee for each node.

vapers. Forever vapers expressed no specific concerns about being addicted to vaping, nor a motivation to end that addiction. Finite vapers, in contrast, were motivated to quit vaping at some point in their lives (some were currently trying to do so whilst others said they planned to quit in future); many had concerns that e-cigarettes could carry long-term health risks and that users were essentially prolonging nicotine addiction. Non-vapers, meanwhile, split into those who were 'Sceptical' about people vaping and those who were 'Supportive' of this. Sceptical non-vapers expressed strong doubts about e-cigarettes' safety and addictiveness, reporting no intention to vape in future, while the Supportive non-vapers believed e-cigarettes to be safer than smoking and sometimes expressed future intentions to start vaping.

[Insert Table 2 here]

Capability

Alongside a difference in intention to quit e-cigarettes (see Table 2), vaping interviewees showed varying confidence and willingness to use evidence from experts to inform their assessments of risk. Although vapers in both groups believed vaping was a safer choice *relative to smoking*, they differed in their perceptions of the evidence of *absolute risks* from e-cigarettes. Unlike Forever vapers, Finite vapers repeatedly expressed concerns about a perceived lack of definitive evidence on e-cigarettes, which seemed to make it hard to feel capable of establishing whether or not they were harmful. Amongst the non-vapers, perceived limited capability to make informed choices about health risks from e-cigarettes was again a recurring theme linked to different understandings and interpretations of research evidence. Like the Finite vapers, Sceptics expressed significant concerns about a lack of testing undertaken on e-cigarettes' potential harms. Many even believed e-cigarettes could be *more* dangerous than smoking, sometimes attaching greater significance to the strength of evidence on a harm rather than the severity of the harm itself:

> *"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)

Conversely, Supportive non-vapers reported far more confidence assessing relative risks of vaping versus smoking, describing differences as 'black and white' or making clear statements about vaping being 'very much safer than tobacco'.

Factors influencing SSS uptake were largely similar across vaping and non-vaping interviewees. In terms of their perceived capability to use SSSs, many interviewees were confident they could identify (e.g. through the internet) local services to attend if desired. Interviewees sometimes reported feeling 'inundated' by SSS adverts 'everywhere', yet some suggested that awareness of SSSs was not always accompanied by acceptance of services' relevance for themselves:

"I see it all in the notices around, it just never registered really…I've probably seen them all around and just dodged it"
(S11: Ex-smoker, current vaper, SSS user, female)

Similarly, other interviewees had not appreciated that such services were available in their local area.

Opportunity

Vapers recurrently reported views that patience and experimentation with different models were key to finding e-cigarettes that matched personal preferences. In this respect, vape shops were sometimes seen as offering important, convenient opportunities to obtain expertise:

"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)

Perceptions that vaping was cheaper than smoking were also frequently mentioned by both Finite and Forever interviewees:

"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)

Relative cost thus seemed an important factor that increased vaping opportunities through economic availability.

Regarding SSSs, smokers' perceptions of their own time resources emerged as a common barrier limiting opportunities to access services, in terms of both short-term waiting (e.g. on phonecalls) involved in booking slots and long-term waiting that could then be required before appointments were available. This issue could be interpreted both as one of opportunity (since long waiting times are barriers to availability) and also capability (since interviewees differed in their tolerance of waiting). Some interviewees voiced frustration at deciding to quit but then having to wait days or weeks for appointments, which could also impact smoking levels in the meantime:

> *"in that time period I think, oh I've got two weeks now until I have to stop smoking, so if anything, I smoked more. Because I was cramming them in, knowing that I was actually going to stop smoking and the appointment was imminent".*
> (S14: Ex-smoker, non-vaper, SSS user, female)

Conversely, physical distance to travel to SSSs was rarely viewed as restrictive since people generally felt they lived close to available services.

Regarding opportunities to use e-cigarettes and SSSs *at the same time*, staff and stakeholder interviews explored what support and advice local services aimed to provide to clients in relation to e-cigarettes. Table 3 summarises key findings from these interviews.

[Insert Table 3 here]

Across the three sites, interviewees reported eagerness to attract more dual users of tobacco and e-cigarettes to services, yet the extent that they felt able to publicise these opportunities varied between sites, as did individual views on vaping. Site A interviewees described their service as "very enthusiastic" and "completely broadminded" about e-cigarettes and even as going beyond "the official line" in terms of willingness to recommend them. Furthermore, no interviewees expressed reservations about advocating vaping. The manager, for instance, was explicit in supporting people using nicotine for pleasure and rejecting the idea that, when someone quit smoking, vaping should also be curtailed:

> *"Some are still hung up on the idea of people using nicotine recreationally, so they'll come at it as it's OK just for quitting, but they must stop at the end of their 12 weeks. Well it's nothing to do with them, recreational nicotine is not the big demon that people imagine".*
> (P4: Manager, Site A)

Site B interviewees described their SSS as "fairly enthusiastic" or "quite positive" about e-cigarettes, with the manager stating that the service was not as proactive about vaping as some other areas due to insufficient resources. Some interviewees there were wary about advocating e-cigarettes:

> *"vaping isn't a longer term solution, it's something that we hope will encourage people to, number one, avoid the harmful effects of tobacco but then also eventually stop smoking completely"*
> (P17: Stakeholder, Site B)

At Site C, although interviewees here as elsewhere often described their service policy as "e-cig friendly", all practitioners interviewed expressed some reservations about continued nicotine addiction. One explained, for instance, that staff tended to advise vaping outdoors partly because they felt this was less "habit forming". There were further differences across sites regarding opportunities for support offered to ex-smokers, now vaping, who wished to quit e-cigarette use too. Site A reported they would not formally help such people, since they were not funded for this. Site B's manager reported that individual practitioners would help as far as able to if they had capacity, whereas Site C interviewees described such people as "totally eligible" for full support. On this same issue, smoker interviewees across all groups of the typology felt that such ex-smokers who were now vaping ought to have opportunities to access SSS support to quit e-cigarette use. Several vapers interviewed expressed interest in accessing SSSs for this kind of support if their own efforts to 'wean' themselves off e-cigarettes failed:

> *"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)

Finally, across all sites, SSS staff reported routinely asking smokers about their knowledge or past use of e-cigarettes. Participants from each site also described suggesting to smokers with bad vaping

experiences that they could try other devices or flavours. Staff, similar to vaper interviewees, often depicted vape shops as sources of expert advice:

> *"they've tried something that their friend suggested and they haven't liked it so they've stopped. And so I said ... there's so many ... the work we wanted to do with shops was to almost have like a, when you go into a deli that people could try different flavours and different strengths"*
> (P11: Practitioner, Site C)

In contrast, smoker interviewees who had accessed SSSs generally did not feel their service was particularly forthcoming on the topic of vaping. Rather, they suggested a reticence about e-cigarettes from SSSs, reporting that practitioners either provided no vaping information or only discussed the topic if smokers raised it themselves:

> *"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)

When e-cigarettes were discussed, the small number of smokers who reported SSSs pro-actively introducing them to e-cigarettes had gone on to find vaping helpful.

Motivation

Perceptions about the evidence base for e-cigarettes appeared important in motivating vapers' views on whether or not they intended to quit e-cigarettes at any point:

> *"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)

Finite vapers, for instance, often worried that vaping was essentially prolonging an addiction or introducing a new one:

> *"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)

Vaping attitudes were not solely informed by considerations of risk and addiction though. Across both groups of vapers, interviewees perceived e-cigarettes as effective for cutting down or quitting smoking. Amongst non-vapers, however, Sceptics tended to voice doubts, often based on personal experiences, about e-cigarette's cost-effectiveness and effectiveness as quit aids. Several also echoed concerns of Finite vapers that vaping was not true quitting, sometimes likening it disapprovingly to harm reduction practices such as substituting heroin with methadone. They frequently maintained vapers were fundamentally still smokers:

> *"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)

Supportive non-vapers, on the other hand, generally viewed e-cigarettes as much more cost-effective than conventional cigarettes and focused on their potential benefits, such as the social aspects of vaping or the opportunity to vape in areas where smoking was not permitted:

> *"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)

As shown here, some even expressed motivation to take up vaping themselves in future.

Meanwhile, motivation to use SSSs appeared to be closely linked to past use of services: virtually all current smokers who expressed no future intentions to access SSSs had never accessed them previously. Conversely, interviewees who had accessed SSSs almost unanimously reported positive experiences, which appeared to be key incentives for those wishing to use them again. The benefits of one-on-one contact with advisers were frequently cited, with SSSs often described as safe spaces, offering reprieves from the public judgment felt by smokers, as well as a sense of hope:

> *"You feel so warm going in. And they really inspire you…while you're in there you can actually believe. Sometimes I wish that I was just there all the time because then I wouldn't want to smoke".*
>
> (S6: Current smoker, non-vaper, SSS user, male)

The subsidisation of stop smoking pharmacotherapies was also cited as a key motivation for accessing SSSs:

> *"that's the only place where you're going to get it free. That plays a big factor for me, the fact that it was, the NRT [nicotine replacement therapy] was free, because it helps me financially."*
>
> (S2: Ex-smoker, vaper, SSS user, female)

For other interviewees however, and particularly those who had never accessed SSSs, the provision of pharmacotherapy acted as a de-motivating factor. There was sometimes an equating of SSSs with simply the distribution of NRT (i.e. without any concept of behavioural support around that), which was therefore unappealing to those who perceived NRT as inappropriate for themselves. Concerns here echoed some of the distrust about e-cigarettes maintaining nicotine addiction, with several interviewees dismissing NRT from SSSs as a 'backward step':

> *"you get addicted to them, they're just as bad as smoking…that's what I heard so I never tried them."*
>
> (S26: Current smoker, recent vaper, non SSS user, male)

Some interviewees from the Sceptical group also emphasised self-reliance and cold turkey approaches to quitting:

> *"I like to think I'm quite strong willed. So, I wouldn't want to, I don't know, I don't want to have to give in and have to go get help to quit, I'll do it on my own."*
>
> (S20: Ex-smoker, non-vaper, non SSS user, female)

Accessing SSSs was variously seen as 'giving in', demonstrating 'victim' mentalities, or failing to confront smoking problems 'internally'.

DISCUSSION

Our study found that both smoker and SSS participants reported a range of individual views on the potential risks of long-term vaping; these appeared to be key factors influencing – for smokers – their use of e-cigarettes, and – for services – the scope of advice and support they provided in relation to e-cigarettes. Conversely, the two groups differed in their perceptions of how much opportunity services were providing for educating smokers about e-cigarettes and for helping with ongoing nicotine addiction after quitting smoking. Further important influences reported by smokers on their use of e-cigarettes often overlapped with influences on their use of SSSs.

Capability

The range of views amongst current and ex-smoker interviewees on potential risks from long-term vaping underpinned our typology and appeared to be particularly relevant for the capability dimension of the COM-B framework. The different attitudes to vaping we observed appeared to be linked, for instance, to variations in people's perceived capability to assess risks of e-cigarette use, which caused particular concerns for Sceptical non-vapers. This study thus provides qualitative insights into quantitative findings on harm perceptions that have previously indicated a lack of evidence on e-cigarettes as a leading concern of smokers, especially among never-vapers (35). As interviewees from this Sceptical group had generally not accessed SSSs, where information on relative harms is provided, there appears to be a need for credible, consistent communication to non-service attending smokers about the likely size of risk reduction seen with e-cigarettes versus smoking. This could in fact be welcomed by smokers, given previous research showing appetite among them for such information (31).

Opportunity

Opportunities to experiment with different devices were regarded as important for facilitating vaping. Indeed, some vapers echoed widespread SSS staff views that vape shops were 'experts' on these issues who should be consulted (interestingly, neither group of interviewees expressed concerns about potential associated conflicts of interests). Our findings furthermore suggest that opportunities to access SSSs, for ex-smokers who are now regular vapers, may be being influenced by different e-cigarette policies adopted in individual areas. SSS interviewees at all sites described their services as 'friendly' or 'welcoming' to smokers who wished to use e-cigarettes to quit. Our

study supports previous research however (8,12–14), in observing ongoing hesitancy amongst many staff towards e-cigarettes, as well as variability in support for ex-smoking vapers. SSS interviews suggested that the level of support provided to these vapers reflected not just publicly stated service-wide policies but also individual practitioners' own views on risks from long-term vaping. This could of course deter Finite vapers, who wish at some point to end their nicotine addiction, from seeking help from local SSSs. It also marks a clear contrast to our smoker interviews where views were expressed, across all groups in our typology, that such vapers should be eligible for some form of structured support to quit their e-cigarette use.

There appeared to be further disconnects between perceptions of SSS staff that they were open and forthright about e-cigarettes, and reported experiences of smokers who had used these services. This suggests SSS attitudes towards e-cigarettes, as well as being diverse, are not always being communicated fully to service users. This variability in advice is of course understandable though given that services have been grappling with how to incorporate an unlicensed but unprecedentedly popular quit aid into their service alongside traditional licensed pharmacotherapy.

Finally, distance to travel to services, unlike an earlier study (18), was not reported as a barrier, which may have reflected the predominantly urban catchment areas of two of our SSSs. Perceptions of available time, as observed elsewhere (18), often appeared to be a more pressing potential barrier, as well as occasional misunderstandings of what a SSS involved and the fact that services were available locally.

Motivation

Motivations for using or avoiding e-cigarettes and SSSs often appeared to overlap, which may be of interest for SSSs' efforts to attract 'dual users' of tobacco and e-cigarettes. For instance, contrasting attitudes to both e-cigarettes and the NRT provided by SSSs often reflected views on whether switching from smoking to these alternatives represented successful quitting or simply maintenance of nicotine addiction. Consistent advice on this issue would thus be helpful, particularly as even SSS staff hold contrasting views that inform practice. In particular, SSSs may wish to offer clearer reassurances to prospective clients about what support they can provide – following successful quitting of tobacco – to then wean ex-smokers off any nicotine-containing products (such as e-cigarettes or NRT) they transition onto. In this respect, our typology may be useful for practitioners when assessing the attitudes and specific goals of each smoker in relation to ongoing nicotine use.

Motivation to vape also appeared, as found by others (36), to be influenced by interviewees' own positive or negative experiences of e-cigarettes, just as motivation to use SSSs was usually

linked to interviewees' reported accounts of previous service use. This is unsurprising given interviewees who had attended SSSs were almost unanimous in finding the experience positive and helpful, even when they had not ultimately quit tobacco.

Limitations and strengths

Our study has some limitations. Data were collected from only three research sites all within the UK and, as such, findings are not necessarily generalisable to other settings. While COM-B was a helpful framework for analysis, we faced challenges, similar to previous research (31), with some issues that could not be neatly categorised as 'capability', 'opportunity' or 'motivation', but rather involved multiple concepts. Repeat/longitudinal interviews could show more definitively how individual smokers' behavioural support uptake and vaping interrelated over time. We did however benefit from studying SSSs in three separate regions, since previous similar research has focused on single areas (37–39). Furthermore, all interviews were conducted by a single author using a single consistent interview method (face-to-face, rather than incorporating phone interviews as in this earlier research), while our analyses also involved similar or greater investigator triangulation than reported by most of these previous studies (37–39).

Our proposed typology aligns to some extent with one previously proposed in this area which sorted e-cigarette users into groups termed 'vaping as pleasure', 'vaping as medical treatment' and 'ambivalent e-cigarette use'(40). In particular, broad similarities are shared between the first group and our Forever vaper category, as well as the second group and our Finite vapers. Our own typology benefited, however, from expanding beyond vapers to incorporate *all* smokers, thus giving it wider relevance for SSS practitioners. To our knowledge, this is also the largest study of its kind to combine interviews with smokers and their local SSS staff. As such, results are likely to be valuable to SSSs while informing future research on decision-making around smoking cessation routes.

CONCLUSIONS

SSSs seeking to attract more dual users of tobacco and e-cigarettes may wish to use these findings to inform their recruitment efforts. Services should also consider whether they can offer clearer reassurances to prospective clients about any support they provide – following successful quitting of tobacco use – to then wean ex-smokers off nicotine-containing products they may transition onto. In this respect, the typology outlined may be useful for quickly assessing the attitudes and specific

goals of individual smokers in relation to ongoing nicotine use. Finally, findings suggest varying approaches being taken – often as a result of capacity/cost pressures – towards the eligibility of ex-smoking vapers to access SSSs. Vapers who wish to end their ongoing nicotine addiction may therefore have greater options for support with this in some parts of the country than others.

REFERENCES

1. Office for National Statistics. Adult smoking habits in the UK: 2017. https://www.ons.gov.uk/releases/adultsmokinghabitsintheuk2017. Accessed 22 March 2019.
2. West R, Brown J. Smoking in England: latest statistics. http://www.smokinginengland.info/latest-statistics/. Accessed 3 February 2019
3. West R. Stop smoking services: increased chances of quitting. London: NCSCT; 2012. http://www.ncsct. co.uk/publication_Stop_smoking_services_impact_on_quitting.php. Accessed 29 January 2019.
4. West R, May S, West M, Croghan E, McEwen A. Performance of English stop smoking services in first 10 years: Analysis of service monitoring data. BMJ. 2013;347:f4921.
5. NHS Digital. Statistics on NHS Stop Smoking Services in England - April 2017 to March 2018. https://digital.nhs.uk/data-and-information/publications/statistical/statistics-on-nhs-stop-smoking-services-in-england/april-2017-to-march-2018. Accessed 22 January 2019.
6. Action on Smoking and Health. Use of e-cigarettes (vapourisers) among adults in Great Britain. http://ash.org.uk/download/ash-use-of-e-cigarettes-by-adults-in-great-britain-2018-pdf/. Accessed 5 February 2019.
7. Hartmann-Boyce J, McRobbie H, Bullen C, Begh R, Stead LF, Hajek P, et al. Electronic cigarettes for smoking cessation and reduction. Cochrane Database Syst Rev. 2016;9:CD010216.pmid:27622384.
8. Hiscock R, Arnott D, Dockrell M, Ross L, McEwen A. Stop Smoking Practitioners' understanding of e-cigarettes' use and efficacy with particular reference to vapers' socioeconomic status. J Smok Cessat. 2019;14(1):21–31.
9. Public Health England. Seizing the opportunity: E-cigarettes and Stop Smoking Services - linking the most popular with the most effective. https://publichealthmatters.blog.gov.uk/2018/03/21/seizing-the-opportunity-e-cigarettes-and-stop-smoking-services-linking-the-most-popular-with-the-most-effective/. Accessed 22 January 2019.
10. McEwen A, McRobbie H. Electronic cigarettes: A briefing for stop smoking services. London: NCSCT; 2016. http://www.ncsct.co.uk/usr/pub/Electronic_cigarettes._A_briefing_for_stop_smoking_services.pdf. Accessed 19 January 2019.
11. McNeill A, Brose LS, Calder R, Bauld L, Robson D. Evidence review of e-cigarettes and heated tobacco products 2018: A report commissioned by Public Health England. London: Public Health England; 2018. https://www.gov.uk/government/publications/e-cigarettes-and-heated-tobacco-products-evidence-review. Accessed 2 February 2019.
12. Beard E, Brose LS, Brown J, West R, McEwen A. How are the English stop smoking services responding to growth in use of electronic cigarettes? Patient Educ Couns. 2014;94(2):276–81.
13. Hiscock R, Goniewicz ML, McEwen A, Murray S, Arnott D, Dockrell M, et al. E-cigarettes: Online survey of UK smoking cessation practitioners. Tob Induc Dis. 2014;12(August):13.
14. Farrimond H, Abraham C. Developing E-cigarette friendly smoking cessation services in England: Staff perspectives. Harm Reduct J. 2018;15:38.

15. Romijnders KAGJ, Osch L van, Vries H de, Talhout R. Perceptions and reasons regarding e-cigarette use among users and non-users: A narrative literature review. Int J Environ Res Public Health. 2018;15(6):pii: E1190.
16. Tsai J, Walton K, Coleman BN, Sharapova SR, Johnson SE, Kennedy SM, et al. Reasons for Electronic Cigarette Use Among Middle and High School Students — National Youth Tobacco Survey, United States, 2016. MMWR Morb Mortal Wkly Rep. 2018;67(6):196–200.
17. Simonavicius E, McNeill A, Arnott D, Brose LS. What factors are associated with current smokers using or stopping e-cigarette use? Drug Alcohol Depend. 2017;173:139–43.
18. Vogt F, Hall S, Marteau TM. Examining why smokers do not want behavioral support with stopping smoking. Patient Educ Couns. 2010;79(2):160-166.
19. Copeland L. An exploration of the problems faced by young women living in disadvantaged circumstances if they want to give up smoking: Can more be done at general practice level? Fam Pract. 2003;20(4):393-400.
20. Hammond D, McDonald PW, Fong GT, Borland R. Do smokers know how to quit? Knowledge and perceived effectiveness of cessation assistance as predictors of cessation behaviour. Addiction. 2004;99(8):1042-8.
21. Action on Smoking and Health. Reading between the lines: Results of a survey of tobacco control leads in local authorities in England. London: ASH; 2016.
22. Iacobucci G. Stop smoking services: BMJ analysis shows how councils are stubbing them out. BMJ. 2018; 362.
23. Britton J. Electronic cigarettes and smoking cessation in England. BMJ. 2016;354:i4819.
24. West R, McEwen A, Lorencatto F, Michie S, Churchill S, Willis N. NCSCT Training Standard - Learning Outcomes for Training Stop Smoking Practitioners. London: NCSCT; 2018. http://www.ncsct.co.uk/usr/pub/NCSCT_Training_Standard.pdf. Accessed 25 February 2019.
25. Smith S, Roberts N, Kerr S, Smith S. Behavioral Interventions Associated with Smoking Cessation in the Treatment of Tobacco Use. Heal Serv Insights. 2013;6:79–85.
26. Cahill K, Lancaster T, Green N. Stage-based interventions for smoking cessation. Cochrane Database Syst Rev. 2010 Nov 10;(11):CD004492.
27. Michie S, van Stralen MM, West R. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. Implement Sci. 2011;6:42.
28. Fulton E, Brown K, Kwah K, Wild S. StopApp: Using the Behaviour Change Wheel to Develop an App to Increase Uptake and Attendance at NHS Stop Smoking Services. Healthcare. 2016;4(2):pii: E31.
29. Gould GS, Bar-Zeev Y, Bovill M, Atkins L, Gruppetta M, Clarke MJ, et al. Designing an implementation intervention with the Behaviour Change Wheel for health provider smoking cessation care for Australian Indigenous pregnant women. Implement Sci. 2017;12:114.
30. Public Health England. Tobacco commissioning support 2019 to 2020: principles and indicators. London: PHE; 2018. https://www.gov.uk/government/publications/alcohol-drugs-and-tobacco-commissioning-support-pack/tobacco-commissioning-support-pack-2019-to-2020-principles-and-indicators. Accessed 12 March 2019.
31. Wadsworth E, Neale J, McNeill A, Hitchman SC. How and why do smokers start using E-cigarettes? Qualitative study of vapers in London, UK. Int J Environ Res Public Health. 2016;13(7):pii: E661.
32. Camenga DR, Cavallo DA, Kong G, Morean ME, Connell CM, Simon P, et al. Adolescents' and young adults' perceptions of electronic cigarettes for smoking cessation: A focus group study. Nicotine Tob Res. 2015;17(10):1235–41.
33. Bowker K, Orton S, Cooper S, Naughton F, Whitemore R, Lewis S, et al. Views on and experiences of electronic cigarettes: A qualitative study of women who are pregnant or have recently given birth. BMC Pregnancy Childbirth. 2018;18(1):233.
34. Singh B, Hrywna M, Wackowski OA, Delnevo CD, Jane Lewis M, Steinberg MB. Knowledge, recommendation, and beliefs of e-cigarettes among physicians involved in tobacco cessation:

A qualitative study. Prev Med Reports. 2017;8:25–9.

35. Wilson S, Partos T, McNeill A, Brose LS. Harm perceptions of e-cigarettes and other nicotine products in a UK sample. Addiction 2019 Jan 3. doi: 10.1111/add.14502. [Epub ahead of print]

36. Pepper JK, Ribisl KM, Emery SL, Brewer NT. Reasons for starting and stopping electronic cigarette use. Int J Environ Res Public Health. 2014;11(10):10345–61.

37. Tamimi N. Knowledge, attitudes and beliefs towards e-cigarettes among e-cigarette users and stop smoking advisors in South East England: A qualitative study. Prim Heal Care Res Dev. 2018;19(2):189–96.

38. Sherratt FC, Newson L, Marcus MW, Field JK, Robinson J. Perceptions towards electronic cigarettes for smoking cessation among Stop Smoking Service users. Br J Health Psychol. 2016;21(2):421–33.

39. Farrimond H, Abraham C. Developing E-cigarette friendly smoking cessation services in England: Staff perspectives. Harm Reduct J. 2018;15:38.

40. Farrimond H. A typology of vaping: Identifying differing beliefs, motivations for use, identity and political interest amongst e-cigarette users. Int J Drug Policy. 2017;48:81–90.

Table 1: Participant characteristics

Smokers	*(n=29)*
Age (years)	
Mean (range)	43(18-67)
Gender	
Male	10
Female	19
Smoking	
Current	12
Ex	17
Vaping	
Current	12
Ex	5
Never	12
SSS use	
Current	6
Ex	11
Never	12
Staff & stakeholders	*(n=17)*
Gender	
Male	5
Female	12
Role	
Manager	3
Practitioner	9
Stakeholder	5

Table 2: Attitudes expressed about vaping within different groups of interviewees

		Intention to stop vaping in future	Intention to start vaping in future	Concern about possible risks from long-term vaping	Belief that long-term vaping could carry even more risks than smoking	Concerns that vapers were still essentially addicts
Vapers	*'Finite'*	Yes	-	Mixed	No	Mixed
	'Forever'	No	-	No	No	No
Non-vapers	*'Supportive'*	-	Mixed	No	No	No
	'Sceptical	-	No	Yes	Mixed	Mixed

Table 3: Summary of SSS positions on e-cigarettes and individual staff views

		View service as 'e-cig friendly'	Eligibility of ex-smoking vapers for SSS support	Individual staff concerns about possible risks from long-term vaping
Staff and stakeholders	*Site A*	Yes	No	No
	Site B	Yes	Capacity-dependent	Mixed
	Site C	Yes	Yes	Yes