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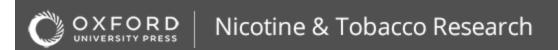
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SCHOLARONE™ Manuscripts How should a vape shop-based smoking cessation intervention be delivered? A qualitative study

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Abstract:

Introduction: Encouraging smokers to quit smoking tobacco using e-cigarettes could substantially reduce smoking-related diseases. Vape shops therefore have the potential to play an important role in supporting smoking cessation. The aim of this study was to explore how to deliver a vape shop-based smoking cessation intervention in the United Kingdom.

Method: Semi-structured telephone interviews were undertaken with four stakeholder groups: 20 step smoking cerving (SSS) providers, seven tobacco central leads (TCL), seven

groups: 20 stop smoking service (SSS) providers, seven tobacco control leads (TCL), seven smokers/vapers and five vape shop staff). Interviews were analysed thematically.

Results: Stakeholder groups were positive about the idea of delivering a vape shop-based intervention. Themes that were identified were the characteristics of the intervention (duration and timing; delivery; style and content; and product provisions); barriers to the intervention (challenges for new vapers; false information; tobacco company involvement; and conflicts of interest); facilitators to the intervention (positive views on vaping; cost-effectiveness; popularity; and accessibility); and considerations for the intervention (data protection and privacy; aesthetics; and regulation and management). The results suggest that the intervention should be delivered by vape shop workers with mandatory training with the support of SSS. Most stakeholders agreed quitting vaping was not a priority, but that information on how to reduce nicotine use should be given. Concerns around privacy, GDPR, misinformation about vaping and tobacco company involvement would need to be addressed.

Conclusions: Stakeholders agree that vape shops should offer stop smoking interventions and hold similar opinions on how this should be delivered.

IMPLICATIONS

This study suggests that smokers, vapers and other key stakeholders are positive about the idea of a stop smoking vape-shop based intervention and that they hold similar opinions on how this should be delivered. Most participants felt that this should be primarily delivered by trained vape shop staff and run with support from SSS. Participants agreed that a stop smoking vape shop-based intervention should be flexible in terms of the type, duration and frequency of support provided, and that the intervention should comprise both technical guidance on using a vape and behavioural support to prevent a return to smoking.

Introduction

Combustible tobacco smoking was responsible for 74,600 deaths and 506,100 hospitalisations in the United Kingdom (UK) between 2019-2020.(1) Electronic cigarettes (ecigarettes) can provide a less hazardous alternative to smoked tobacco for smokers, and are currently used by an estimated 4.7 million adults in Great Britain.(2-4) Two-thirds of ecigarette users (or 'vapers') are ex-smokers, and the remaining third are dual users, smokers who also use an e-cigarette. Quitting smoking, reducing smoking or remaining abstinent are the most frequently cited reasons for e-cigarette use.(2) E-cigarettes are currently the most popular smoking cessation aid in England.(5,6)

Following several years of cuts to services, in 2023 the government announced additional funding for local smoking cessation services in England, as well as a new 'swap to stop' scheme whereby smokers accessing stop smoking services (SSS) will be offered a free vaping kit.(5-7) These measures will help to encourage the use of e-cigarettes for smoking cessation in combination with behavioural support. However, only a small proportion of smokers access SSS and many health care professionals are cautious about supporting patients who smoke to make a quit attempt using e-cigarettes.(8) Therefore there is a need to consider other ways of maximising the success of quit attempts using e-cigarettes.

In the UK, specialist 'vape shops' are a popular source of e-cigarettes; they are used by about a quarter of vapers.(9) The National Centre for Smoking Cessation and Training (NCSCT) has highlighted the role of vape shops in supporting quit attempts and has published guidance for cessation service providers and commissioners on how to work with vape shops.(10) Some stop smoking services (SSS) operate schemes where service users receive discounts from specific vape shops, or have purchased e-cigarette products for service users from vape shops, which is one approach to ensuring that smokers who are trying to quit have access to e-cigarettes, as well as behavioural support.(10) There is some evidence that vape shop voucher schemes may be helpful in supporting smokers to quit.(11) Given that vape shops provide access to a less harmful alternative to smoking and that the number of vape shops in the UK is estimated to be around 2,900,(12) they have a potentially important role in tobacco harm reduction.

We previously undertook a mixed-methods study of vape shops in the East Midlands region of England and their customers and found that vape shops are integral to vapers' positive experiences of vaping, but that in general they are not regarded as a place in which smokers can access smoking cessation advice.(13, 14) Similarly, a qualitative study investigating the role of the vape shop environment in supporting smoking abstinence in East Anglia and

London found that traditional smoking cessation is not perceived as the main role of vape shops by either vapers or vape shop staff.(15) In the East Midlands study, although many customers reported having quit smoking, many believed that there was a need for support, particularly in terms of managing or quitting their e-cigarette use.(14) Multiple studies have found that vape shop staff and customers believe that vape shops could be an appropriate setting for smoking cessation advice,(13, 14, 16) and such interventions have already been run in some parts of the UK.(17) The aim of this study was to understand attitudes towards vape-shop based smoking cessation interventions (VSBI) among current smokers who do not use e-cigarettes, vapers and other key stakeholders, as well as how such an intervention might best be delivered.

Methods

Design

Qualitative semi-structured interviews explored the views of key stakeholder groups on the provision of VSBI. The Standards for Reporting Qualitative Research (SRQR) guideline was adopted.(18) This study formed part of a larger mixed-methods study; the findings were used to inform a subsequent Delphi consensus study. The COVID-19 pandemic provided an additional opportunity to explore impacts on smoking, vaping, vape shops and SSS within the same interviews.(19) The study was approved by the University of Nottingham's School of Medicine Ethics committee (Reference 404-1910).

Recruitment and sampling

Recruitment comprised convenience, purposeful and snowball approaches. Smoking cessation training providers and individuals working in tobacco control at Public Health England shared an email about the study with stop smoking professionals (SSP) and Tobacco Control Leads (TCL). Smokers, vapers and dual users (SVD) were recruited via Facebook adverts. Those interested in participating completed a short online survey to check eligibility: over 18 years old, able to participate in an English language interview, and identifying as one of our stakeholder groups, and to provide contact details to arrange interviews. Vape shops (VS) were contacted directly by the researcher (EY), either by phone or social media. A database of vape shops in the UK was created by the researchers using online listings from ecigdirectory.co.uk, and the database was then stratified by area, index of multiple deprivation (IMD) and urban rural classification to maximise generalizability. For maximum variation, vape shops from different geographical areas, with differing IMD classifications were contacted about the study using a simple random sampling technique.

Data collection and procedure

Interviews were conducted via telephone, with separate semi-structured guides developed for each stakeholder group, based on the research aims and previous literature (Supplementary file).(13, 14) For all groups, interviews explored participants' attitudes about the need for smoking cessation interventions for e-cigarette users in general, and specifics around vape shop settings being used to deliver such initiatives. For those working in tobacco control and public health, we considered which existing models for smoking cessation in general could be applied, and whether these individuals had been involved in existing interventions with vape shops. Interviews also explored participants' views about the feasibility of delivering a VSBI, the key characteristics that an intervention should consider and barriers and facilitators to implementation. We also considered how SVD could be reached and engaged to access such a service. General views on e-cigarettes and experiences of using these products were also sought, along with previous quit attempts. Interviews were conducted by EY between May and September 2020 and were digitally audio-recorded.

Data Analysis

Interviews were transcribed verbatim by an external specialist transcription company. Transcripts were checked for accuracy and personal identifiers were removed. Transcripts were stored and managed using NVivo 12. Data were analysed using thematic analysis (20). Initially, each transcript was read several times and initial codes were noted by EY, which facilitated familiarisation. Data were analysed using thematic analysis (20). Initially, each transcript was read several times and initial codes were noted by EY, which facilitated familiarisation. Further readings and interpretation employed an open and inductive approach to coding. This involved axial coding where data and codes that were linked in terms of meaning were considered, thus moving from a semantic to latent level analysis. Further readings then led to the generation of substantive themes and corresponding subthemes. Data were double coded by TL and MB to ensure validity of interpretations (21). Themes and sub-themes and any disagreement were discussed between the research team, allowing clarification and agreement on a final set of themes, that was then applied across the entire dataset.

Results

Thirty-nine individuals completed interviews, comprising 20 SSP (East Midlands, South-East England, London, Scotland, Yorkshire & Humberside, Lincolnshire, North-East England and West Midlands), 7 TCL (London, Manchester, East Midlands, Liverpool and Yorkshire), 7

SVD (including dual users) and 5 VS (Table 1). Most participants were aged between 30-50yrs (59%) and were female (59%). Of the 2309 VS identified, 36 were invited for interview; those who took part were in the East Midlands, West Midlands, London, Southampton and Yorkshire. Recruitment numbers were lower than intended in three of the stakeholder groups Recruitment numbers were lower than intended in three of the stakeholder groups due to scheduling difficulties because of the recurrent lockdowns, and because stakeholders had to prioritise COVID-19 projects. Vape shops were difficult to contact because they had to close which led to further challenges for recruitment that were further compounded by project time constraints. However, data analysis indicates thematic saturation.(22) Themes and subthemes are summarised in Table 2.

Table 1. Participant characteristics

		Smoking status by stakeholder group:			
		N(%)			
Stakeholder group	N (%)	Smoke	Vape	Dual	None
Smokers/vapers/dual	7 (17.9)	2 (28.6)	3 (42.8)	2 (28.6)	0 (0)
users					
Stop Smoking	20 (51.2)	0 (0)	2 (10)	0 (0)	18 (90)
Professionals					
Tobacco Control	7 (17.9)	0 (0)	0 (0)	0 (0)	7 (100)
Leads					
Vape shops	5 (12.8)	0 (0)	4 (80)	1 (20)	0 (0)
Total	39 (100)			0.	
				4	
Gender					
Female	23 (59)				
Male	16 (41)				
Age					
20-30	5 (12.8)				
30-40	14 (35.9)				
40-50	9 (23.1)				
50-60	7 (17.9)				
60+	4 (10.3)				

Table 2: Themes

Theme	Subtheme
Characteristics of the intervention	Duration and format
	Delivery
	Nature of support
	Product provisions
	Goal of the intervention – smoke
	free or vape free?
Barriers to delivering vape shop-based	Challenges for new vapers
interventions	
	False information
	Tobacco company involvement
	Conflicts of interest
Facilitators for intervention	Positive views on vaping
	Cost effective
	Popularity and accessibility
Considerations for intervention	Data protection and privacy
	Aesthetics
	Regulation and management
	Quitting vaping

Quotes are labelled with stakeholder group and participant number: SSP – Stop Smoking Professionals, TCL -Tobacco Control Lead, SVD – Smokers/Vapers/Dual users, and, VS – Vape Shop.

Characteristics of the intervention

Duration and format

Across stakeholder groups, views were similar on the characteristics of a VSBI. Participants proposed support be provided for 12-weeks, in line with existing smoking cessation programs, but that ongoing support should be available (Supplementary Table, quote a).

Participants felt vape shops could facilitate an intervention; vape shop owners admitted offering informal support on smoking cessation for new vapers, via their social media

platforms and instore. Social media was also used to offer free vape supplies in return for smokers handing over their last pack of cigarettes (Supplementary Table, quote b). Others shared that staff being available online, to offer support to those trying to quit smoking via vaping (Supplementary Table, quote c) is helpful.

Regarding format, although some SSP favoured offering appointments, most stakeholders believed a VSBI should be flexible, including drop-in sessions and offering 'walk-in' appointments. Most stakeholders acknowledged people often decide to quit spontaneously, and having an instantly accessible service would support that. Some stakeholders felt a group format would be better over one-to-one; however, SVD preferred the latter. Group-based support was viewed as a beneficial supplement, highlighting the importance of client choice (Supplementary Table, quote d).

Intervention delivery – the relationship between VS and SSS

Most stakeholders felt a VSBI should be delivered by vape shop staff, but that training on delivering smoking cessation advice was required. SSP, TCL and some VS owners suggested the NCSCT Level 2 qualification in smoking cessation was ideal Many stakeholders advocated that a local SSS should oversee a VSBI and offer support and guidance to vape shops. However, some VS were hesitant about the degree to which SSS should be involved, as were SVD, because SSS may lack knowledge about e-cigarettes (e.g., about coils and different wattages). Overall, most stakeholders were in favour of SSS involvement, provided it was supportive and instructive. Moreover, stakeholders conveyed that the relationship should be collaborative as opposed to SSS having a 'management' role (Supplementary Table, quote e).

Nature of support

Participants felt that clients would need good instructions on how to use a vape, the strength of nicotine they required (based on individual needs) and be advised on the different types of devices available and styles of vaping – mouth to lung or direct lung. Upkeep of devices was also considered important, with vapers and VS discussing the importance of understanding coils and how to change/manage them. Importantly, all stakeholders mentioned that this information should be delivered over several contact sessions to encourage repeat attendance and not overwhelm new vapers (Supplementary Table, quote f).

Stakeholders also felt that understanding of behaviour change theory would be necessary for those delivering the intervention, as well as training in cessation counselling. Validating

smoking status using Carbon Monoxide (CO) monitors was recommended, especially because this may motivate behaviour change (Supplementary Table, quote g).

Some VS, SVD and SSP felt that vape shops should have knowledge around issues such as nicotine interaction with certain medications (e.g., for mental health disorders such as lithium), and be able to offer other pharmacotherapies. However, many SSP were concerned that this could lead to inaccurate recording, distribution and use of nicotine replacement therapy (NRT) and felt such products should remain with SSS, pharmacies and general practitioners.

Product provision

Product provision was discussed, where views were divisive within rather than between stakeholder group. Those in favour of providing vaping products either agreed a basic starter kit of a vape, spare coil and some e-liquids (with nicotine) should be provided, or that clients have a choice between three basic starter kits. A starter kit was considered an alternative to NRT, which clients can routinely get free, or for the price of a prescription (Supplementary Table, quote h).

However, some stakeholders felt offering vapes for free would risk an intervention being abused and that those who wanted to quit smoking using vapes should purchase their own devices. Apart from a couple of stakeholders, most felt offering free vape products as incentives was unnecessary (such as e-liquids).

Goal of the intervention – smoke free or vape free?

Some stakeholders, particularly SSP, felt the end goal of the intervention should be to have clients both smoke and vape free; this was often discussed in comparison to traditional stop smoking aids such as NRT which clients were expected to eventually come off. There was some disagreement between all stakeholders as to whether this should be at the end of the 12-week intervention period, or within a time frame of 12-months. Many stakeholders across all groups felt that quitting vaping was not that important and that the focus should be to ensure clients were smoke free but did suggest that they should be given advice on how to quit vaping, accordingly.

Some stakeholders were concerned that vape shops would not encourage users to quit vaping, as that would directly impact their business; however, VS owners reported they were supportive of people who were ready to quit vaping and already had strategies they would

suggest. Overall, most stakeholders felt becoming 'nicotine-free' was a more achievable and desirable outcome than 'vape-free' (Supplementary Table, quote i).

Barriers to delivering VSBI

Some felt that vapes could be quite complicated, and that clients (particularly older clients) would find the technology off-putting. The two smokers who had previously vaped found vapes 'harsh' and struggled managing their coils. This was corroborated by VS owners, who described new vapers having issues with vapes (which to use, coil issues, wattage to use, different types of vape juice) as being common. SSP discussed the difficulty of managing nicotine; some SSP recalled how some clients who had tried using vapes were keen to use very low levels of nicotine which did not satisfy their cravings. Some vapers also shared experiences that they carried a second vape in case one broke or if the battery ran out, because it would be difficult to get a replacement at short notice and that they were expensive, compared to the vast availability and cost of buying cigarettes (Supplementary Table, quote j).

Other barriers reported included false beliefs that vaping caused popcorn lung, and instances where healthcare professionals had told others that smoking was the healthier option. Participants felt these myths about vaping needed to be publicly addressed so that clients felt safer about quitting smoking with a vape (Supplementary Table, quote k).

All stakeholders were concerned about tobacco industry involvement in any intervention. SSP who had already trialled working with vape shops expressed dismay when shops were bought by the tobacco industry. These individuals also cited products they would not recommend because of their links to the tobacco industry. All stakeholders expressed mistrust of the tobacco industry; these individuals felt the industry was ultimately interested in returning clients to tobacco products, rather than vapes. SSP and TCLs also highlighted there would be logistical barriers in terms of their involvement in supporting intervention delivery, as they are unable to work with tobacco industries, as per their policies (Supplementary Table, quote I).

Although all stakeholders held positive beliefs about vape shops, SSP, TCLs and SV highlighted vape shops are a business whose priority is to make money. This created concerns that vape shops would forgo the needs of intervention clients to complete sales and work with paying customers or would be limited on the time they could spend with those quitting smoking to manage the commerce side (Supplementary Table, quote m).

Facilitators for the intervention

Stakeholders identified factors that would facilitate the success of the intervention. The intervention proposed was seen to be perceived as more 'attractive' and thus accessible than traditional SSS, due to flexibility and lack of medicalisation. Therefore, stakeholders felt the reach of such services would be greater, and would engage groups such as transient workers, pregnant women, shift workers and those on lower incomes (Supplementary Table, quote n).

Despite the negative myths associated with vaping, stakeholders felt that overall, there were many positive views on vaping, which would increase the acceptability of the intervention to the target population. They discussed Public Health England's (PHE's) report on vaping (Supplementary Table, quote o).

All groups felt a VSBI was cost-effective, although some TCLs and SSS were concerned about who would be responsible for funding and overseeing an intervention. It was felt that vape shops should be compensated for their efforts with the intervention and stakeholders suggested paying per quit, pay per support session or regular set payments. A few stakeholders felt that vape shops would benefit without monetary compensation, as it was believed that the intervention would bring new business. TCLs and SSP also felt that gaining a certificate in smoking cessation would be 'payment' for VS workers. Participants felt that being associated with such an intervention would be 'good for business' and would add to the legitimacy of what vape shops offered. SSP and TCLs also acknowledged that those who attempt to quit through vaping were more likely to quit and remain smoke free than those on traditional stop smoking medications and aids, resulting in smoking-attributable healthcare cost savings.

Considerations for the intervention

There were concerns that data protection and privacy would need to be assured. Stakeholders felt that vape shops may lack a suitable private area for people to discuss their needs, although many smokers and vapers did not see this as being necessary.

All stakeholders identified the need for suitable General Data Protection Regulation (GDPR) practices to be in place for a VSBI. SSP and TCLs went on to recommend vape shops should use the same data collection records as they did to track quits and ensure no-one 'slipped through the net'. Some VS owners who had previously worked on small scale interventions with SSS felt the amount of paperwork involved was somewhat overwhelming

and felt that data collection and record keeping would need to be substantial enough to collect relevant data, but not overwhelming and repetitive (Supplementary Table, quote p).

Aesthetics was also raised by most stakeholders, but views were mixed. Some felt that a more clinical, 'pharmacy-looking' shop would be beneficial to the intervention, and highlighted that less clinical shops (described as having lots of gadgets and artwork) would be off-putting and intimidating to certain demographics, such as older adults. However, others felt a more clinical aesthetic would medicalise vaping and make it a less attractive intervention, arguing the traditional 'clinical' aesthetic of SSS was already available to those clients who would be attracted to it. These stakeholders (across all groups) felt a less clinical, more informal setting would be more beneficial for targeting those most in need of the intervention. However, it was acknowledged that both would appeal to some more than others (Supplementary Table, quote q).

The regulation and management of VSBI was also discussed. There was the belief that there should be a list created of vape shops that were willing to, or had already undergone, training in smoking cessation, and that those on this list would sign an agreement to not work with the tobacco industry. SSP, vape shops and TCLs also felt it was important that the intervention was standardised so that all shops offering the intervention were working uniformly. SSP and TCLs also felt there should be regular reviews with shops offering the intervention to assure quality.

There was also a worry, although this was minimally represented, that vape shops may falsify data or sign-up people who already vape to the intervention to inflate their number of quits. Despite this, most stakeholders felt that vape shops would be involved in supporting all quit attempts and were honest businesses with a vested interest in helping others to remain smoke free. Vape shops themselves did not consider this an issue, although some acknowledged there were 'bad businesses' in all industries. Vape shops felt they were already providing stop smoking services and giving up a lot of their time (and sometimes products) for free, to support those who asked for help in quitting smoking.

Discussion

Summary of findings

Our study found that all stakeholder groups were positive about the idea of a VSBI, and there was consistency across groups in terms of what a VSBI should look like. Most study

participants felt that a VSBI should be delivered primarily by vape shop workers and that it should be highly flexible in terms of access and the nature and duration of the support provided.

Discussion of findings

The recent announcement of a range of new tobacco control measures and funding for smoking cessation in England has reinforced the government's commitment to supporting the use of e-cigarettes for smoking cessation, while emphasising the benefits of e-cigarettes being used together with behavioural support.(5) However, most smokers who are trying to quit do not use stop smoking services, and an increasing proportion of vapers are purchasing e-cigarettes in non-specialist stores, meaning that they are less likely to get product advice as well as being unlikely to receive behavioural support.(9) Given the high street locations of many vape shops, providing VSBI has the potential to increase access to behavioural smoking cessation support, particularly among disadvantaged groups who may face barriers in attending local stop smoking services.

Delivering support for quitting using e-cigarettes in vape shops has some advantages over traditional models of stop smoking support. Choice in vaping products is an important determinant of smoking cessation, (23, 24) and the large variety of products available in vape shops avoids the limited choice smokers may face when provided with starter kits or vouchers.(16) Participants in our study also highlighted the need for guidance on how to vape in a way that suited them, including using the right nicotine strengths, as well as product advice and guidance on how to maintain their vapes; this type of technical advice may be lacking in more medicalised settings. Furthermore, vape shops are accessed by both dual users as well as exclusive vapers, and therefore VSBI may reach individuals who were not previously intending to quit smoking.

Our findings provide insights into how a VSBI should be delivered. Most participants felt such an intervention should be delivered by trained vape shop staff with the support of local SSS, with VS being compensated to deliver it. An evaluation of a pilot scheme has demonstrated the potential of partnership working between vape shops and SSS. Some VS in our study had already trained their staff to support people who wanted to quit smoking.(11) NCSCT offers training which is free to access,(25) and has guidance for SSS who wish to work with vape shops.(10) Participants generally agreed that similar approaches to those used in traditional SSS should be used, but that VSBI should be more flexible than current SSS, with informal support extending beyond 12 weeks. Offering 'walk-in' sessions was deemed especially important. This was based on the idea of capturing smokers in the

moment they decide to quit, rather than having them book an appointment for a point in the future when they may be less motivated.(26)

There were mixed opinions as to whether the goal of a VSBI should be for clients to be smoke free, or both smoke and vape free. Due to the relative novelty of e-cigarettes, literature on whether long term vaping is associated with continued abstinence from cigarettes is limited;(27) however, research has found that those who continue to vape long term are more likely to report a high self-efficacy for remaining abstinent from smoking.(28) While there is overlap between vaping and smoking, differences in barriers to quitting and reasons for quitting vaping (versus smoking) have been reported, and thus whether/how VSBI should consider vaping cessation, requires further research. (29)

In our study, participants felt that overall, most people were positive about e-cigarettes; however, misperceptions about vaping are increasing. In 2023, only a third of adults who smoke perceived vaping to be less harmful than smoking, down from 60% in 2014(2), and myths around vaping were identified as a barrier to the intervention in our study. It is possible that providing SSS-supported interventions in vape shops could help to alleviate concerns about vaping among smokers who do not currently vape. Given the recent rise in youth vaping in the UK, and that many young vapers report purchasing their e-cigarettes in shops, there would also need to be measures to ensure that the shops delivering smoking cessation services are rigorously implementing age of sale regulations.

Our study raised several issues around potential conflicts of interest, related to both the vape shops themselves and the tobacco industry. Some participants highlighted concerns that the goal of vape shops is to make sales and profit rather than the improvement of public health. However, research suggests that vape shop employees already serve as smoking cessation 'advisors', albeit often without training, as part of their roles, and see themselves as public health advocates.(30, 31) This was echoed by discussions with VS who talked about their own perceived responsibility to support smoking cessation and their own individual shop-based support they had put in place.

Our study identified concerns about tobacco company involvement in vape shops among SSS and TCL. Tobacco companies have become increasingly involved in the development and selling of vape-based products in recent years (32); however, there is a clear conflict of interest in relation to smoking cessation interventions. Research suggests the tobacco industry is likely to invest in the least effective products (33) and therefore these products lean towards creating dual users.(34) A recent survey from the UK found just over half of

vapers were using tobacco industry products.(35) There are also suggestions that effectiveness of different devices, such as closed versus open systems warrants attention. Hence further research is required to explore how industry products differ to those made by independents and appropriate regulations need to be developed to ensure products are not setting up users to fail.

Limitations

We planned to recruit approximately 20 participants per stakeholder group; however, this proved to be problematic due to the COVID-19 pandemic. Bricks-and-mortar vape shops were forced to close during lockdowns, making it more difficult to get hold of VS and their workers. As a result, there was an imbalance in the numbers of the stakeholder groups, with stop smoking professionals being overrepresented. However, thematic saturation was reached. The majority of participants were aged 30-50, and therefore the views of older age groups may not be well reflected in our findings.

All participants held favourable opinions on e-cigarettes, which may bias our findings; however, those involved in delivering/accessing a VSBI would be expected to hold favourable views and as such, this sample is representative of those who would use or deliver VSBI.

Conclusions

There is an ongoing need to identify ways to encourage uptake of e-cigarettes for smoking cessation and to maximise the likelihood of successfully quitting smoking. The use of e-cigarettes for smoking cessation is more likely to be effective when combined with behavioural support. This study demonstrates the potential for this type of support to be delivered by vape shop staff with support from SSS. Such interventions should be flexible in terms of the type, duration and frequency of support provided, and should comprise both technical guidance on using a vape and behavioural support to prevent a return to smoking. The findings of this study have been used to inform a Delphi study to identify the most important elements of vape shop-based smoking intervention to stakeholders who would be involved in delivering or accessing such an intervention. [under review alongside this study]; together these studies should be used to inform the development, testing and implementation of VSBI.

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Declaration of interests

None to declare.

Data availability

Ethical approval did not cover making the data available beyond this project.

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Interview Guide

Introduction

- Check individual has read the information sheet.
- Explain the purpose of the interview:
- We are interested in hearing your views on delivering stop smoking support in vape shops, how this could be done and whether you are aware of any previous interventions in this setting. It will also cover how we could go about delivering such support, including how to reach and engage vape shops to support it and both vapers and smokers that have not used e-cigarettes to use it. If you are a smoker/vaper, we are also interested to hear about your experiences and whether or not you have used e-cigarettes and your experiences of these. The interview should not take longer than 45 minutes.
- Ask participant if they have any questions.
- Check consent form has been signed and check still happy to take part.
- Statement on confidentiality, right to withdraw consent, recording of the interview.

We would like to reassure you that all data relating to yourself will be kept strictly confidential by the research team. The recording of this interview and any quotes used in study reports will not identify you in any way. You will be assigned a unique study code that will not identify you. Your participation is entirely voluntary and you are free to withdraw at any time without giving a reason.

Questions for all smokers/vapers/dual users

Smoking History

- 1. Can you please tell me a little bit about your smoking history?
 - How long have you been smoking tobacco cigarettes/tobacco of some kind?
 - How much do/did you smoke?
 - Unpick what they are smoking currently
- 2. Can you tell me about any previous quit attempts?
 - Get the participant to focus on the most recent quit attempt
 - How did you go about it?
 - What were your reasons for making the attempt?
 - Used any smoking cessation service/GP/pharmacy etc

- 3. Tell me about what you know about e-cigarettes.
 - Where they gained information from etc
 - Knowledge/views about using e-cigarettes as a quit aid
- 4. Have you ever used/tried an e-cigarette?
 - When?
 - Reasons?
 - Purpose of use at outset quit cigarettes, harm reduction
 - dual use
 - If not, why not? And would anything in particular encourage them to consider using them?
- 5. For those still smoking tobacco cigarettes, unpick future plans i.e. around quit intentions etc.

Questions specifically for vapers and dual users

- 1. Can you please tell me a little about where you are at in terms of using your e-cigarette?
 - Are you using e-cigs as a harm reduction tool, this means are you using your e-cig to help you reduce your number of tobacco cigarettes
 - If so have you reduced/ quit smoking tobacco cigarettes?
 - If yes how did you reduce/quit smoking (was it a gradual/sudden process/i.e. what role did your e-cig usage play in this change/process/if at all
- 2. How has e-cigarette/dual use changed over time?
 - Unpick the trajectory of use
 - Factors underpinning significant changes etc
- 3. Where do you see yourself going from here regarding your e-cigarette use?
 - What are your plans for the future in terms of using your e-cig? (Do you have any plans to quit using your e-cig)
 - If so when do you plan to stop using your e -cig (i.e. soon/next month/year)
 - How do you think you would go about doing this?

Following questions for all stakeholders

General views on smoking prevalence and e-cigarettes

- 1. Can you tell me briefly what you know about e-cigarettes?
 - prevalence
 - harms/benefits
 - unpick what understanding is based on e.g. research, media etc
- 2. To what extent do you think e-cigarettes could be used to support quitting tobacco smoking?

Developing vape shop based smoking cessation interventions

- 3. What do you know about traditional smoking cessation/stop smoking support services?
 - nature of support (typically 8-12 weeks of support, with pharmacotherapy/bupoprian/champix plus counselling, delivered in local community settings (pharmacies), primary or secondary care)
 - What do you think of these? E.g. effectiveness, reach
- 4. To what extent do these traditional services support quit attempts using e-cigarettes?
- 5. Can you think of any ways in which smoking cessation support could be provided to e-cigarette users?
 - Settings unpick other settings or ways to communicate information and support
 - Who should deliver?
- 6. What do you think about delivering smoking cessation advice/support in e-cigarette shops?
 - Appropriateness of setting?
 - Reach?
- 7. What components would be important to consider when designing a stop smoking support package to be delivered in e-cigarette shops?
 - Format (time frame, weekly, fortnightly etc)
 - Behavioural support i.e. who should provide this and how (face to face, telephone, virtual, smartphone app)
 - Training linked to the above i.e. if shop leads delivery, training needs etc and feasibility of doing this?
 - Product provision i.e. compare to pharmacotherapy etc should there be an incentive e.g. free liquid, reduced price start up kit

- Primary/secondary care partnerships referring people into shops to receive support and products
- 8. How important is it for the support to cover quitting e-cigarettes themselves?
- 9. Can you think of any barriers to delivering in this setting?
- 10. Can you think of any ways to encourage vape shops to support such initiatives?
- 11. Can you think of any ways to reach and engage smokers that have not tried to use e-cigarettes to quit?
- 12. Can you think of any ways to encourage more smokers/vapers who have not accessed vape shops to do so?

Questions for shops, managers, employees, customers, smokers

- 1. To what extent do you discuss stopping smoking cigarettes with your customers?
 - What are the conversations about?
 - How do customers tend to go about quitting cigarettes? Gradual, immediate, harm reduction
 - Do you give any advice on how to do it using e-cigarettes? E.g. reducing amount of nicotine content in e-liquids or anything else?
 - If any advice is being given, ask what this has been based on e.g. evidence or experience?
- 2. How would you feel about training you/your employees to deliver support?
 - Sustainability and consistency of delivery?
- 3. How would you feel if a local trained advisor visited the store?
 - Would you/your customers be likely to access their support?

For customers/smokers not accessing vape shops or using e-cigs

- 1. How open would you be to receiving this advice?
 - What about for other e-cigarette users? i.e. if they don't want to receive the advice
 - What
- 2. Is there anything else you would like to add that you feel is important?

Additional questions on impact of COVID-19

Note: See Johnston E, Bains M, Hunter A, Langley T. The Impact of the COVID-19 Pandemic on Smoking, Vaping, and Smoking Cessation Services in the United Kingdom: A Qualitative Study. Nicotine Tob Res. 2023 Jan 5;25(2):339-344 for analysis of the findings from these additional questions.

For vapers / smokers

In introductory text: In light of the COVID-19 pandemic, we would also like to take this opportunity to ask participants some questions about the effect that it has had on their vaping or smoking behaviour. Are you happy to discuss this at the end of the interview?

Additional questions:

Has the COVID-19 pandemic had any effect on your smoking/vaping?

- Patterns of smoking/vaping explore reasons for any changes and the impact it has had on them
- Increased desire to quit/switch

How have you found obtaining products?

- Extent to which they are obtaining products via usual means?
- If changes made, factors related to choice? E.g. access and availability, price etc
- If they are using anything different, how have they found the product? Any impact on patterns (if not unpicked above)
- Did they ever find themselves having to go without e.g. waiting for delivery etc and what they did in the interim?

What are their plans once we are over the pandemic/lockdown restrictions have been lifted?

For smokers only

Does the pandemic make you more or less likely to consider switching (fully) to e-cigarettes? Why?

For vape shop staff/managers/owners

In introductory text: In light of the COVID-19 pandemic, we would also like to take this opportunity to ask participants some questions about the effect that it has had on their business and their customers. Are you happy to discuss this at the end of the interview?

Additional questions:

Has the COVID-19 pandemic had any effect on your vape shop?

- Shutting down
- Loss of business
- Have you made any changes to the running of the business e.g. offering postal delivery, offering something online?

What effect do you think the COVID-19 pandemic is having on your customers, in terms of their vaping?

- Concerns about risks of vaping and COVID
- Difficulties obtaining products

For smoking cessation service managers and advisors

In introductory text: In light of the COVID-19 pandemic, we would also like to take this opportunity to ask participants some questions about the effect that it has had on their services and clients. Are you happy to discuss this at the end of the interview?

Additional questions:

How has the smoking cessation support you offer changed in response to the COVID-19 pandemic?

- What do you think about these changes? E.g. from a provider point of view
- Has the provision of pharmacotherapy for clients been affected?
- How have clients responded to these changes?
- What impact do you think any changes may have on service effectiveness? E.g. quit rates

How have smoking cessation service clients responded to the COVID-19 pandemic?

- Increased numbers of quit attempts
- Changes in quit success

Have you noticed any changes in clients' interest in switching to e-cigarettes during the pandemic?

For local, national and regional tobacco control leads and non-governmental organisations with an interest in tobacco control

In introductory text: In light of the COVID-19 pandemic, we would also like to take this opportunity to ask participants some questions about the effect that it has had on smoking cessation services and smoking and vaping behaviour. Are you happy to discuss this at the end of the interview?

Additional questions:

To your knowledge, what impact has the pandemic had on provision of and demand for smoking cesstion services?

What do you think the implications of the pandemic are for e-cigarette use?

Closing Remarks

- Is there anything you would like to add that we have not already covered?
- Reassure about confidentiality
- Thank participant for their time.

Supplementary table.

Theme	Illustrative quotes
Characteristics of the intervention	
Duration and format	a)'I think I'd base it around that 12 week kind of model and looking at the four week and the 12 week quit points. So base it around that but being flexible with it as well. (SSP37)
	b) 'During Stoptober we've been helping people to quit smoking, so we've been doing the handing over the cigarettes and they'll get a free kit.' (VS58)
	c)'We have always promoted just drop-in or we're on Facebook or, "Give us a call at the shop, if you have any questions or any problems just, we're here to help".' (VS60)
	d) 'So, I think it's about promoting those messages and it's about choice and giving people that range of choice to be able to stop smoking.' (SSP47)
	e) 'I think so it's got to be a vape shop, I think it's got to be the people that are in the shop actually doing it but supported and supervised quite closely by a local service, you know, behaviour change whatever you want to say, behaviour change practitioner.' (SSP46)
	f) 'We will touch base on coils. I always like to use it for a second interaction because if you have got a reason to get them back in it's good for them, it's good for us.' (VS61)
	g)I' think it has to be somebody in the shop that has done the training for a start and can devote the time to somebody who needs hand holding through the process. It could be the owner, it could be one of their staff, somebody with a good manner, who has done the NCSCT
Intervention delivery – the relationship between VS and SSS	

	training and understands how important it is to show that you really engage with the success of this person.' (SSS)
	h) 'I think moving forward, if we can get to a point where we could either provide free starter
Nature of support	kits, or a voucher for a free starter kit, or a product and some vape liquid, in the same way we do with NRT, with a voucher to go and basically cash in at the pharmacy to get their NRT or their other medication, then we'd probably do so, yes.' (TCL34)
	i) 'It's important not to get hung up about trying to get them off vapes quickly and just actually give them the ability to come back to your service when they're ready to, and discuss the fact that they would now like to maybe go to a lower strength of vape liquid or maybe one that has no nicotine content at all etc' (TCL29)
	C/C/
Product provision	Tel:
Goal of the intervention – smoke free or vape free?	Ger Review
Barriers to delivering vape shop-based interventions	j) [On returning to smoking] 'Just convenience, I'd bob to the shop, got a pack of cigarettes, smoked 'em. Whereas my vape battery would run out so I'd have to go somewhere to get batteries, didn't know whether coils were there so had to go back to liquid and just couldn't be bothered with it.' (SVD50)
	k) 'What I was hoping to do was once a month do maybe a Saturday afternoon with free tea and coffee, people can come in, ask their questions, we'll show them how to set it up, we'll

"vape lung" (VS60)
I)'I think for me there's something around making it really easy and really clear that vape will not get into bed with Big Tobacco, that will seriously hamper I think how local government and any public body works with them' (TCL 48)
m) 'It's like everything else, a lot of vape shops are there to make a profit and that's what I'm worried about with some of them, that if they're not looking after the people that are buying their products properly and they're just selling them because they want to get the money in.' (SSP33)
n) 'Now we're trying to get to the hard to reach smokers, it might be somewhere that's more accessible or it might feel more comfortable in that environment, accessing support that way, rather than going to a GP surgery.' (SSP37)
o) 'PHE say they are 95% less harmful than smoking, they don't have the 4,000 chemicals and 65 carcinogenic ones in them.' (SSP48)
p) 'There was a lot of clinical notes on there which was, I totally understand that but that was a full time job in itself, so the process, the clinical process would need to be a lot sharper, that could be provided maybe a portal to log' (VS61)
q)'You see all kinds of different vape shops, and would you go into one if it looked particularly clinical? Or does it have to be a more relaxed atmosphere? I think it depends on where you are delivering the service, in what area you're delivering it as to how it would potentially look.' (SSP32)