The Impact of the COVID-19 Pandemic on Smoking, Vaping, and Smoking Cessation Services in the United Kingdom: A Qualitative Study

Emily Johnston PhD1, Manpreet Bains PhD1, Abby Hunter PhD2, Tessa Langley PhD1,3

1School of Medicine, University of Nottingham, Nottingham, NG5 1PB, UK
2Office for Health Improvement and Disparities, UK
3SPECTRUM Consortium, UK

Abstract

Background: Existing evidence suggests that while the coronavirus disease 2019 (COVID-19) pandemic triggered quit attempts among many smokers, it led some to smoke more and others to relapse back to smoking. These diverse effects have the potential to have a long-term impact on individuals' smoking and vaping behaviors.

Aims and Methods: This study explored the effect of COVID-19 on smokers and vapers, vape shops (VS), and stop smoking services (SSS). A total of 39 semi-structured interviews were conducted with stop-smoking practitioners, tobacco control leads, smokers and/or vapers, and vape shop owners. Interviews were transcribed verbatim and analyzed thematically.

Results: Four themes were identified: Lockdown as a barrier to becoming or remaining smoke-free; COVID as a catalyst for quitting and remaining smoke-free; changes in vaping and challenges for vapers and VS; and changes and challenges for stop smoking support. Fear of COVID resulting in severe health implications for smokers facilitated behavior change; however, the boredom and monotony of lockdown and associated stress created difficulties in remaining a smoke free. Results showed that the enforced switch from face-to-face to the remote provision of SSS was beneficial for improving engagement, particularly for vulnerable groups such as pregnant women. Stop smoking professionals and vapers disagreed with the forced closure of VS because it created unnecessary difficulties for vapers to access supplies.

Conclusions: COVID-19 was both a barrier and facilitator for smoking cessation. Remote provision of SSS implemented due to lockdown was beneficial for hard-to-reach groups; services should look to incorporate these changes into day-to-day practice.

Implications: This study is one of the first to explore how the COVID-19 pandemic directly affected smokers, vapers, SSS, tobacco control leads, and VS. It provides evidence for the continued use of the remote provision of smoking cessation services to increase engagement among hard-to-reach groups and provides information on how pandemics can be a catalyst for health behavior change. This study is unique in that it incorporates the views of different stakeholders.

Introduction

The coronavirus disease 2019 (COVID-19) pandemic has had a varied impact on smoking behavior within smoking populations. The first COVID-19 lockdown in England saw increases in the rate of cessation (+156%) and quit attempts (+40%), compared with the same period in 2018–2019, most likely as a result of concerns about the potential increased risk of severe illness and mortality from COVID-19 among smokers, which are supported by numerous studies.1–3 In contrast, evidence suggests smoking rates increased in the under-35s in England and that nearly half of smokers smoked more after lockdowns began; a finding also reported elsewhere.1,4,5 Low-income groups have also been reported to smoke more during the pandemic, indicating a potential exacerbation of health inequalities.6 Research considering four countries (England, Australia, Canada, and the United States) found that, on average, the COVID-19 pandemic was related to 46.7% of smokers considering quitting, although this did not translate to cessation behavior, with only 1.1% of smokers attempting to quit.6

Quit attempts made during the pandemic are likely to have been affected by changes in the availability of services and products typically used to support such attempts. In England, NHS stop smoking services (SSS) were required to adapt during lockdowns, for example by offering a remote service.7,8 A number of randomized controlled trials and observational studies have found that e-cigarettes are effective for smoking cessation,9–11 although the existing evidence is inconsistent.12 E-cigarettes are currently the most commonly used smoking cessation aid in England13; however, they were not included on the government’s list of “essential items,” thus forcing bricks and mortar vape shops (VS) to close during lockdowns. This had an impact on the sustainability and economic success of bricks and mortar VS, particularly smaller businesses.5 While vapers could still purchase vaping products in convenience stores, supermarkets, and online, the accessibility of these products was significantly reduced.
This is likely to have affected the vapers who purchase their products exclusively in VS, and may have influenced the effectiveness of quit attempts during lockdown among those who may have chosen an e-cigarette to quit.

These diverse effects have the potential to have a long-term impact on individuals’ smoking and vaping behavior and, as a result, health outcomes, and health inequalities. This study aimed to understand the impact of the pandemic on smoking and vaping behavior, and the impact on VS and on the delivery of smoking cessation services in the United Kingdom.

Methods

Design
This research was an addition to a two-phase study exploring the potential for delivering smoking cessation interventions within VS. The COVID-19 pandemic provided an opportunity to explore impacts on smoking, vaping, VS, and SSS. The study was approved by the University of Nottingham Faculty of Medicine and Health Sciences Ethics Committee (404-1920). The Standards for Reporting Qualitative Research (SRQR) guideline was adopted.

Recruitment and Sampling
Recruitment methods varied depending on the stakeholder group. Smoking cessation training providers and individuals working in Tobacco Control at Public Health England (England’s Public Health Agency at the time of the study) circulated study information to their contacts working as stop smoking professionals (SSP) and Tobacco Control Leads (TCL) on our behalf (purposive), and participants were also asked to forward this on to others who worked in the same capacity (snowballing). Smokers, vapers, and dual users (SVD) were recruited using a convenience approach, 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.

VS were contacted directly by the researcher. A database of VS in the United Kingdom were 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 in order to maximize 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
We added topics to the existing guide for the main study, to cover the impact of the pandemic on smoking and vaping behaviors, services, and products. Separate semi-structured interview guides were developed for each stakeholder group (see Supplementary Material online). All stakeholders were asked basic demographic questions including location, age, gender identity, and smoking/vaping status. Smokers and/or vapers were asked about changes to smoking and/or vaping behaviors and specific challenges faced. We also explored how SSS had adapted during the pandemic and any resulting impact. Vape shop owners were asked about the impacts of the pandemic on their businesses. Interviews were conducted by EJ via telephone between May and September 2020 and were digitally audio-recorded. Data management, confidentiality, right to withdraw, and consent were reaffirmed before interview commencement.

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 analyzed using thematic analysis. To facilitate familiarization, each transcript was read several times by EJ where initial impressions and points of interest were noted, at the semantic level, to facilitate data immersion. Further readings employed a line-by-line and open-coding approach, where codes were generated, inductively. This involved axial coding where data and codes that were linked in terms of meaning were considered, which is indicative of moving from semantic to latent coding. These stages led to the generation of an initial codebook that was verified by T.L. and M.B. Further readings and interpretation by E.J. led to the generation of more substantive themes and sub-themes. Data were double-coded by T.L. and M.B. to ensure validity of interpretations, and that themes were internally homogenous and externally heterogeneous. Double-coded transcripts were then compared and any disagreements were resolved between the researchers. Themes and sub-themes were discussed between the research team, allowing clarification. The final set of agreed themes was applied across all transcripts.

Results

Demographics
The initial survey generated interest from 301 SVD, and 109 SSP and TCL. 2309 VS in the United Kingdom were identified. VS were stratified by geographical area, deprivation, and classified as rural/urban shops. Shops were then randomly selected from these stratifications to maximize representativeness and invited to interview. Thirty-nine interviews were conducted and comprised 20 SSP, 7 TCLs, 7 SVD, and 5 VS staff. Interviews were between 32 and 59 min in length. VS were located in the East Midlands, West Midlands, London, Southampton, and Yorkshire. Recruitment numbers were lower in three of the stakeholder groups (TCL, SVD, and VS) due to difficulties with COVID-19. A number of participants expressed initial interest, but interviews could not be completed due to scheduling difficulties as a result of the recurrent lockdowns, along with some stakeholders having to work on COVID-19-related projects, which took priority; however preliminary analysis indicated thematic saturation was reached. Participant characteristics are shown in Table 1.

Qualitative Results
Four themes were identified with corresponding sub-themes: Lockdown as a barrier to becoming/remaining smoke-free; COVID as a catalyst for quitting and remaining smoke-free; changes in vaping and challenges for vapers and VS; changes and challenges for stop smoking support (see Supplementary Table S1 for themes and supporting quotes).

Lockdown as a Barrier to Becoming/Remaining Smoke-Free
For some participants, boredom and stress resulting from national lockdowns made it harder to quit or remain...
Table 1. Participant Characteristics

| Stakeholder group | N (%) | Smoking status by stakeholder group: N(%) |
|-------------------|-------|------------------------------------------|
|                   | Smoke | Vape | Dual | None |
| Smokers/vapers    | 7 (17.9) | 2 (28.6) | 3 (42.8) | 2 (28.6) | 0 (0) |
| SSS               | 20 (51.2) | 0 (0) | 2 (10) | 0 (0) | 18 (90) |
| TCL               | 7 (17.9) | 0 (0) | 0 (0) | 0 (0) | 7 (100) |
| Vape shops        | 5 (12.8) | 0 (0) | 4 (80) | 1 (20) | 0 (0) |
| Total             | 39 (100) | | | |

| Gender | |
|--------|--------|
| Female | 23 (59) |
| Male   | 16 (41) |

| Age  | N (%) |
|------|-------|
| 20–30 | 5 (12.8) |
| 30–40 | 14 (35.9) |
| 40–50 | 9 (23.1) |
| 50–60 | 7 (17.9) |
| ≥60   | 4 (10.3) |

Most participants felt that COVID had had a positive impact on smoking cessation. SSS and TCL also discussed how they felt the pandemic was a teachable moment and described examples of how COVID was being used to promote smoking cessation, including the “quit for COVID” campaign (a national campaign that encouraged people to quit to reduce their risk from COVID-19 which began in March 2020), which comprised targeted social media adverts aimed at educating the public that smoking increased their risks of complications from the coronavirus. All SSS within our sample had promoted the campaign. TCLs reported asking SSS to encourage smokers to quit to reduce the risk of severe illness if they caught COVID-19. However, this was not always perceived favorably by smokers and vapers. For instance, two of the SVD felt the information they had seen online for “quit for COVID” and information from SSS they had used in the past, was scaremongering. These individuals went further and stated that such initiatives resulted in them having less trust in the SSS, as it added further stresses to people who were already struggling.

### Changes in Vaping Behavior and Challenges for Vapers and Vape Shops

Most vapers reported changes in their vaping behaviors, such as increased vaping, being more conscious of hygiene in relation to their vapes, and changes to how they vaped out in public. This centered around working from home where, unlike working from an office, participants could vape as and when they wished.

Participants did have some health concerns about breathing vapor into the lungs during a respiratory disease outbreak, with SSS being approached for help to stop vaping during the pandemic. Some highlighted the logistical challenges of being able to vape whilst on daily exercise walks and having to wear a mask. The visible clouds that vaping produces were also a challenge for vapers, who felt other members of the public would perceive the “clouds” as a visual representation of germs spreading.

Challenges were also reported around the hygiene of vaping. Public health messaging at this time highlighted the importance of not touching your face and washing your hands thoroughly to reduce the risk of catching COVID, which caused vapers to reflect on the hygiene of their vapes. Vapers were more aware that they would touch their vape, and then put it to their mouth, so took extra care to sanitize their vape mouthpieces regularly.

Certain challenges were provided as reasons for such changes. For instance, the enforced closure of VS was reported as a reason for changes in vaping behaviors, such as changing regular suppliers and trying new juices, where the authenticity or quality of some products was questioned, which led to higher expenditure. Many participants, including SSS and TCL, felt that VS should have been treated as an

### COVID is a Catalyst for Quitting and Remaining Smoke-Free

Although COVID and lockdown were barriers to quitting for some individuals, for others it was a catalyst for quitting or remaining smoke-free. Some participants shared that this was due to the reduction of smoking triggers, such as socializing with friends or visiting the pub.

SVD and SSP mentioned that people were fearful of COVID-19 due to it being a respiratory disease, and thus smokers seemed to perceive themselves as having an increased risk of contracting the disease. Some of the smokers also acknowledged and considered additional risk factors that seemed to heighten perceptions of vulnerability among older and more vulnerable populations. They highlighted clients with respiratory diseases such as COPD and pregnant women. Some of these individuals went on to state that this was perhaps one of the positive outcomes of the pandemic.
Changes and Challenges to Stop Smoking Services

SSP had to change their normal way of working to a remote model, which included changing from face-to-face to telephone support. Clients would receive text reminders about appointments that would be scheduled for telephone only. Such changes to service provision resulted in barriers, such as logistical issues for SSP who were working from home and home schooling, managing decent telephone signals/connections, and being unable to verify self-reported smoke-free status using carbon monoxide monitors, which was cited as a challenge. However, despite such challenges, SSP and TCL were quite positive about changes to service provision, and TCL and SSP revealed that many services are hoping to adopt a hybrid model of support, comprising either telephone or in-person sessions, in the future. Moving to telephone appointments was seen to improve attendance and break down some of the barriers SSS normally face, such as missed appointments and engaging with vulnerable groups such as pregnant smokers and transient workers. This was particularly true for pregnant women, who were far more engaged with the service. It was felt this was due to it being easier (not having to physically attend somewhere), and to reducing the stigma of walking into a stop-smoking appointment as a pregnant woman Supplementary Table S1(l).

One of the issues identified with the remote model by SSP, was the availability and accessibility of NRT. Whilst some services were able to quickly convert to mailing out NRT in larger quantities, other services struggled. This was either due to issues with GP prescription services or pharmacies. For some who did not initially have the ability to use the postal services, prescriptions were sent electronically to pharmacies; however, pharmacies were extremely busy and due to social distancing, clients had to queue for a long time, sometimes only to find out their prescription for NRT had not been received yet, or that they were currently out of stock. Some SSS clients were told to shield by the government and were therefore unable to collect their NRT. Even those services using the postal service encountered difficulties when the postal service became overwhelmed and understaffed Supplementary Table S1(n).

The demands of the pandemic and new ways of working led to some changes in the roles of SSP. Some were drafted into infection control roles to cover the demand for additional health care staff, while others found themselves dealing with new safeguarding situations, such as dealing with grief, mental health concerns, and intimate partner violence, that necessitated further training. This led to an increased personal strain on SSS professionals, some of whom struggled to cope with working remotely during a global pandemic. This was noted by those in senior positions who tried to find ways of managing staff needs Supplementary Table S1(o).

Discussion

Summary of Findings

This study offers novel insights into how the COVID-19 pandemic affected smokers, vapers, smoking cessation professionals, and those working in VS. COVID was a catalyst for health-related change, encouraging people to become or remain smoke-free. However, isolation through lockdowns, additional stressors such as job insecurity, working from home, and homeschooling were barriers to remaining smoke-free. There was some indication that those who already vaped had found themselves vaping more; similar to those who struggled to remain smoke-free, an increase in vaping was often attributed to stress and working from home. Vapers had difficulties getting vape supplies, due to enforced closures as part of the national lockdowns; these closures were not supported by TCL and SSP. Vape shop managers reported substantial economic losses, in some cases leading to the permanent closure of shops. For others there was a boost in online sales; however, this was not enough to offset the economic loss of wasted products. SSP found themselves managing difficult situations, caring not only for clients’ stop-smoking needs but also safeguarding concerns that necessitated further training. They were also under immense pressure due to working from home.

Discussion of Findings

Our study shows that the pandemic motivated some smokers to attempt to quit; for others, it hindered quitting or attempts to remain smoke-free. We found that the fear of COVID-19 being more severe in those who smoke was a catalyst for change, which has been reported previously.1,18 SSP also reported an increase in referrals from clients seeking stop-smoking support. In this study, some ex-smokers also reported fear of the increased risk of severe COVID as a protective factor against relapsing to smoking, which has been found in other studies.10–22 However, barriers such as boredom and stress related to national lockdowns hindered quit attempts or remaining smoke-free, which is in line with data published by Public Health England. Recent work by Naughton et al. found no change in smoking prevalence both prior to, and after, the initial lockdowns of the pandemic, reflecting that although some smokers made quit attempts during lockdowns, some also relapsed to smoking. Subgroup analysis revealed that younger age was associated with relapse to smoking.23
In our study, SSP outlined the difficulties for some of their clients, including ex-clients who had successfully quit relapsing to smoking, due to lockdown. A Dutch study found that smoking increased when perceived pandemic-related stress increased.24 Like our study, the Dutch study concluded that pandemic conditions could be a protective factor or a barrier to remaining smoke-free.

There were some reported changes in vaping behavior. Vapers discussed vaping more because they were home more. An increase in vaping during the pandemic has also been observed in a recent study; however, as SSP in our study also reported some increased motivation to quit or reduce vaping due to COVID being a respiratory disease.20

Vapers faced challenges in accessing supplies. There is limited research on vaping supplies during the pandemic; however, a recent small study of 202 vapers in Belgium, which had a similar lockdown to the United Kingdom, identified the difficulties vapers faced, including having to vape different concentrations of nicotine and the lack of availability of certain vape products and hardware.25 The closure of VS led to concerns amongst our sample that some vapers may return to smoking, due to cigarettes being more readily available than vape supplies, however, vapers in this sample had adapted their purchasing behaviors, similar to purchasing patterns seen in American vapers; primarily via online purchases and stockpiling.26

Those involved in stop smoking campaigns capitalized on COVID as a respiratory disorder in order to promote smoking cessation. The “Quit for COVID campaign” was reported to be successful; with around 300 000 people reportedly quitting via the campaign, with a further 550 000 quit attempts credited to the campaign.27 Previous research documents the value and cost-effectiveness of media campaigns to promote smoking cessation.28 However, one smoker perceived this as being “fear mongering,” and theorized that the messages about COVID risk and smoking could have had the opposite effect to what was intended. This has been identified in research that has found that the use of “fear” to promote health-related behavior change can be counter-productive.29,30 However, research has identified that both positive and negative campaigns for quitting smoking are effective.31

SSS were able to adapt to telephone-based methods, as reported in previous UK research.3 Although some SSP reported initial concerns, they suggested the new telephone service improved engagement, particularly amongst hard-to-reach groups such as pregnant smokers. SSP reported a decline in missed appointments and better quality discussions. Evidence shows that telephone consultations for health-related behavior change are popular amongst the public.32 Continuing with changes to service delivery provides an opportunity to engage populations who are normally difficult to reach with traditional services. The lack of face-to-face interaction can foster a feeling of anonymity and encourage disclosure; smoking is surrounded by stigma which may be a barrier for some smokers to accessing support.33 Logistically, telephone appointments could overcome some barriers people face when accessing stop-smoking support. For example, those with young children, mobility issues, or who have to use public transport may find it easier to attend appointments they do not have to physically get to. It can also be an opportunity for people who work and are unable to attend appointments during working hours. It also may reduce the stigma that pregnant smokers face, as pregnant women who smoke often report a fear of judgment from health care professionals as a barrier to accessing support.34 Given the risk to both mother and baby, reducing smoking during pregnancy remains a key priority in the United Kingdom.

SSP reported a shift in their roles at work, identifying that the remote working style came with some barriers. Some of these were logistical; SSP were, like the majority of the United Kingdom, working from home and many were home-schooling. This was identified as being difficult, and it was felt that conducting telephone appointments was somewhat intrusive to their household. They also reported having to manage to safeguard concerns, particularly domestic violence, which is unsurprising given the increase in intimate partner violence during lockdowns.35

Limitations
This study offers novel insights into the impact of COVID on smoking and vaping from a variety of stakeholder perspectives. However, some limitations are acknowledged. Recruitment of VS and SVD was lower than anticipated and thus the transferability of findings may be limited for particular groups. However, data indicate thematic saturation was reached, and results for each theme reflect the views of all stakeholder groups. A further limitation of this study is due to the limited sample of SVD; there are differences between people who smoke, vape, and dual-use that this sample was too small to consider and explore; however, given the novelty of this paper it does provide a framework for further research to explore.

Conclusion
Whilst COVID-19 was a catalyst for some to quit smoking, the impact of national lockdowns made it more difficult to remain smoke-free. The closure of VS had a detrimental impact on businesses and led to struggles for those who vaped, appearing to undermine the UK policy stance which promotes e-cigarettes as being a safer alternative to smoking. Although changes in the way SSS operated created some difficulties, overall they led to positive changes for improving smoking cessation support for vulnerable groups, including changes to some service plan to sustain post-pandemic. Continuing to offer this remote model of service provision for stopping smoking is likely to increase engagement with hard-to-reach and vulnerable groups. Future research should look to quantitatively assess whether changes in smoking/vaping throughout the COVID-19 pandemic are sustained beyond the pandemic. Research should also aim to consider the impact of vape shop closures on future vaping behaviors, and on quit rates of those who access remote support going forwards.

Supplementary Material
A Contributorship Form detailing each author’s specific involvement with this content, as well as any supplementary data, are available online at https://academic.oup.com/ntr.

Funding
This work was supported by Cancer Research UK (C40274/A28918).
Declarations of Interest
None to declare.

Data Availability
Data not publicly available.

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