

Exploring the predictors and barriers to accepting smoking cessation support within a targeted lung health check setting

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ABSTRACT

Background The Quit Smoking Lung Health Intervention Trials (QuLIT-1 and -2), and other studies, show that providing immediate smoking cessation support within lung cancer screening services substantially improves quit rates. However, in the QuLIT2 trial, only around half of those offered smoking cessation support actually accepted it. Understanding what underpins this and how to facilitate higher engagement would enhance the health impact of the Targeted Lung Health Check programme.

Method We compared characteristics of participants in the intervention arm of the QuLIT-2 study who accepted or declined the offer of smoking cessation support and conducted thematic analysis of interviews with 15 smokers who had declined it.

Results Of 152 study participants randomised to smoking cessation support (61.3±4.8 years, 42% female), 80 declined the offer and 15 dropped out after the initial session, leaving 57 ‘accepters’. Accepters were more likely to be female (53% vs 40% adjusted OR (AOR): 3.30, 95% CI 1.47 to 7.48), younger (AOR: 0.90 (0.80 to 0.98)) and were more likely to live in areas of medium or low deprivation (AOR: 5.30 (1.86 to 22.85)). Thematic analysis of the interviews revealed four main barriers to acceptance: (1) mental health as a barrier, (2) personal beliefs about quitting smoking, (3) perceived usefulness of the interventions offered and (4) past negative experiences of smoking cessation support.

Discussion Cessation services embedded in lung screening programmes need to anticipate barriers such as mental health concerns, past unsuccessful quit attempts experiences and personal beliefs. Efforts should be made to design and offer equitable services that meet the needs of this population.

Trial registration number [ISRCTN12455871](https://www.isrctn.com/ISRCTN12455871).

INTRODUCTION

Lung cancer screening (LCS), including the use of low dose CT (LDCT) scanning in high risk populations (typically 55–80-year olds with a substantial smoking history), is now recommended in USA, European and

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Immediate smoking cessation support embedded within lung cancer screening services significantly increases 3 and 12-month quit rates among this high-risk population.

WHAT THIS STUDY ADDS

⇒ Despite the success of cessation embedded into screening, a high proportion of smokers decline or drop out of smoking cessation support. This study highlights the demographic characteristics of people who are more likely to decline support, and barriers and reasons why people who smoke refuse support in this context, despite their high risk.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ This study provides suggestions and implications for lung cancer screening services that provide smoking cessation support, particularly how these services should anticipate barriers and provide holistic behavioural support with multiple options in terms of location and pharmacotherapy.

UK national guidelines.^{1–3} The UKs Targeted Lung Health Check (TLHC) service is a complex intervention that typically includes an initial consultation to assess lung cancer risk, followed by LDCT if risk thresholds are met.^{1–3} In early randomised controlled trials, investigators observed increased quit rates in participants who received the screening intervention, highlighting the potential for LCS to act as a teachable moment⁴ for smoking cessation.^{5,6}

Several studies have now demonstrated the effectiveness of smoking cessation support (SCS) delivered in the context of LCS,^{7–11} a recent systematic review and meta-analysis concluded that this increases quit rates over usual care, with more intensive interventions,

leading to greater quit rates.¹² The inclusion of SCS within LCS not only improves the health of and reduces risk for the individuals who quit, it also increases the cost-effectiveness of the LCS services, halving the cost per quality-adjusted life year.^{13 14} The UKs TLHC service is expected to expand to all four UK nations by 2028, and around 11% of the current smoking population meet TLHC criteria, so there is potential for a substantial population health impact beyond the immediate issue of early lung cancer diagnosis.¹⁵

The Quit Smoking Lung Health Intervention Trials (QuLIT)2 demonstrated increased quit rates among participants who were randomised to six sessions of telephone SCS and pharmacotherapy over usual care within an LCS setting (3 months: 21.9% vs 11%, OR, 2.83; 95% CI (1.44 to 5.61)), (12-month self-report 17.8% vs 11.7%, adjusted OR (AOR) 1.62, 95% CI (0.86 to 3.06)), (12-month co verified 14.5% vs 5.6% AOR 2.87, 95% CI (1.28 to 6.46)).¹⁶ Within the QuLIT2 trial, over half of the 152 participants randomised to receive the smoking intervention did not take up the offer. This is consistent with similar studies including the large Yorkshire Enhanced Stop Smoking (YESS) trial.^{11 17}

Participants in the original QuLIT1 trial, which investigated the effectiveness of immediate in-clinic, SCS at LCS visits, reported psychological concerns such as stress and anxieties as well as the influence of the COVID-19 pandemic as barriers to quitting smoking.¹⁰ However, this analysis was conducted on data collected within a short 5–10 min follow-up interview and during the height of the COVID-19 pandemic. More in-depth analysis is warranted to investigate the barriers to accepting cessation support within this high-risk population.

The aim of the present study was twofold. First, to identify features of people who smoke that may make them more or less likely to accept SCS and second, to explore what the barriers might be for people who decline SCS within this setting.

METHODS

Design and setting

This is a further analysis of the QuLIT-2 randomised controlled trial. The QuLIT 2 trial recruited patients from April to July 2021 and explored the effectiveness of embedding smoking cessation intervention within a TLHC service in West London. A total of 315 participants were randomised, 152 to receive the intervention and 163 to usual care. The intervention comprised immediate access to remote SCS, which ran for six sessions and included pharmacotherapy provision. The usual care arm received very brief advice to quit and signposting to their local cessation services. Both 3-month and 12-month smoking cessation outcomes have been published previously, including a full description of the trial and interventions.^{9 16}

People who declined the smoking cessation intervention (n=80), or dropped out after the first session,

when they would have received further details of the programme and its expectation of complete abstinence (n=15), were defined as ‘decliners’ (n=95). To determine the predictors of accepting SCS within the QuLIT-2 population, we compared their baseline characteristics against the ‘accepters’ (n=57). Of the 57 accepters, 43 completed the full six sessions of cessation support, 3 dropped out after the second session and 1 after the fourth session. Participants who declined the smoking cessation offer at the screening visit received the same care as the usual care group once they had declined the SC support.

Five binary logistic regression models were run to compare the two groups. Model 1 observed the effect of gender and age on intervention uptake. Model 2 observed the effect of education attainment, with less than attaining General Certificate of Secondary Education (<GCSE) as the reference category. Model 3 observed the effect of index of multiple deprivation, using areas of medium or low deprivation (IMDQ) 1 (most deprived) as the reference category. Model 4 observed the effect of smoking covariates, cigarettes per day, age started and smoking years (all continuous variables). Model 5 observed the effect of CT outcome, using no CT needed as the reference category. Age and gender were included in all five models, with age entered as a continuous variable into all models.

Participant recruitment—interviews

Between April and August 2022, all participants who had been randomised into the QuLIT2 trial in the preceding year had a 12-month follow-up telephone consultation. These were primarily to collect primary and secondary endpoint data (current smoking status and quit attempts). At the end of this follow-up call, those in the decliner group were invited to participate in interviews. A participant information sheet was sent to all who expressed interest in this, and verbal consent was gained before any interviews were conducted.

Participant interviews

Interviews were conducted using a semi-structured interview guide (online supplemental). The interview questions were developed using the Capability, Opportunity, Motivation-Behaviour (COM-B) model. This was used to frame and focus the questions on understanding participants’ reasons for not accepting SCS, alongside their views and opinions on SCS more broadly. Interviews were conducted remotely, either via telephone interview or video conferencing software (MS Teams) and lasted for an average of 45 min. We initially interviewed 10 participants and conducted preliminary analysis, but as this had not reached saturation, we included a further five participants.

Thematic analysis

Interviews were recorded and then transcribed by PJW. The data were analysed using NVivo V.2.1 software and a reflective thematic analysis method, according to Braun and Clarke's guidelines.¹⁸ To ensure familiarisation and accuracy of the data, PJW listened back to all audio recordings before coding commenced. The analysis was led by PJW with assistance from SCB and NSH. We first used an open inductive coding approach. Once the preliminary codes were created, PJW created a codebook to organise the data, which was then shared. Researchers met to review the codebook and organise the codes into meaningful themes. This second iteration of the codebook was shared with the analysis team, then all three researchers met several times to review and agree on the final themes and subthemes that best represented the data.¹⁹

Research team

The research team conducting the thematic analysis comprised of PJW who led the analysis. She is a female researcher, conducting her PhD at the time of the trial. She has previous training within qualitative analysis via postgraduate masters' projects and experience analysing COVID-19 survey data as a research assistant prior to her PhD. SCB is a female early career researcher within the National Heart and Lung Institute (NHLI). She has previous experience in qualitative analysis of COVID-19 survey data. NSH is a professor of respiratory medicine with many years' experience with both qualitative and quantitative data within respiratory medicine.

Grounding theory

The grounding theory underpinning the qualitative analysis was the COM-B model of behaviour change.²⁰ This has been extensively used in smoking cessation research,^{21–24} particularly for understanding barriers and facilitators of smoking cessation. The COM-B theoretical model proposes that while motivation is central to behaviour, both capability and opportunity have an influence on the relationship between motivation and the behaviour in question. Over time, these three elements interact, so behaviour can be viewed as a dynamic system with both positive and negative feedback loops.²⁵

Ethics

The study was approved by the South Central—Oxford C Research Ethics Committee and the Health Research Authority (Ref:18/SC/0236). The initial QuLIT study (QuLIT-1) and the subsequent study reported here (QuLIT-2) were registered prospectively online (ISRCTN12455871).

Patient and public involvement

Prior to interviews being conducted, the interview guide was shared with a group of expert patients. These

patients had previously undergone LCS, but were not part of the QuLIT trial, and were a mixture of current and ex-smokers.

RESULTS

Factors associated with accepting SCS

Data from intervention arm of the QuLIT2 trial was used in the model, this included 152 participants, average age 61.3 years, 58% male, majority white ethnicity and smoked an average of 12.5 cigarettes/day (table 1). Participants who accepted the offer of the smoking cessation intervention were more likely to be female (accepted: 53% vs declined 40% AOR: 3.30, 95% CI 1.47 to 7.48), younger (AOR: 0.90, 95% CI 0.80 to 0.98) and more likely to live in areas with less deprivation, (IMDQ3: accepted 26% vs declined 14% AOR: 3.79, 95% CI 1.17 to 13.47), (IMDQ5: accepted 17% vs declined 9%, AOR: 4.26, 95% CI 1.11 to 16.33). Those attaining education higher than GCSE level, including higher education (pre/postgraduation), were more likely to have accepted the offer of the cessation intervention, though this difference was not statistically significant (table 1).

Thematic analysis—sample population

Out of the 95 decliners, 12 were lost to follow-up at 12 months, leaving 83 participants who were invited to participate in the interviews. Of those invited, 33 were interested in the further interviews and sent the participant information sheet (PIS). Of the 33 interested participants, 14 had scheduling issues and 4 had video-conferencing software issues, leaving 15 full interviews that had been recorded to analyse (figure 1). The characteristics of those interviewed were similar to the whole group; age 62.9±5.3 years, 47% female and smoked on average 16.0±4.6 cigarettes per day. One individual (7%) had quit smoking at the time of the interview.

Barriers to accepting SCS within LCS

Four main themes emerged from the interviews as barriers to accepting SCS within a screening context: (1) mental health as a barrier, (2) personal beliefs about quitting smoking, (3) perceived usefulness of the interventions offered and (4) past negative experiences of SCS (figure 2). The themes are described in greater detail below, with participant quotes identified by participant age bracket and gender to ensure anonymity.

Theme 1: mental health aspects as barriers

Mental health as a barrier to quitting and accepting the offer of support was commonly reported by the participants interviewed. Many reported using smoking as a form of self-medication, and participants believed that smoking relieved stress and was good for their mental health.

It's the stress and then that effects the motivation to quit. I do know that I need to stop, but it's quite difficult to when you are feeling stressed, you can't

Table 1 Demographic predictors of accepting cessation support

Characteristic	All participants (n=152)	Accepted intervention (n=57)	Declined intervention (n=95)	AOR	95%, CI
Age, years	61.3 (4.8)	60.1 (4.3)	62.0 (5.1)	0.90	0.80 to 0.98
Sex					
Female	68 (45%)	30 (52%)	38 (40%)	2.16	1.08 to 4.34
Male	84 (55%)	27 (48%)	57 (60%)	Ref	–
Ethnicity					
White	131 (86%)	45 (78%)	86 (66%)		
Black	6 (4%)	3 (6%)	3 (50%)		
Asian	9 (6%)	3 (6%)	6 (66%)		
Other	6 (4%)	6 (10%)	0 (0%)		
Education					
<GCSE	59 (38%)	19 (33%)	40 (68%)		
GCSE	49 (32%)	18 (31%)	31 (64%)	0.89	0.38 to 2.07
A level	17 (11%)	8 (15%)	9 (53%)	2.26	0.71 to 7.21
Some University	7 (4%)	3 (6%)	4 (58%)	1.57	0.28 to 8.84
Degree/postgraduate	20 (15%)	8 (15%)	12 (60%)	1.71	0.56 to 5.21
IMDQ					
1 (most deprived)	27 (21%)	6 (10%)	21 (22%)	Ref	–
2	56 (36%)	20 (37%)	36 (37%)	1.42	0.47 to 4.31
3	29 (19%)	15 (27%)	14 (15%)	3.97	1.17 to 13.47
4	21 (14%)	5 (8%)	16 (17%)	1.06	0.25 to 4.41
5 (least deprived)	19 (10%)	10 (18)	9 (9%)	4.26	1.11 to 16.33
Smoking behaviours					
Average number of cigarettes per day	12.5 (7.7)	13.6 (7.9)	12.0 (7.6)	1.03	0.99 to 1.08
Age started	18.0 (5.9)	18.5 (6.8)	17.6 (5.3)	1.04	0.93 to 1.15
Number of smoking years	40.9 (9.0)	39.4 (8.5)	41.9 (8.8)	0.99	9.16 to 1.07
CT result					
No CT needed	52 (34%)	23 (40%)	29 (30%)	Ref	–
CT negative	60 (39%)	20 (35%)	40 (42%)	0.72	0.33 to 1.55
CT positive	40 (27%)	14 (25%)	26 (28%)	0.71	0.20 to 2.47

Bold type denotes significance at the 0.05 level.

Grey shading represents no regression analysis conducted due to the lack of diversity in ethnic groups.

Ethnicity groupings as recommended by the Prostate, Lung, Colorectal and Ovarian Screening Trial (PLCO).

Index of multiple deprivation quantile (IMDQ), quantile 1=most deprived areas in England quantile 5=least deprived areas in England (IMD).³⁹

CT positive=nodules requiring 3, 6 or 12 month follow-up scan, suspicious lesions, nodular consolidation or incidental findings.

CT negative=CT result was clear, no evidence of nodules or incidental findings.

No scan needed=participant did not meet CT scan criteria according to the PLOC and Liverpool Lung Project (LLP) risk models.

AOR, adjusted OR; GCSE, General Certificate of Secondary Education.

really think about anything else. It's the one thing that helps me (female, 50s, participant 1)
because of my depression, smoking helps me deal with things, it gives me a release when something upsets me or stresses me out (male, 50s, participant 2)

Being asked about quitting smoking could itself induce feelings of anxiety. Participants said that they had either attempted to quit previously and started again due to

their anxiety, or that they felt anxious about the idea of stopping and never smoking again.

But it causes a bit of worry giving up as I won't have the crutch anymore, and it just really helps me when things get hard (female, 60s participant 4)
Yeh, I did quit for quite a long time actually before Covid and that, then everything just got worse with

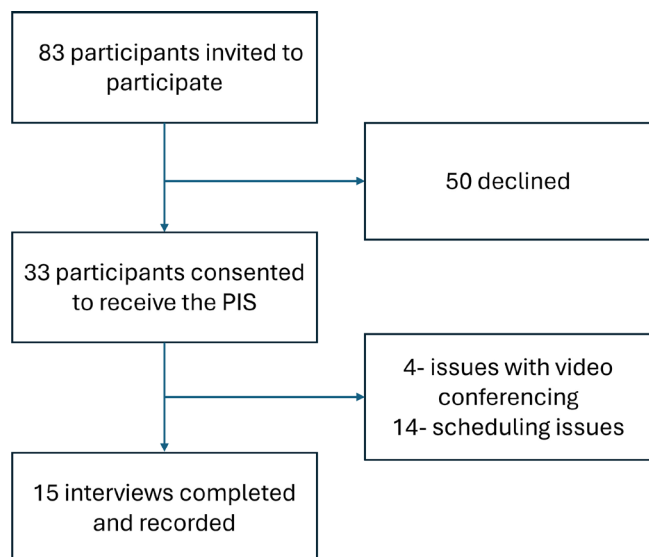


Figure 1 Participant interview recruitment flow. PIS, participant information sheet.

the depression and stress, so yeh I started again (male, 60s participant 7)

Fear of failure regarding making a quit attempt, alongside feelings of apathy also contributes to barriers within this population.

I don't want to try and attempt something that won't work. You get used to failing and then it becomes commonplace, so why try? (male, 60s participant 7)

Many participants appeared to have an emotional relationship with smoking, and this was given as a reason why they did not want to accept the support offered.

it's just more or less a comfort thing, it's the thing I reach for when things make me sad or happy (Female, 60s participant 3)

Theme 2: personal beliefs about quitting smoking

This second theme focuses on how personal beliefs around smoking and quitting smoking impacted the decision to decline SCS. All participants interviewed expressed the belief that quitting smoking is a hard and difficult process.

But you've got to make sure they want the help coz quitting is hard for us and you have to want to stop (Female, 60s participant 4).

That it's just hell giving up, every day is hell (Female, 60s participant 5).

Participants also reported that, despite having a high awareness of risk from smoking and knowing the dangers to their health, they continued to smoke and were unable to stop.

I don't know what it is about smoking, and you know people have terrible problems with drinking and everything else. And I know the end result is not going to be good, and yet that doesn't seem to come into it somehow, it's just ridiculous really (female, 50s participant 6).

Well, I have been diagnosed with COPD and I do cough quite a lot, certainly from a health point of view, my coughing would probably better if it stopped (male, 60s participant 7).

Several participants reported that they were using 'natural cigarettes' such as Natural American Spirit or cutting down, as opposed to quitting, and they perceived this as being better for their health.

I've got it all under control now, I've cut right down to 1 or 2 a day (male 60s, participant 8).

There was an overall sense of apathy from the participants about quitting or starting a quit journey, with many

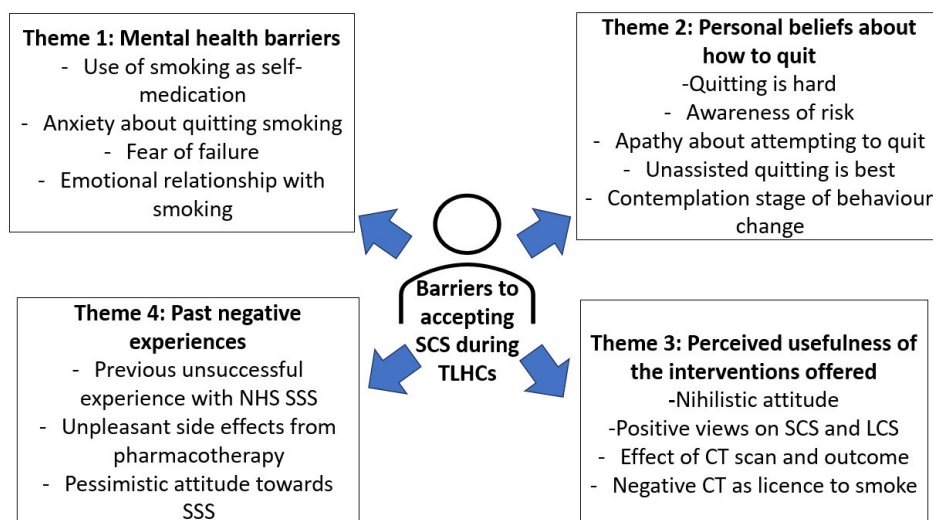


Figure 2 Thematic map. LCS, lung cancer screening, NHS, National Health Service; SCS, smoking cessation support; SS, stop smoking support; TLHCs, targeted lung health checks

stating they were either too old, or stuck in their current behaviours to even attempt to quit.

I just think it's not gonna work for me, I'm too much of a wuss to give it up (female, 60s participant 10).
I'm in my 60s now, too old, too long in the tooth to try all that (male, 60s participant 15)

The participants stressed the importance of being ready to quit, and that it had to be done unassisted. They believed that they would have to change their mindset, and the way they thought about smoking, in order to be able to quit and that to do this was their responsibility.

it's all about the willpower and mindset, I will quit and when I do, I will do it on my own terms, it's just about thinking of yourself as a non-smoker (male, 60s, participant 7)
I'm fairly idiosyncratic about it. I need to do it in my way, not someone telling me what I can and can't do (male, 50s, participant 2)

Interestingly, many of the participants viewed their smoking as a habit as opposed to an addiction, and this may have contributed to their decisions not to accept the support offered.

I think it's, it's more at a habit type thing where you associate smoking with day to day things, like I just go on the phone, light a cigarette, get in the car light a cigarette It's just this awful habit (female, 60s participant 9)

Finally, participants reported that they were just unable to quit smoking despite a desire to, or they would go as far as thinking about stopping, but that this did not translate into motivation for behaviour change.

I do want to stop, and I do think I should, but that's it really that's all I do is think about it. I think that's it. No more. That's it. And then I sit down and have a cigarette. It's like I block or something I just can't seem to stop (female 60s, participant 14)
I swear each time I go and buy a packet I say 'this will be my last pack', but it's like, I don't know, I just can't pack it in (female, 50s, participant 11)

Theme 3: perceived usefulness of the interventions offered

The third theme focuses on how useful the participants viewed the SCS that was offered. Participants described their experience and views of the TLHC appointment and the combination of cessation support. Many of the participants interviewed reported positively regarding the combination of SC and TLHC; however they appeared resistant, saying that the SC support was not useful for them personally.

I think it kind of depends on the individual, for some people that's gonna, you know that's gonna work really well, but it just wouldn't for me (male, 50s, participant 13)

Well, I think if they work for you, they work, for me it just didn't get on with it all. (Male, 50s, participant 2)

Considering the combination of smoking cessation and LCS, many participants did think that the combination of services was a good idea, and a good opportunity to quit, but it was not enough to motivate them personally to quit.

Tell you the truth, at first yeah it did make me think about it, after the first telephone call, so yea of course it is a good idea to start the stop smoking stuff after that, and as I said I have cut down and switching to the roll ups (female, 60s, participant 11)

Participants reported that the experience of the CT scan and receiving results did make them rethink their smoking behaviour; however, this was not enough of a motivation to evoke a behaviour change. This was despite in some cases, participants receiving an abnormal CT result.

But it was really when they said I needed a second scan that I thought I really need to stop the cigarettes, but that's as far as it goes. I just think about how I should stop. I don't actually go as far as stopping or even trying to (male, 60s participant 13).

Worryingly, a 'licence to smoke' effect was observed in some participants, who felt that receiving a negative CT result allowed them the opportunity to continue smoking.

It was nice to know everything was okay and I thought well I can carry on doing that now, which is totally the wrong way round, you know it's, as I say mad mad (female 60s, participant 14).

Theme 4: past negative experiences of SCS

The final theme within this analysis relates to how participants' past and mainly negative experiences of smoking cessation services influenced their decision to decline the support offered.

All interviewees reported previous quit attempts, with the majority reporting previous negative experiences of NHS stop smoking services as a reason for declining the offer of cessation support during the trial.

I think the problem I found with service was, yes okay I got some patches, which is just kind of like a small nicotine drip if you like, it didn't really help with stopping the habit, cause really effectively you feel like you are going cold turkey really. So, when the nurses were talking about the patches and that again over the phone, I just said no thanks 'coz it didn't work last time (Female, 60s participant 12)

Most participants reported experiencing negative side effects from stop-smoking pharmacotherapy, previously and they did not want to experience this again.

and they gave me those patches to help me stop but they didn't work and I just felt sick and was still smoking so it didn't work for me at all (Male 60s, participant 15)

Finally, as within theme 2, participants believed that smoking cessation services did not or would not work for them personally, highlighting a pessimistic attitude towards the smoking cessation services offered.

That group thing just didn't and doesn't work for me, were to do it again, I would just do it my own way like I did before, cold turkey with no nicotine replacement (male, 60s, participant 8)

DISCUSSION

The findings presented here provide an insight into the barriers that exist to accepting SCS in the context of an LCS programme. We discovered that younger, female participants, and those who live in areas of less deprivation, were more likely to accept the offer of support to quit. Thematic analysis of interviews with people who had declined SCS identified psychosocial factors such as beliefs about mental health impacts, past negative experiences and pessimism, as barriers to taking up the offer.

As expected, people who smoke and attend LCS experience similar barriers to those offered SCS outside of this context.^{26–30} Many of the interview participants perceived NHS specialist SCS to be ineffective, likely attributable to their own past negative experiences of these services.

Our findings are consistent with the YESS trial, where LCS participants reported smoking as a way to cope with psychological symptoms, and fatalistic attitudes as barriers to accepting SCS within a TLHC setting.¹⁷ Previous studies have also reported female smokers to be more likely to access formal cessation support compared with male smokers.^{31–33} Lower smoking cessation success and uptake rates among populations living in less affluent areas have been echoed across the literature.^{34 35} Several studies have reported that older, non-white and heavy current smokers are more likely to accept/receive an offer of cessation support^{36 37}. Whereas we found the inverse with age, the younger population were more likely to accept support and did not observe that heavier smokers were more likely to accept support. We did not analyse results by ethnicity as our population was over 90% White-British. It should be noted that the differences in the demographic predictors of accepting support in this analysis were numerically quite small.

Interaction with the COM-B model

Mental health aspects interact with both the capability and motivation domains of the COM-B model. Participants interviewed reported feelings of anxiety or a fear of failure surrounding quitting smoking. This highlights that patients may lack self-esteem and self-efficacy, which are innate factors needed for one's capability to enact a

behaviour change.^{20 25} The same interaction is observed within the other themes as well. Participants reported that they perceived quitting to be hard, and that they did not believe that the interventions would work for them. Many interviewed participants reported past negative experiences with SCS and failed quits as barriers. These experiences and opinions suggest a lack of self-esteem interacting with the capability and motivation COM-B domains across all themes within the analysis.²⁰

Participants' personal beliefs heavily influenced their motivation to accept support. Many believed that if they were to quit, it should be unassisted, and it was apparent that this was important to them. At the same time, participants reported that they did not perceive the cessation support as being useful for them or a good opportunity for them to quit smoking. Underestimating the benefits of smoking cessation interventions will influence the opportunity domain of the COM-B model. Many participants reported negative experiences of Stop Smoking Support before their attendance to TLHC, making it less likely that they would be receptive to further support in the absence of appropriate explanation and encouragement.

This study highlights that all domains of the COM-B model need to be addressed for encouraging uptake of SCS within a screening setting. Both physical and psychological capabilities are needed to enact any behaviour change.²⁰ It is highly likely that TLHC programmes will run in-person clinics, however, programmes should ensure that participants have a choice of cessation clinic settings, increasing the physical opportunities for support. Repeating the offer of support to participants, throughout their TLHC journey such as at the initial consultation and again at the CT appointment will also increase opportunities for quitting. This model was accepted by participants and successful for encouraging quit attempts within the YESS trial.¹¹ Regarding

Box 1 Implications for service delivery

- ⇒ The smoking cessation practitioner (SCP) must be aware of the psychological barriers this population may have and, providing a holistic counselling approach and easy to digest, diverse educational materials.
- ⇒ The intervention offered must have multiple options, including both location and pharmacotherapy options and the offer of support should be repeated throughout the targeted lung health check journey.
- ⇒ The SCP needs to be aware and challenge, incorrect beliefs about smoking, such as that smoking helps mental health symptoms. This information should be provided and challenged immediately using easy to digest statistics if participants decline smoking cessation support.
- ⇒ The SCP must provide easy to read and diverse materials about the benefits of smoking cessation, with peer success stories to increase awareness of the benefits and self-efficacy of the participants.
- ⇒ The service needs to be aware of populations who are least likely to accept cessation, for example, males, older people and those who live in deprived areas, then target and design equitable services.

addressing psychological capabilities, previous research suggests that a range of educational materials about SCS offered as well as success stories should be available.³⁸ This is to inform participants about the service and what is expected of them, while increasing self-efficacy, and should be delivered alongside the offer of cessation support.³⁸ The psychological capabilities within the interviewed population were heavily influenced by their mental health, with many citing high anxiety and stress levels as a barrier to quitting. To increase self-efficacy and promote psychological capabilities, practitioners delivering cessation support to this population should do so in a holistic and supportive manner.^{10 38} There also appear to be important knowledge gaps and false beliefs within this population. These include how smoking influences psychological mood, beliefs that brands of cigarettes are healthier and the idea that cutting down rather than quitting is enough to avoid harm. To increase the effectiveness of the SCS offered, practitioners should challenge these incorrect beliefs about smoking. This should be conducted immediately in a supportive manner that is free from any stigma.

One key issue for SCS related to previous unsuccessful quit attempts is to be clear about the importance of using NRT properly (dual NRT at an adequate dose) as previous use may not have been correct. The availability of newer and more effective medications (varenicline and cytisine) should also be emphasised.

Strengths and limitations

This study provides insight for future TLHC services on how best to provide cessation support and design inclusive services; [box 1](#) contains implications for service delivery, which was agreed on via consensus of trial staff PJW, SCB and NSH. Our findings are consistent with the barriers reported within the smokers attending the YESS trial, highlighting the need for TLHC services to be aware of the multiple psychosocial barriers to cessation in this population. The use of semistructured interviews enabled an inductive exploration of the data, while using the COM-B model theory to ground and shape the analysis. There are several limitations that must be addressed. First, the generalisability of the findings to the wider population, as the study population all reside within North-West London. However, similar barriers have been cited by smokers attending TLHC in the north of England.¹⁷ Second, as with any qualitative analysis, there is likely to be an element of selection bias, particularly as we were only able to interview 15 participants out of the 83 who had declined SCS. Finally, our interview questions mainly focused on the participants' personal smoking histories and experiences of smoking cessation, with only two of the interview questions relating directly to the TLHC.

CONCLUSION

This study provides an in-depth view of the intertwining psychosocial barriers that influence acceptance of SCS

within a screening setting. To encourage uptake of SCS, TLHC programmes should provide holistic behavioural counselling, with multiple opportunities for location and pharmacological aids. This offer of cessation should be repeated to those who decline throughout their TLHC journey. Cessation interventions offered to this population must address the apparent lack of self-efficacy within this population, directly addressing prior unsuccessful quit attempts and false beliefs about smoking and smoking cessation, through holistic and supportive counselling, alongside peer success stories to promote and encourage behaviour change.

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