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Original Research

Accessing National Health Service Stop Smoking Services in the UK: a COM-B analysis of barriers and facilitators perceived by smokers, ex-smokers and stop smoking advisors

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ARTICLE INFO

Article history:

Received 11 July 2018

Received in revised form

15 March 2019

Accepted 20 March 2019

Available online 23 May 2019

Keywords:

Stop Smoking Services

Smoking cessation

Smoking

Beliefs

Barriers and facilitators

COM-B

ABSTRACT

Objective: Smokers who access free National Health Service (NHS) Stop Smoking Services (SSS) in the UK are four times more likely to stop smoking, yet uptake of the services has been in decline in recent years. Evidence was collated to explore the beliefs of smokers, ex-smokers and Stop Smoking Advisors (SSAs) about SSS and the barriers and facilitators to access.

Study design: Mixed-methods design including i) a search of the literature; ii) a cross-sectional online questionnaire completed by 38 smokers and ex-smokers; and iii) semi-structured interviews with 5 SSAs.

Methods: PubMed, Web of Science, Scopus, Prospero and the NIHR Portfolio were searched in October 2017 to identify relevant studies. Smokers and ex-smokers were recruited to the online questionnaire via Public Health websites and social media in Warwickshire. SSAs identified via Public Health Warwickshire were invited to take part in an interview conducted over the telephone. Findings were collated and analysed using the COM-B ('Capability', 'Opportunity', 'Motivation' and 'Behaviour') model framework.

Results: A range of practical and psychological or belief-based barriers and facilitators to accessing SSS were identified within all the components of the COM-B model, aside from physical capability, for example; 'Psychological capability', such as lack of understanding about what the service offers; 'Reflective motivation', such as lack of confidence in service efficacy; and 'Social opportunity', such as recommendations from healthcare professionals to attend. Suggestions and consideration on how future tobacco control intervention and public health messages can address these components are reported.

Conclusions: Public health interventions and campaigns may benefit from focussing on addressing the well-known perceived barriers and facilitators smokers experience, in particular focussing on the components of the COM-B that have been identified as being important to increase the uptake of SSS.

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Introduction

Internationally, reducing tobacco use is a high priority for public health. Smokers who access free National Health Service (NHS) Stop Smoking Services (SSS) in the UK are four times more likely to stop smoking than those who try to quit without help,¹ and these services continue to offer the most cost-effective interventions for helping people to stop smoking.² SSS offer smokers face-to-face behavioural and pharmacological support to stop smoking, including the provision of nicotine replacement therapy (NRT), which is usually provided free of charge or at a reduced cost. Appointments often take place in general practices (family doctor's surgeries [GP]), but increasingly, pharmacies offer appointments, enhancing access, especially for smokers who have limited contact with health services. Despite this, uptake of SSS is in decline.^{3,4} This may be in part due to the increased popularity of e-cigarettes as a means to stopping. Since 2006, the use of e-cigarettes in a quit attempt has risen from negligible use to 35% in 2015.⁵ However, combined specialist support with medication, which is offered by SSS, has still been shown to be (significantly) more effective than the use of e-cigarettes alone.⁶ With recent UK Government pressure to make cost savings, there is uncertainty around whether SSS will be recommissioned at the same rate around the country. For example, the London Borough of Havering recently decommissioned SSS (April 2016), despite high smoking prevalence in the area. If services continue to become more limited across the country, maximising the use of such services by smokers who are optimally motivated to quit will be increasingly important to improve the success rates of the SSS and reduce costly non-attendance of appointments.

Understanding the reasons for low uptake to tailor interventions and public health messages to address these barriers is important, given two-thirds of smokers report they would like to stop.¹ Previous tobacco control mass media campaigns appear effective at motivating quit attempts, calls to quit-lines, stop smoking web searches and discouraging uptake of smoking;⁷ however, a suspension on media campaigns in 2010 had no effect on attendance at SSS, suggesting the campaigns are not effective at encouraging uptake.⁸

This article reports on evidence gathered to explore the beliefs of smokers, ex-smokers and Stop Smoking Advisors (SSAs) about SSS and to understand the barriers and facilitators to access. The findings informed the development of a digital intervention aimed at increasing both access to and attendance at NHS SSS.

Methods

Design

A mixed-methods design was used including three phases: i) a search of the literature was undertaken to identify existing evidence; ii) a cross-sectional online questionnaire was distributed to smokers and ex-smokers in Warwickshire to ascertain knowledge and beliefs regarding SSS and how it can be accessed; and iii) semistructured telephone interviews with

SSAs to explore their perceptions about the possible barriers and facilitators for smokers accessing SSS.

Procedure

Ethical approval was obtained from Coventry University Research Ethics Committee and Warwickshire County Council Research Ethics Committee Board. In phase 1, PubMed, Web of Science, Scopus, Prospero and the NIHR Portfolio were searched in October 2017 to identify relevant studies. Examples of search terms included 'barriers', 'access', 'uptake', 'attendance', 'smoking cessation services' and 'stop smoking services'. Inclusion criteria comprised articles published from 2000 onwards reporting barriers or facilitators to access SSS offered to the general public, worldwide. SSS offered to specialised or clinical populations, e.g., hospital patients, school pupils, mental health patients or within drug addiction services, were excluded because it was agreed by the research team and public health commissioners that these incorporated alternative access routes and other specific barriers are pertinent to the clinical or demographic group and not representative of smokers in general. Barriers and facilitators to access were extracted from the articles and were analysed using the COM-B model.⁹ In phase 2, smokers and ex-smokers, recruited via Public Health websites and social media (Facebook and twitter) in Warwickshire, were invited to take part in an online questionnaire survey. The advert invited any smokers or ex-smokers living in Warwickshire, regardless of whether they had previously used SSS to take part. The advert was live for a period of 2 months and was reposted several times each month. The reach of these methods could be wide, but there is no way of determining how many people would have viewed the advert. Open-ended questionnaire data were analysed using the COM-B model, and demographic information is presented in numerical format. In phase 3, five SSAs identified via Public Health Warwickshire were invited to take part in an interview conducted over the telephone, lasting approximately 30 min. Interview data were also analysed using the COM-B model.

Measures

The 20-item questionnaire consisted of Likert scales and open text boxes to explore use and knowledge regarding SSS and the beliefs of smokers and ex-smokers regarding perceived barriers and facilitators to accessing SSS. Example items include 'If you would not choose to go to a SSS appointment, please tell us why?' 'What do you think happens at a SSS?' 'What would make you more likely to go to an NHS SSS?' and 'Is there anything that stops or concerns you about going to an NHS SSS?'

A semistructured interview schedule was used to explore SSAs' perceptions about barriers to and facilitators of accessing SSS. Example items include 'Is there anything that you think makes it difficult for patients to book a stop smoking appointment?' 'Is there anything you think helps or enables patients to book a stop smoking appointment?' Questions about where referrals came from and how they were made were also posed.

The questionnaire and interview schedule were developed based on themes extracted from the literature and input from Tobacco Control commissioners, SSS commissioner and a team of health psychologists (see attached). The questionnaire

was piloted with 2 smokers and a Stop Smoking Advisor for ease of comprehension and items were amended accordingly.

Participants

All smokers and ex-smokers were invited to complete the questionnaire, regardless of whether they had previously accessed stop smoking support through the NHS or not. SSAs who are trained to deliver stop smoking advice to smokers were invited to take part in a short 30-minute interview (Fig. 1).

Analysis

The literature, questionnaire and interview data were collated and analysed using the COM-B model as a framework for identifying the key mechanism of action of the target behaviour (accessing SSS). The COM-B model components include Physical capability (physical skill, strength or stamina), Psychological capability (knowledge or psychological skill, strength or stamina to engage in the necessary mental processes), Physical opportunity (opportunity afforded by the environment involving time, resources, locations, cues, physical ‘affordance’), Social opportunity (opportunity afforded by interpersonal influences, social cues and cultural norms that influence the way that we think about things), Reflective motivation (reflective processes involving plans [self-conscious intentions] and evaluations [beliefs about what is good and bad]) and Automatic motivation (automatic processes involving emotional reactions, desires [wants and needs], impulses, inhibitions, drive states and reflex responses).

Results

Phase 1: literature review

The literature search resulted in 3086 articles, 3073 were excluded and 13 empirical studies were included. These studies presented a number of perceived barriers to accessing SSS, including perceived practical and psychological barriers.

Phase 2: questionnaires with smokers and ex-smokers

Demographic information

Thirty-eight smokers and ex-smokers (two of whom self-identified as non-smokers) of all ages participated in the

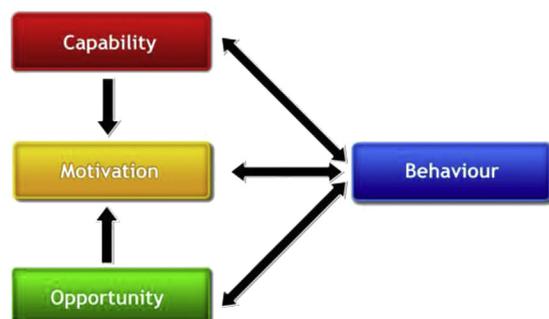


Fig. 1 – The COM-B model (reproduced from Michie et al.⁹).

questionnaire, ten of whom had been to an NHS Stop Smoking Service.

Phase 3: telephone interviews with SSAs

Five SSAs were interviewed, four of whom were female. One advisor was based at a general practice, one in a hospital setting and three in a pharmacy setting (one independent pharmacy and two larger chain pharmacies).

COM-B analysis

The combined data presented a number of both perceived and experienced barriers and facilitators to accessing SSS. For any behaviour to occur, the individual must have the physical and psychological capability as well as the physical and social opportunity and be motivated to do it at the relevant time.⁹ Barriers and facilitators are presented in the later section of this article in relation to each of the COM-B components.

Physical capability

No barriers or facilitators relating to physical capability need to access SSS were reported in the literature, questionnaire or interviews.

Psychological capability

All three streams (literature, questionnaire and interviews) identified consistent barriers related to knowledge. The literature highlighted that a large proportion of eligible people (smokers) were either unaware the service existed^{10–17} or had little or incorrect knowledge about what the service was, what it offered^{17–19} and how to access it.^{14,15}

These barriers were also apparent in the questionnaire data, with responses highlighting a lack of knowledge about the service's location, approach and support offered. More information, with particular emphasis on whom these services are available to and what they offer, was needed for people to consider attending (Table 1).

[I] don't know what they do (Female, smoker, 25–34 years)

I'm sure they don't offer what I already know (Male, smoker, 45–54 years)

[I] like to know exactly how this service engages with the person and what support it offers (Female, smoker, 25–34 years)

[I would go if] I knew about where one was (Female, ex-smoker, 25–34 years)

In addition, SSAs highlighted the high incidence of smokers attending an appointment unaware of what the appointment was for, having been told to come by their GP.

People do not know why they are here, not ready, told to come. (Female, SSA)

They don't have a clue about the service (Female, SSA)

Psychological capability was mentioned in each of the three streams and presented as one of the most significant

Table 1 – Details of literature included in review and the COM-B components identified.

Author	Year	Focus on access or attendance	No. accessed a stop smoking service	Type of service discussed (barrier to)	Country	Population of study participants	Physical capability	Psychological capability	Reflective motivation	Automatic motivation	Physical opportunity	Social opportunity
Bains et al. ²²	2011	Access	Not reported	Community-based mobile stop smoking service	UK	Smokers in socio-economically deprived areas					y	
Butterworth et al. ¹⁰	2013	Both	11 of 19 had used SSS	Various: community midwives, the Healthy Lifestyles Shop, the specialist stop smoking-in-pregnancy advisor, regular GP contact and the Healthy Lifestyle community bus	UK	Pregnant women and smokers		y	y		y	y
Carter-Pokras et al. ¹¹	2011	Access	None	Smoking cessation service, telephone-based service	USA	Latino, smokers and ex-smokers		Y				
Copeland et al. ²⁰	2010	Access	Not reported	Smoking cessation programmes	USA	Ethnically diverse socio-economically disadvantaged smokers			y		y	
Grimshaw et al. ¹²	2003	Access	4 of 20 had accessed a service	Smoking cessation services offered by school nurses	UK	15- to 19-year olds			y	y		y
Herberts et al. ¹⁸	2012	Access	Not reported	NHS stop smoking services	UK	Pregnant women, smokers and midwives		y	y	y		
Hutcheson et al. ¹⁷	2008	Access	Not reported	Various cessation methods (primary care, hotlines etc)	USA	Smokers aged 18 years or older living in rural communities		y	y		y	y
McEwen et al. ¹³	2010	Access	Not reported	NHS stop smoking service	UK	Smokers identified on GP patient lists		y				
McLean ¹⁹	2011	Access	All	Community pharmacy cessation service	UK	Smokers who had accessed the service		y			y	
Roddy et al. ¹⁵	2006	Access	No use of service	NHS stop smoking service	UK	Smokers in deprived area		y	y		y	
Ussher et al. ¹⁴	2006	Access	10% had accessed a service before	Stop smoking course or clinic	UK and USA	Pregnant smokers and ex-smokers		y	y	y	y	y
Vogt et al. ²¹	2010	Access	Not described	Group and one-to-one support	UK	Smokers aged 18 years or older			y	y	y	
White et al. ¹⁶	2006	Access	Not reported	NHS stop smoking services, GPs	UK	UK, Pakistani and Bangladeshi communities		Y	Y		Y	

SSS, Stop Smoking Services; NHS, National Health Service.

components in the analysis. The main focus was about lack of knowledge of the service itself and also what it offers (Table 2).

Physical opportunity

All three streams highlighted barriers and facilitators that related to physical opportunity and were focused mainly around time and accessibility. The literature highlighted lack of time and other commitments such as work or childcare,^{10,14,15,16,20} as well as difficulties perceived or experienced in the past in trying to contact the service and arrange an appointment.^{10,21} The belief that there would be limited appointment choice^{15–17,21} was also identified as a barrier to accessing the service. Cost of the service and NRT was also mentioned.^{15,17} Conversely, studies that focused on SSS offered by community pharmacy locations and mobile SSS reported several facilitators to access including feeling the setting was more appealing, approachable and comfortable²² and improved accessibility, convenience and flexibility,¹⁹ which meant smokers could attend at more convenient times with the convenience of NRT on prescription that could be collected on site.

Comparable barriers were also reported in the questionnaire; specifically, some argued it would be difficult to book an appointment at a convenient time and place and that the service was generally not easy to access. The need for services to be easy to be accessed was a key emerging theme, including suggestions regarding the possibility of the service being offered electronically or remotely.

[I am] concerned about finding the time to get off work to attend.
(Female, smoker, 45–54 years)

Need appointments to be available at the correct time (Female, ex-smoker, 55–64 years)

The SSAs highlighted that the main barrier relating to physical opportunity was the opening hours of SSS and the challenges of childcare commitments preventing attendance.

Opening hours/working around children-not things we can influence easily (Female, SSA)

Physical capability was mentioned in each of the three streams and was mainly focussed on a lack of time and resources, including the perception that available appointments would be limited.

Social opportunity

All three streams highlighted barriers and facilitators aligned to social influences that have an influence on a person's social opportunity to access SSS. The literature revealed that it was rare for people to self-refer to the services and that without prompting from healthcare professionals, it was unlikely they would seek help.¹⁰ Some people feared feeling embarrassed at the possibility of being seen by peers¹² and felt that people close to them would not support them.¹⁴ The questionnaire data revealed barriers related to social opportunity such as living with a smoker, perceived stigma and blame from advisors and the fact they had not heard of anyone similar to themselves using the service successfully.

When asked what would facilitate attendance at SSS, recommendation and support from healthcare professionals who can provide credible evidence of its efficacy and use of success stories were suggested in relation to increasing a person's social opportunity to accessing SSS.

Finding out about people who have used the service successfully
(Female, ex-smoker, 55–64 years)

(more likely to go) Encouragement from healthcare professionals
(Female, ex-smoker, 25–34 years)

Providing clear information about the supportive role of SSAs was evident in the interview data:

Making it clear that even if they have had an appointment they can have another-it may take some people longer (Female, SSA)

no judgment, here to help (Female, SSA)

Social opportunity was mentioned in all three streams but was not as prevalent as other COM-B components. The recurrent theme here is the need for a supportive environment when accessing SSS.

Reflective motivation

All three streams highlighted barriers and facilitators relating to reflective motivation, and these focussed around identity, belief about capabilities and consequences around accessing SSS. The literature highlighted that smokers feel strongly about being able to stop on their own,^{12,14,20,21} and without additional support.^{14,20} The most prevalent barriers cited in the literature related to beliefs about the consequences of accessing a service are, in particular, being judged,^{14,15,17,18} lectured or nagged, or overloaded with information about health consequences.^{12,15} Perceptions that the service would not be effective, including scepticism about the effectiveness of NRT,^{12,14–18,21} and a belief that smokers would be supported in only one quit attempt and therefore would not get a 'second chance' were also reported.¹⁵ Conversely, those who had experienced SSS emphasised a non-judgemental and supportive service.^{10,19}

The questionnaire data supported the literature findings regarding beliefs smokers would be judged, blamed, nagged or stigmatised during appointment. These were described as barriers to accessing the service along with the assumption it would not be helpful despite having little knowledge about what they offer. When asked what would make attendance more likely, participants referenced greater knowledge of the format and approaches used in appointments and information to increase confidence in perceptions SSS would be able to help.

Suspect I will be nagged (Female, smoker, 45–54 years)

Getting nagged in some horrible group session (Female, smoker, 45–54 years)

[more likely to go] "knowledge of successful outcome" (Female, ex-smoker, 45–54 years)

Table 2 – Demographic information of participants of questionnaire.

Sex			Age, years						Smoking status				Been to SSS before		
Male	Female	Not stated	18–24	25–34	35–44	45–54	55–64	65+	Smoker	Ex-smoker	Non-smoker	Not stated	Yes	No	Not stated
16	20	2	1	12	7	9	8	1	14	20	2	2	10	27	1

SSS, Stop Smoking Services.

[more likely to go] “confidence that they will be able to help me”
(Male, ex-smoker, 55–64 years)

The interview data emphasised how important SSAs felt it was, to promote the service, explaining the consequences of attending and that coming to an appointment is not a commitment to stopping smoking itself but a commitment to exploring the options to stop smoking, therefore providing a realistic insight into the process and removing false expectations.

Be realistic – It’s not easy. Remove false expectations-you’re not going to feel great (Female, SSA)

Portray the message that by coming along to first appointment you are not ‘committed’ but want to explore the idea of stopping (Male, SSA)

Reflective motivation was mentioned in all three streams and presents as one of the most significant components when considering the barriers and facilitators to accessing SSS. A general lack of understanding about the service and what you can expect as a consequence of turning up to an appointment was clear.

Automatic motivation

Both the literature and questionnaire data highlighted emotional barriers associated with automatic motivation. This was focussed around feelings of embarrassment associated with accessing SSS¹² and fear and disappointment around failure.^{14,15,18,21} Asking for help through these service was also seen as a sign of weakness.^{12,17,21}

This finding was echoed in the questionnaire. Participants referenced feelings of disappointment in themselves and the service if they failed to successfully stop smoking after the quit date. Ideas for increasing access to service included some form of incentive to encourage people to attend and stop smoking.

(concerns) thought of failing (Female, smoker, 45–54 years)

Didn’t like the idea of needing help to stop (Female, ex-smoker, 35–44 years)

Against the idea of associating myself with any service that suggested I was struggling (Female, ex-smoker, 45–54 years)

NHS could come up with an incentive devise to encourage people to give up-perhaps a target based method-such as the weight watchers calorie count (Male, smoker, 45–54 years)

Barriers or facilitators relevant to automatic motivation were not coded in the interview data.

Automatic motivation was mentioned in the literature and questionnaire data. Although not one of the most significant components in the analysis, the focus on emotional responses to accessing SSS needs addressing.

Discussion

Some key messages can be drawn from the findings of all three streams of this research. First is that little is known about SSS among its target audience (smokers). They commonly lack understanding about SSS, the benefits of going, what they offer and the ethos of the service. Second is that a number of negative emotions are associated with the idea of accessing SSS. It was largely believed that people would be nagged and judged by staff, that seeking help is a sign of weakness, that smokers should be able to stop on their own and that they would be a failure to themselves and the service if they were not successful at stopping. Whilst some of these beliefs may reflect a lack of desire or confidence to stop smoking, rather than negative beliefs about the SSS per se, campaigns and interventions are still needed to address negative beliefs and encourage those who do want to stop smoking to access SSS, as it would seem past attempts to inform smokers about what to expect and promoting the services⁸ are either minimal or not effective because of the steadily decreasing uptake of services.^{3,4}

This research has highlighted that all of the COM-B components, aside from physical capability, need addressing to facilitate access to SSS. For any behaviour to occur, the individual must have the physical and psychological capability as well as the physical and social opportunity and be motivated to do it at the relevant time.⁹ To increase the psychological capability of the people eligible to access the service, efforts should focus on clear and widely available information (education) about the available services, what they involve, what they can offer and what smokers can expect from the entire process as well as their efficacy and success stories (persuasion/modelling). This information should be shared via multiple avenues, including but not limited to, health professionals, online information, advertisement in relevant community locations etc. to reach the target audience. Physical opportunity should be addressed by information (education) about available appointment times and the flexibility of the service that is delivered in various locations including pharmacies, and online, which offer support outside of the 9–5 working day. Social opportunity should be addressed by enabling a supportive environment not only in terms of the healthcare professionals before and during

access to services but also on a wider scale that would help to diminish any stigma associated with accessing health services, or smoking itself. This could be achieved by use of stories of similar people who have openly discussed their successful use of the service (persuasion/modelling). Reflective motivation was one of the most significant components and should be addressed with efforts aimed at reframing some of the beliefs held by smokers about SSS that are pivotal to access (persuasion), along with making it clear from the start what a person accessing the service can expect along the whole journey and the ethos of the service (education). Efforts at increasing automatic motivation, although not one of the most significant components in the analysis, should focus on reframing the ideas that are held around help-seeking behaviour (education, persuasion, modelling) and offering some form of positive reinforcement (incentivisation) throughout the process of identifying, accessing and attending a Stop Smoking Service. A constant thread through the findings is the need to educate eligible people with correct and persuasive information about the service and its worth to enable them to overcome these barriers and feel able to access these services.

There is a need to address what is known about the barriers and facilitators to smokers accessing SSS within the design of interventions and public health campaigns aimed at reducing tobacco use in the UK. Providing evidence of service efficacy, one of the barriers evident in our findings, significantly improved attendance at SSS in a recent randomised control trial.²³ More recently, a study inviting smokers to a taster session aimed at addressing some of the commonly cited barriers to access, by means of a personalised risk letter, found that those in the intervention group were significantly more likely to enrol, attend the first session and complete a 6-week SSS course.²⁴ This specific focus on addressing the known barriers was found to be effective; however, the production of the personalised letter and offering face-to-face sessions had the downside of being costly and time-consuming for staff. A more time-effective and cost-effective way to address this includes the use of a Web resource. The findings of this exploratory study have informed the development of a digital behaviour change intervention, 'StopApp', a Web app designed to increase uptake and attendance at SSS by reframing negative beliefs²⁵ and enabling instant booking at a location and choice of the user. Targeting and reframing the specific beliefs identified in this study will inform recommendations for future tobacco control interventions, policy and advertising campaigns at a local and national level. StopApp will undergo a feasibility trial in 2018/19.²⁵

Past mass media campaigns focus directly on smoking behaviour but have little impact on access to SSS.⁷ If smokers are significantly more likely to stop with help from SSS, then greater promotion of SSS as well as stopping smoking in general is needed. Focussing on an approach to address barriers to access of SSS has the potential to increase the use of these cost-effective services and thus increase the number of people successfully stopping smoking, which in turn has the potential to reduce the burden of smoking-related disease. The combined findings, although mostly drawn from the UK NHS

SSS, can offer insight into an international audience as it seems a similar picture is evident in other countries. For example, the use of counselling and medication remains low in the USA²⁶ despite the Centers for Disease Control and Prevention stating evidence that the most effective treatment is the use of both counselling and medication together.^{27,28} Recommendations for an international audience can be drawn from the findings of this article offering insights into and guidance around barriers to access where similar services are being implemented to increase uptake of effective behavioural support.

Limitations

The total sample size for the survey was small; however, findings are similar to those in the literature. The participants of the questionnaire and interviews were recruited in, and therefore limited to, Warwickshire. There is potential that the survey could have reached past Warwickshire via social media; however, locations were not recorded. Despite this, services across the UK operate under the same service model with manualised content and therefore offer a standardised service. Although socio-economic status information was not gathered, Warwickshire has both affluent and more deprived areas and there is no indication that participants being limited to the Warwickshire area would not be representative of the smoker and ex-smoker population in the UK. Interviews were conducted with 5 SSAs (roughly 12.5% of available SSS Advisors across Warwickshire); however, recruitment was challenging because of time and work commitments of NHS staff. Nonetheless, a fairly representative sample was achieved with one advisor working in a hospital setting, three in a pharmacy setting and one at a general practice.

Conclusion

Despite the encouraging evidence that smokers are four times more likely to stop smoking with the support of a Stop Smoking Service, uptake of the service is decreasing. The barriers cited by smokers, ex-smokers and SSAs in this study corroborate the extant literature spanning the last decade, suggesting that these relatively unchanged beliefs are not being targeted by interventions or public health messages; and there is consequently more that could be done to better market and promote uptake of SSS. This research highlights the barriers and facilitators in the context of the COM-B components of behaviour (capability, opportunity and motivation) and makes suggestions to inform recommendations for future tobacco control intervention and public health messages at a local and national level.

Author statements

Acknowledgements

The authors would like to acknowledge the participants of the study for their time and Warwickshire County Council for supporting the study.

Ethical approval

Ethical approval was obtained from Coventry University Research Ethics Committee and Warwickshire County Council Research Ethics Committee Board.

Funding

This research was funded by The Arden Cluster Research Capability Fund and Public Health Warwickshire.

Competing interests

None declared.

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