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A portfolio submitted in partial fulfilment of the requirements of University of Staffordshire for the degree of Professional Doctorate in Health Psychology

April 2025

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Acknowledgements and Dedications

There have been a number of important and influential people who have helped shape my time across the doctorate who I would like to express my gratitude too. Firstly, to each of my three supervisors throughout the duration of my course. Each have provided their sage wisdom, advice and guidance while providing to the point feedback while ensuring I remained accountable to deadlines. To Dr Lisa Cowap and Professor Karen Rodham who I started the course with, you both provided me with the initial foundations of which I have been able to develop and succeed in completing the course. To Professor Richard Cooke, thank you for the unwavering support through the at times frustrating challenges I would present at supervisions but providing a clear route to passing, even if this has at times seemed a long way off.

I also extend my gratitude to the wider Staffordshire University Health Psychology team who also supported me with their invaluable support across their modules and the competencies as and when I came to complete these. Thank you to Dr Rachel Povey and Dr Jenny Taylor, your feedback and guidance helped me to complete each competency and I could not have produced work to this level with out yourselves. And lastly to each assessor who marked my work, each point made was reflected and actioned to ensured I continued to learn with each submission.

To my placement supervisors across the course, Madeeha, Roma, Anne, Ayo and Lucy. None of you were psychologists but embraced the challenge of supervising me with open arms, and for this I am thankful. Without each of your support, I would not have been able to complete the course. I learnt a lot from each of you with your unique skill sets who have helped me to become a better psychologist and shaped me in becoming a better practitioner. Your encouragement and belief helped me through challenging times across the course and for this I would like to express my sincere gratitude.

To my parents who continue to support me regardless of what the next endeavour is. I don't think any of us would have seen this 14 years ago when I decided I wanted to go to university and study Sports and Exercise Science. Without your belief, support, and all the other stuff you do so well as my parents this would not have happened and for this I am thankful. I also hope this is the last of these attempts at academia as being asked "when are you finishing" or explaining to others what I am doing is tricky.

To Beth, without you, this would not have been possible. Patient as ever, empathetic and understanding with each challenge and failure I faced, you helped me understand the process required to finish when I could not. You showed me to stop living with doubt and embrace each challenge. Although this has put a hold on some of our plans for the past 5 years, I am grateful you have been there to support me and in turn, I will do the same for you. Beth, my best friend, partner, guide, inspiration, listener, motivator, challenger, proofreader, and organiser. To the next chapter.

Abstract

This portfolio documents the work I have completed whilst completing the Professional Doctorate in Health Psychology at Staffordshire University from 2020 to 2025. Across this period, my placements varied consisting of both full time and part time roles in professional settings. Initially I started as a full time smoking cessation advisor for an integrated healthy lifestyle service, before reducing to part time hours to work as a co-production and wellbeing worker for a charity in the East of England supporting unpaid carers. I ended these roles in May 2022, moving to a programme manager role delivering a smoking cessation programme within a mental health trust where I worked full time until October 2023. I completed my time on the doctorate working as a public health strategist in a London Borough. These roles have all given me exposure to a variety of organisations including the NHS, local authority, commissioned services and charities which offered opportunities to develop all the necessary competencies required to meet the doctoral degree requirements.

The portfolio is structured into five chapters with each focusing on one of the core competencies of the Health Psychology programme:

1. Professional Competence
2. Advanced Research Methods
3. Consultancy
4. Teaching and Training in Health Psychology
5. Psychological Interventions

Within each chapter, I include evidence of my ongoing professional development through research papers, case studies and reflective commentaries. These will highlight the projects I have undertaken and the experiences and expertise I have subsequently developed across my time on the doctorate. More detailed descriptions of each chapter's contents are provided within the introduction.

Introductions

This portfolio documents my journey through the Professional Doctorate in Health Psychology at Staffordshire University, which I completed between 2020 to 2025. My training began during the first period of Covid-19 and the pandemic had an impact on placements and competencies, notably during the first 12-18 months. This required frequent adjustment to my training and my development.

My initial placements were two part time roles where I remained until May 2022. My first role was as a smoking cessation advisor specialising in mental health within an integrated healthy lifestyle service in the East of England. I focused on brining elements of behaviour change theory and health psychology training to the role. I focused primarily on adapting interventions to clients who wanted to quit smoking with a severe or enduring mental illness. The role allowed me to complete my teaching and training competency and my individual psychological intervention. My other role was a co-production and wellbeing worker supporting unpaid carers for a charity within the Home counties. This role involved a lot of service user involvement in policy changes. Furthermore, the role also focused on promoting wellbeing, for this, I chose to offer group exercise activities which I chose to do as my group intervention.

In May 2022 I progressed into a full-time role as a programme manager setting up and delivering a tobacco dependency pathway within an NHS mental health trust. This role primarily focused on intervention design, formulation and implementation. The role also included working across multi-disciplinary teams and raising the profile of tobacco within a mental health trust reframing the discussion of addiction over a lifestyle. Furthermore, the role also allowed me to engage in research and apply some findings from both my systematic review and my qualitative research. Lastly during the role I was also able to engage with external consultancy.

My last role I undertook starting in October 2023, which was not included as a placement as I had already completed the necessary time component, was a public health strategist within a London local authority. Within this role, I was able to complete some elements of my research and apply some findings to local interventions.

Chapter 1: Professional Competence in Health Psychology

This chapter is a reflexive report of my professional development as a Health Psychologist over my time on the Professional Doctorate conducting my training. The first section of the report centres on the core competencies required to progress from a training psychologist into a practicing Health Psychologist. The second section focuses on how I developed in a range of key professional skills as outlined by the British Psychological Society and Health and Care Professional Council. These include communication, development and maintenance of legal, ethical and professional standards, understanding organisational and systematic issues, service user and carer involvement, teamwork, providing advice and guidance to others, my own continuous professional development and personal development. This chapter was supplemented by reflections from my reflective diary which were the basis of my reflexive analysis.

Chapter 2: Advanced Research Methods

This chapter presents my three research projects I completed during my training. This begins with my systematic review. This explored the effectiveness of the Ottawa Model for Smoking Cessation compared to other forms of treatment using a meta analysis. The chapter will then explore my quantitative research project. This investigated community pharmacists attitudes and knowledge towards electronic cigarettes. This involved completion of a survey I constructed to explore attitudes and knowledge. Finally, the chapter will look at my qualitative research project. This project was a result of the recommendations from my systematic review and used a template analysis approach to understand the barriers and enablers to implementing the Ottawa Model for Smoking Cessation within inpatient mental health services within the NHS. Each research project is accompanied by a reflective commentary outlining the initial scoping and how the project developed, the rationale behind the decisions made within the research and my own reflections of completing each of the three projects.

Chapter 3: Consultancy

This chapter outlines the consultancy project I completed with a local authorities co-production team using a mix of consultancy styles in my approach. The project was due to begin in early 2023, however was delayed by a number of months until later in the year. My role was to independently evaluate the teams co-production evaluation tool. This included analysing interviews using thematic analysis and limited analysis of some survey data. This required me to write a short report on my findings and present to a large group of both professionals and experts by experience the report. The experience taught me the consultancy process consisting of initial contact, contracting, developing the project, delivering the deliverable, project management and client feedback. The project was successfully completed late in 2023 with positive feedback from the local authorities co-production team.

Chapter 4: Teaching and Training in Health Psychology

This chapter explores the teaching and training I delivered during the programme. This included developing, planning and delivering a series of five teaching sessions on a range of areas related to health promotion and health psychology. These sessions were conducted between late 2020 and early 2021 and were the first competency I completed. The teaching were to a diverse audience including a mix of healthcare professions including nurses, physiotherapists, pharmacists and pharmacy technicians, healthcare assistants, junior doctors and occupational therapists. Other individuals were also a group of undergraduate psychology students and a mix of community healthy lifestyle workers within an integrated healthy lifestyle service. As this was early into my doctorate with the Covid-19 pandemic, my teaching was all online. This did allow me to incorporate a range of teaching methods and materials including powerpoint presentations, case studies, handouts, videos and games to

check for knowledge. The chapter will also detail the assessment and evaluation of the learning outcomes through formative feedback, questionnaires and verbal feedback from learners and organisers. This emphasised the importance of ensuring the content created matched the specific learning needs and styles of the learners in attendance, whether healthcare professionals or other groups. This chapter also contains my own reflections on the experience of delivering teaching and explain my decision making and rationale for my choices made during this competency.

Chapter 5: Psychological interventions

The final chapter will show the two case studies I used to complete the psychological interventions competency. This will demonstrate the assessment, formulation, intervention design, delivery, and the evaluation of the psychological intervention I conducted. The first case study is my individual intervention which I completed online due to Covid-19 in early 2021 where I worked with a client to support them to stop smoking who had previously been unsuccessful in stopping using the nationally approved approach to supporting a client to quit smoking. My second case study details my group intervention aimed at improving physical activity levels, happiness and self-esteem through group exercise within a group of unpaid carers. Both of the interventions also have a reflective commentary outlining my own reflections throughout the experience of delivering the interventions explaining the rationale behind my approach and decision making. They will also note my own learnings from the experience.

Dates of competencies undertaken

Competency	
Research Methods Systematic review Qualitative research Quantitative research	 January 2022 – January 2023 June 2023 – January 2024 January 2024 – November 2024
Psychological interventions Individual intervention Group intervention	 November 2020 – June 2021 October 2021 – March 2022
Teaching	November 2020 – June 2021
Consultancy	February 2023 – November 2023

Chapter 1: Professional Competence in Health Psychology

1.1 Reflexive report

Introduction

I started in September 2020 where the Covid-19 pandemic impacted how we were taught, how I learnt through the online setting, how I completed each competency, my relationships with staff and peers, but also my placements. Across my four and a half years on the doctorate, I learnt to adapt to the challenges of the course as I progressed through the different stages required to become a practicing psychologist.

I had four placements across the doctorate which developed my skills in the required competencies to practice as a psychologist. Changing placements allowed me to gain experience in different types of organisations (Charities, commissioned services, NHS, and local authority). I also developed new skills while learning from a variety of professionals who supervised me.

My first placement was delivering smoking cessation interventions specialising in supporting those with mental health challenges. Two months into the course, I went part time as the role lacked opportunities for progress and I was keen to develop myself. I began a part time role within a charity supporting unpaid carers to become involved with the co-production process. A success of this role was ensuring unpaid carers were represented when policy changes were made to allow those with co-occurring substance misuse disorder to access treatment from mental health services. A small number of carers were pivotal in this change, and I was fortunate to support them. The role also incorporated promoting carer wellbeing.

After 18 months combining placements, I changed to a new role developing and delivering smoking cessation programmes for mental health inpatients within the NHS. This role allowed me to implement my knowledge of smoking cessation coupled with what I learnt from the psychological interventions module to deliver effective behaviour change. This role helped me develop in designing and modifying interventions in health promotion as previously I followed a national framework for smoking cessation interventions (National Centre for Smoking Cessation and Training, 2019).

After 18 months, I moved into a joint role between local authority and the NHS. This role focused on delivering public health strategy in tobacco control while developing and supporting pathway implementation of smoking cessation services within the NHS. This role solidified my understanding of a health psychologist not needing to be patient facing and developing interventions on a wider scale is as important as 1-2-1 interventions.

Through the doctorate I kept a reflective diary using Gibbs (1988) reflective cycle to support my reflective practice. Using these experiences, this reflective report will summarise my time from September 2020 to January 2025. This report will be broken into two sections. The first provides an overview of the five competencies. The second summarises how I developed and evolved in the eight professional skills required to be a practicing health psychologist.

Research

Before the doctorate my experience of research was limited to work completed during my BSc and two MSc, one in psychology and one in health psychology. My aim in completing my doctoral studies was to produce meaningful research benefiting my placements, be engaging for me, while also meeting the learning objectives of the module. Each of my placements afforded me time to complete parts of the research. I had not written at a doctoral level before which required me to improve my writing style throughout the course. Both leading and being accountable for research undertaken is a key component of being a researcher and a health psychologist.

Three of my four placements focused on smoking cessation which provided opportunities to conduct research. All three research pieces were on smoking cessation. A key learning from the doctorate is to understand what is feasible to be completed within a given timeframe.

I conducted the systematic review first. The idea came from my service manager asking about the Ottawa Model for Smoking Cessation (OMSC) (Reid et al., 2006) within the NHS Long Term Plan treating tobacco dependency (NHS, 2019) and what this meant for smoking cessation services. I found the approach originated from Canada but limited references within the NHS Long Term Plan. While there was clear evidence the OMSC worked, few studies provided a comparison to another smoking cessation programme. Taking this as a basis for a research question, I discussed with my manager how this would benefit the service. Initially hesitant, I pitched how this would be the first review of the OMSC while also gaining an understanding of how the approach could impact our service.

As this was my first systematic review I was apprehensive about completing the work. However, reading other systematic reviews while taking the time to understand the process alongside supportive supervisors, I broke the process into smaller chunks including; writing the research questions, searching the literature, screening, quality appraisal, data analysis, and writing the manuscript. Each posed challenges but ones I enjoyed working through. The findings were the OMSC was more effective compared to usual care within acute setting. I feel better suited to conduct a systematic review now, and since, I have been able to include how I search literature and undertake quality checks in subsequent scoping reviews I conduct (See appendix 1).

A recommendation from the systematic review was understanding the effectiveness and implementation of the OMSC in mental health settings. I had changed placements to lead on implementing the OMSC within a mental health trust. Aware of the challenges I faced and how other trusts were struggling, it provided an opportunity to undertake a piece of research.

I based my original research question on a quantitative approach in acute hospitals (Rodrigues et al., 2022), but speaking with my academic supervisor, the viability of this would be low in mental health. Instead, the project pivoted to qualitative. Conducting interviews and learning template analysis was an enjoyable experience. One area I needed to develop was writing the manuscript and making concrete links to other literature within the discussion. This is an area which still requires work, but

writing succinct reports for public health professionals has helped adapt my writing styles.

My quantitative study used secondary data collected during my final placement. Throughout the doctorate, perceptions of e-cigarettes have changed from being a quit aid to a lifestyle choice creating a challenge for my role in tobacco control. As I looked to commission community pharmacies to deliver smoking cessation services, I wanted to include e-cigarettes in the offer, but there is limited evidence on how pharmacists view e-cigarettes. I developed a survey to understand beliefs and knowledge of pharmacists towards e-cigarettes ensuring the survey was underpinned by health psychology. Findings found pharmacists would provide e-cigarettes if they had more knowledge of these. When completing the analysis, it was clear questions regarding lifestyle had been missed which would have increased understanding further. As I used other research initially with survey design, these too had not included lifestyle questions. It is both a missed opportunity and a learning experience. I am now more mindful of how lifestyle influences professionals opinions.

From the survey I have applied the findings to COM-B (Michie et al., 2011) designing an intervention to improve pharmacists capability and motivation to provide e-cigarettes. This was supported by my Director of Public Health which gave me confidence. This was my first time taking primary research and applying this to an intervention to benefit the population I serve which was a key aim for me in this competency. It also helped me understand what is needed to be as a health psychologist.

I was unfortunate to fail in my submission of this first time around. This was another failure and each one presents learnings to understand why. For this, the quality of the writing was lacking coupled with missing some necessary appendices. Taking the learning from this, it is important I check the full submission details to ensure compliance.

Across the competency, my confidence in my ability to conduct research has grown, but my writing still needs to improve. As I write for different audiences regularly, it is important to ensure I am mindful of who makes up the audiences and making the content appropriate to their knowledge/interests. I recognise there is still work for myself in writing for publication within scientific journals. Publication has not been a high priority for me. As I look to finish the doctorate, seeking publications will provide additional learning and development opportunities as I forge my early career as a health psychologist. I have been fortunate to share my work at conferences as an interim before seeking publication in future.

Consultancy

I had limited knowledge of what consultancy was prior to undertaking this. For my consultancy, I worked with a local authorities “Co-production team” to evaluate their co-production tool. I feel I developed a number of skills while completing consultancy including writing contracts and negotiating what should and should not be included. In my current role, I am now responsible for managing contracts requiring negotiation and ongoing management to ensure deliverables are achieved. Consultancy allowed

me to understand this dynamic better and empowered me to seek clarity when working with service providers.

A further learning which happened through me failing my first contract submission was ambiguity favouring the client. I learnt how my original contract would have left me exposed in a legal challenge. Through understanding this ambiguity, I was able to challenge a provider in having an unsafe vending machine removed to improve patient outcomes. I understood and exercised the break clause without breach of contract (Appendix 1). I would not have felt confident to challenge this while being threatened with legal action had I not learnt from my earlier failure and what consultancy subsequently taught me.

Consultancy provided further learnings I took forward. For each project I work on, I make sure to understand what is my responsibility and what I control. Furthermore, my main area of improvement is communication. This includes providing service updates and regular check-ins with service providers/stakeholders ensuring projects remain on track and both parties can seek clarity when needed. I feel my communication improved the most from failing the contract. I was open to my failure and outlined the next steps aligning these with the client. Throughout, I was honest, open and clear in communicating. This encouraged me to develop my communication further and something I seek within my professional development.

An area I struggled with was being an "expert". My current role considers me an "expert" and consultancy encouraged me to embrace this. A learning is ensuring enough expertise as the "expert" but empowering those I work with so they are not reliant upon me (See appendix 2). I am yet to offer my services through consultancy, however, I do feel I have acquired the necessary skills to be a consultant while practicing as a psychologist.

Teaching

Before the doctorate I had delivered training to healthcare professionals, which meant I felt more confident in this competency. I looked forward to understanding how to develop teaching/training sessions further while tailoring these to specific groups using broad principles I could apply. The competency allowed me to design, implement and evaluate teaching for healthcare professionals, university students and non-specialist audiences.

Due to the pandemic, my sessions were online allowing me to develop skills in designing and delivering through different platforms (Zoom/MS teams). It encouraged the use of technology to meet learning objectives and check knowledge in different ways. Speaking to the void was unsettling at first, but with time became normal. I have become more adept at understanding how to engage audiences with online teaching and something I continue to develop.

Reflecting on these experiences, I have taken learnings into subsequent teaching/training I have delivered. This includes checking for progress throughout by including activities to foster deeper learning while noting differences between online and face-to-face settings.

Since completing the competency, I have continued to deliver teaching/training including delivering behaviour change theory to MSc public health students. This has furthered my knowledge of what is required to deliver teaching within a university ensuring my learning objectives fit with the wider module outcomes. Furthermore, I have also developed in providing feedback. I have provided some trainees feedback on their teaching and enjoyed this (See appendix 3). Understanding delivering feedback meaningfully is something I continue to develop in. Skills learned during this competency have increased my confidence in delivering teaching/training and I am pleased with how I progressed. I will continue to seek opportunities to progress and develop as a health psychologist.

Psychological intervention

Before the course I had delivered behaviour change interventions within smoking cessation. However, these were prescriptive following a national intervention (National Centre for Smoking Cessation and Training, 2019). I lacked experience applying behavioural science and therapeutic techniques in group or one-to-one interventions. Knowing the importance of professional boundaries when working as a psychologist (British Psychological Society, 2018), when formulating or delivering, it is important to listen to what the evidence suggests, understand if I possess the skills and have a rationale for their use.

Both interventions were delivered remotely due to the pandemic. A learning was checking for understanding when discussing parts of an intervention. When face-to-face, it is easier to see visual cues. After each session I would reflect and consider how what I had proposed was processed by the client. This encouraged my communication skills and to develop adapting my language and approach to ensure client understanding.

Within my individual intervention I supported a client to quit smoking. They would often not follow the proposed intervention instead reverting to what they thought would work. I asked why and found out they had not understood and lacked trust in me. Trust is important between a practitioner and client (Keegan, 2015). I explained the intervention in full with the rationale being to build the client's confidence and trust. This experience helped in how I break down complex theories to "lay audiences" in ensuring understanding of a concept (See appendix 4).

In developing interventions further, I now have more confidence in my ability to undertake a formulation and apply the right evidence to a proposed intervention. Having developed through the module, I felt empowered when changing placement to supporting service users with severe mental illness to quit smoking. Aware of evidence of what does and does not work, I took time to assess, formulate, design, plan and deliver over 50 interventions using different theories of behaviour change with a clear rationale. I also understood evaluating an outcome including success is different for each client compared to my own understanding of success. I am more open to meeting client goals and making this the outlook of success.

I still need to develop in other therapeutic techniques to ensure I am a rounded psychologist. However, my current role within public health has fewer options to learn and apply these techniques. To improve my knowledge I have spent time with assistant

psychologists to understand delivery and formulation of different techniques. I have also attended workshops and seminars on applying different therapeutic styles to long term conditions. Continuing to learn and understand these techniques is important in my ongoing CPD.

Professional competency

Being a reflective practitioner is key for a health psychologist's CPD. Within this, it is important to review our ways of working while critically reflecting our experiences. Throughout I have kept a reflective diary. This was new and I struggled to understand what a personal or professional reflection were. Furthermore, it was a new routine which was challenging when there was little to reflect on. This was in itself a reflection and a learning opportunity (See appendix 5). I tried to utilise Gibbs (1988) reflective cycle to structure my entries. Identifying challenges and successes while reflecting on these allowed me to understand the key learnings from each experience.

Both the HCPC (2024) and BPS (2018) have guidelines and values practicing psychologist must align and model oneself too. One is responsibility. By its very nature, being responsible for our own practice is important, but also the impact on those around us, whether client or colleague. At times in placement I felt overwhelmed or frustrated with what happened around me impacting my work, the client I supported and my own wellbeing. I had not always acted "correctly" and since reflected. I now approach these situations differently to achieve a meaningful outcome without impacting professional relationships or my wellbeing. Instead, I am mindful to see both sides and think through my approach ensuring my actions are aligned to improving outcomes for clients, colleagues or myself (see appendix 6).

Throughout the course I have failed several submissions. Within research, the last piece of work dented my confidence the most as this was close to the end and I thought I addressed the challenges which blighted my earlier submissions. With each failure, I took this as a learning opportunity, adapting my style, continuing to grow and trying to be resilient to the challenges. This was possible each time, and I feel having had failures, it provided a new resolve in how I challenge myself and those I work with to be confident in embracing challenge while being open to failure as an opportunity to learn. Yet, there is still doubt from within of whether I am competent to be a health psychologist. This forces me to question decisions and I am learning to do this in a way encouraging my development. Without some setback, I do not feel I would be able to challenge myself and develop as a professional in a way I have done. I take lessons from this, acknowledge my shortcomings, work to address these while always trying to ensure I deliver the best me.

At times I have not been engaged with my reflections which impacted my own practice and my development. I am pragmatic in my approach now by noting a reflection initially and then develop this further at a later time. Using Gibb's reflective cycle has allowed me to develop how I reflect and what I gain from each experience. I now value reflections and through my career I will ensure I continue to reflect to develop my own practice.

Section 2: Professional skills

Developing and maintaining systems for legal, ethical and professional standards

Upholding the professional, ethical and legal standards set by the BPS and HCPC are integral to a psychologist. I have understood and demonstrated these standards. During my third placement, as I had not worked in mental health services before, it was important to understand the Mental Health Act (UK Government, 1983). As I did not deliver psychological interventions as "medical treatment", it was important to understand how smoking cessation fits within the Act to ensure compliance. Further examples include obtaining ethical approval and informed consent before conducting research. Furthermore, where appropriate ensuring anonymity and confidentiality through removing identifiable information adhering with university and placement guidelines which build upon the General Data Protection Regulation (UK Government, 2018). Ensuring appropriate understanding of confidentiality of patient information helped in placements where I work across teams both internally and externally. Protecting patient data with safeguards is important for practicing psychologists (See appendix 7).

Within my first placement delivering smoking cessation, the service was target driven ensuring a percentage of quits were met. This creates a perverse incentive to meet targets to ensure funding carries on while open to manipulation of outcomes (see appendix 8). I noted a tendency for clients to fail and immediately undertake a new quit attempt where evidence suggests a break between attempts can lead to future success by learning from past experience and building motivation. I provided evidence to support this theory while demonstrating a cost-saving to the service prompting a change in approach. This was taken to commissioners who modified targets to reflect some of my findings and improve outcomes for residents (See appendix 9).

Safeguarding requires psychologists to recognise and act with efficiency and accuracy to issues which arise. At all placements I undertook safeguarding training for both adults and young people to understand differences and similarities. Within my second placement with carers, topics could prove emotive and disclosures could inadvertently happen which could raise safeguarding concerns. This happened multiple times when I ran sessions, but I was often lone working. Raising this, we were able to ensure two staff were present to guarantee a concern was addressed appropriately in a timely manner while keeping staff supported. I am pleased to have brought this to the service.

Further safeguarding as a professional is important in understanding my own competencies and limitations and being prepared to signpost and refer where necessary. This happened often in my first placement in smoking cessation where I would refer to other professionals as clients would disclose trauma impacting their ability to quit. It was important when referring a patient I explained why I could not support them as I was not trained. However, this would ensure they received the support they needed.

Communication skills in different context

Effective communication is fundamental for psychologists (HCPC, 2024) whether in formal or informal settings, verbal or non-verbal communication, or speaking with

professionals, patients or non-specialist audiences. Across my placements I had to develop effective communication skills with several experiences demonstrating varying ways I communicated with different audiences.

Within my fourth placement, I co-designed resources with specialist populations to increase cultural awareness of smoking in services. This included the smokefree home during pregnancy where smoking is part of a culture in some communities. Working with the community, I co-designed resources to encourage conversations between midwives and households. This altered the perception of smoking through resources co-designed with the community to communicate the risks through trusted health professionals.

Knowing an audience when communicating is important. I have been tasked with writing the same information for different audiences which was challenging. However, during my time with carers, I used software allowing me to test the reading age which improved how I wrote for different audiences and something I use still. This includes during public health campaigns. Recently I supported substance misuse and sexual health campaigns beyond my role with tobacco. I have written for senior NHS managers and locally elected officials who have varying levels of knowledge of the topic. I have delivered presentations to both large and small groups at conferences, teaching sessions or internally. Furthermore, I have delivered interventions and teaching both online and in-person requiring subtle adaptions. Lastly, the use of text messages for motivation is something I have built into interventions during the doctorate.

I am conscious I need to understand other forms of communication including social media to enhance a messages reach while being mindful of the drawbacks which come with social media. Furthermore, I have less patient contact now meaning I need to maintain skills in communicating with patients which is key for a practicing psychologist.

Providing health psychology advice and guidance

Starting the course, motivated and naïve I thought individuals would want to hear advice. Instead, the opposite was true, having to prove my worth, earning trust while waiting to be asked or the right time. Early in my placement with carers, my service manager asked for advice on a commissioned research project believing they were not close to the project aims. Previously I had demonstrated my knowledge of research principles and when asked I provided the necessary information/advice. If I had proffered this advice when not asked, the outcomes would have been less positive.

I provided advice to different healthcare professionals on elements of behaviour change to influence patient conversations. I also supervised students undertaking their MSc public health dissertations with guidance on undertaking a research project.

During my third placement, I was considered an “expert” on tobacco regularly consulted by the trust. As I was asked and understood the question, opposed to answering what I thought was asked, mistakes I previously made, there was a gradual change in the approach to tobacco which improved patient outcomes. This included how e-cigarettes were viewed as a quit aid and nicotine being a chronic addiction and

not a lifestyle. I would provide advice and guidance supported by research and deliver this clearly and succinctly. Having senior staff believe in me increased my confidence in my ability to provide advice and guidance as a health psychologist.

Developing and maintaining teamworking skills

Prior to the course I had worked in different roles within a team. These roles, and those taken throughout placements aided my development. I undertook Belbin's (1981) team role questionnaire to understand what type of person I was within a team. My top two were "resource investigator" and the "plant". The "resource investigator" acts as a source of information and ideas, using networks to expand ideas and knows the right people to develop a project further. The "Plant" is the ideas person who are good at generating ideas to cope with problems faced. These both felt like me, particularly as my last placement I was recruited to understand ways to improve tobacco control within a local authority. This looked for both out of the box thinking but also an understanding of resource allocation with what was feasible. I also acknowledged when I started other projects where I would need support and identified who they were to improve the wider project aims.

Across my placements I experienced being both the most junior and most senior team member. When starting with carers I was the most junior with limited experience; I was hesitant to break out from the team as the area was new to me and I would adapt to the needs of the team ensuring tasks were complete. This included understanding the theory behind co-production. These tasks allowed me to develop within the team and with time, I became more valuable possessing skills and knowledge others lacked. By being empowered to seek skills and knowledge others lacked I became integral. As I now lead a team, I am mindful of having a rounded team using each other's skills/expertise but are not so reliant in case of their absence. I undertake skills assessments of myself and the team ensuring upskilling takes place so we can complement one another without dependence.

When I changed placement to leading a new service, it was a small team within a larger team of healthcare professionals. I became part of the MDT which was new for everyone as there was uncertainty of my role as "the smoking guy". However, I adapted some behaviour change theories to support patients beyond smoking under the supervision from other clinicians which changed perceptions of me with the wider MDT.

I now lead a team where I ensure equal opportunities to share knowledge, views and opinions for shared decision making. As the lead, accountability rests with me and I must take responsibility for failure and share in success. Across my placements they have allowed me to understand different ways teams operate. I am conscious of reflecting on experiences as a team member and leader and how I continue to develop my team working skills.

Service user and carer involvement

I was fortunate to complete a placement supporting carers with co-production. The role aimed to ensure the carers voice were equal to other decision-makers. Across the placement, I noticed how "I" as the professional was listened to more than those with

the lived experience the professionals were wanting (See appendix 10). I challenged this notion working to understand why this occurred. I found the emphasis on "I" the carer made professionals unsure if this reflected other carers experiences. As a professional I would summarise a collective experience/topic. I worked with a small group to change the "I" to "we", in turn altering how carers were perceived as a stakeholder as they knew others carers experiences.

Using carers experiences showed the need of getting the right balance of hearing concerns but pragmatism in what is feasible. In proposing a new protocol to a panel of professionals for mental health patients to quit smoking, service users were integral in helping me understand what was needed to succeed. They also helped change perceptions from senior staff on a topic deemed controversial despite evidence of effectiveness (Berlin et al., 2021). This was financial incentives. I designed an intervention with two service users including how the incentives were given and time scales while minimising the ability to game the system. They also helped present the proposal offering insight no panel member had. Although all concerns were addressed, the project was delayed as to how it could be portrayed in the media (See appendix 11). This was frustrating, but seeing how service user involvement changed perceptions from controversial to simply discussing behaviour change has sustained my ways of working to include experts by experience where appropriate.

Within my current placement, I have some funding for co-production and I can involve service users/carers in delivering new projects. I am keen to ensure my team understand the importance of involving these groups by including these in a co-production process as both learners then facilitators.

Understanding organisational and systemic issues

My placements covered areas including charities, commissioned services, local authority and the NHS. Challenges vary across these settings while training as a psychologist including confidentiality and boundaries. Within my carers placement, some team members were also carers outside their work and would use their own experience to shape a conversation to reflect their experiences, not the carers we were commissioned to support. As the charity had supported many carers, some sought work or volunteered when the time was right and the practice of oversharing seemed embedded. As I had not been a carer I could act impartially but this could create friction and addressing this was a challenge, both as a team and across the charity. I built an evidence base of what happened and presented this to the service manager as a way to improve services. Although difficult it benefitted the carers attending.

Moving into the NHS, healthcare professionals assumed consent to treat service users nicotine addiction. When raising this, it was a non-issue as this was considered a lifestyle choice. With time and developing relationships with staff, working on my language used, nicotine addiction became viewed medically focusing on treatment of addiction opposed to "the smoking guy is here". Speaking with colleagues across the NHS, this was apparent for many healthy lifestyle programmes was an assumed consent to treat. This is something I am more considerate of now I commission healthy lifestyle programmes.

Remaining apolitical is important in many roles I had, however, in my role in local authority, I began to understand how politics influences decisions impacting residents. The conservative government announced large policy changes for tobacco. Although I worked within a conservative council, they did not hold the same view as national government limiting the ability to increase support for these locally. The local authority were one of few not choosing to endorse these policies viewing smoking as freedom of choice. This created a learning opportunity for how to engage with stakeholders and address concerns of elected officials. I was unable to challenge the decision but I did increase their understanding of return on investment to allow local decision-making processes for tobacco to be an action within the health and wellbeing portfolio. These skills are invaluable in working with stakeholders in achieving the outcomes even when politics are involved. Understanding organisational and systemic issues will strengthen how I work as a health psychologist.

Need for engaging in continuous professional development

Undertaking CPD is important for all health psychologists. Across the course, I have been able to undertake CPD ensuring I practice safely and effectively. Early in starting psychological interventions, I realised I lacked some basic therapeutic skills. From this, although I have not engaged in formal qualifications, I have attended sessions discussing principles and application of different counselling styles ensuring an understanding of techniques used. Furthermore, within my NHS placement, I attended some psychological skills training providing basic counselling skills in CBT which I can include in delivering smoking cessation. In my current placement, I have joined the behavioural science in public health network to understand how these two interests intersect.

Further opportunities have arisen including attending academic and professional events/workshops and conferences. These include the smoking cessation and health conference, the annual Staffordshire Health Psychology conference and the Association of Respiratory Nurse Specialists conference. Beyond these, workshops have included understanding behaviour change in different disciplines including long term conditions or preventing youth vaping. Furthermore, I have also attended sessions on public speaking to ensure data and information is shared meaningfully and is engageable. Lastly, I have joined sessions on evaluating public health interventions. These are opportunities which have helped my professional development in enabling me to become a practicing psychologist. It is important to maintain my CPD when qualified and the opportunities presented by these.

Developing as a professional health psychologist

Before the course, my knowledge of health psychology was limited to that gained on the MSc course. I noted areas for improvement in each module and sought to learn from those around me. One area I struggled was reflections and keeping a diary. Reflections challenged me to see how I could develop from each situation and how to act in future situations. This also includes how I “sold” health psychology. My placements would have limited contact with the profession, I would act as a model for the field. There are still challenges in my development, but I understand what is needed to be a practicing psychologist. One area is supervision.

Across placements, appropriate clinical supervision beyond university supervisors was limited. I am mindful I have progressed from patient-facing roles to strategic roles where I use behaviour change at population level. I am mindful as well my interests align less with therapeutic/counselling skills where regular supervision is important. However, I have been fortunate my supervision came from individuals with different professional backgrounds who brought other skills psychologists may not possess. I could not have started the course if health psychology were not a broad discipline allowing me to work in health improvement/promotion. This is a strength and my experiences and supervision provided by my supervisors from a broad range of professions to support my time as a trainee has helped me developed into a health psychologist.

To aid my development I reflected on professional practice with other professionals. I set up a regional professional development group within tobacco. Cases and wider systemic issues were shared and attendees could reflect and offer their thoughts. I benefitted from these groups over two years and I am mindful of the benefits these bring as my areas of working are less likely to have health psychologists widely employed to offer supervision. I do feel however I am likely to need external supervision to enhance my professional practice.

Each competency was challenging but posed opportunities to develop and learn. Within teaching I learnt the need to undertake needs assessments of learners where previously I made assumptions. This also impacted my presenting styles ensuring material is appropriate for the least knowledgeable so all can participate. Within consultancy, I learnt my preferred style of negotiation and where I still need to develop. I can learn from a commissioner who furthers my development through contract management exercises. Within psychological interventions, I learnt tailoring national interventions to an individual including undertaking a formulation. Furthermore, evaluating outcomes as successful will vary by patient and I learnt to understand what the outcome is when designing evaluations.

Each competency encouraged my development beyond the content taught and to understand what is needed to work as a health psychologist. It has shown my strengths and weaknesses including where to develop. In becoming a health psychologist, I must understand these strengths and weaknesses to ensure I continue to work within my professional boundaries protecting patients and myself. My future development I hope will ensure I continue applying behavioural science within public health to benefit individuals at population level.

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Chapter 2: Advanced Research Methods

2.1 Systematic Review Manuscript

A systematic review exploring the effectiveness of the Ottawa Model for Smoking Cessation (OMSC) in aiding smokers to successfully quit smoking.

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Abstract

Introduction: The Ottawa Model for Smoking Cessation (OMSC) is a system of behavioural support and pharmacotherapy offered within healthcare systems to engage and support smokers with quitting. The OMSC integrates evidence based treatment alongside accurate screening of smoking status, opt-out referrals and systemic cultural change within a healthcare system. This systematic review summarises the evidence for the effectiveness of the OMSC in supporting individuals in quitting smoking.

Methods: A systematic literature search was conducted in May, 2022 using six academic databases: CINAHL, Cochrane Library, PsycArticles, PsycInfo, PsycMed, and Scopus. Grey literature was also searched alongside key websites related to smoking cessation and the OMSC. Studies reporting outcomes from the OMSC were included; those without reference to the OMSC were excluded. A meta-analysis was conducted using odds ratios as effect sizes.

Results: The systematic review identified seven studies (*N=3902 participants)* which met the inclusion criteria. Participants who received OMSC exhibited significantly greater odds of quitting smoking compared to comparison participants (OR = 0.91, $p<0.001$).

Conclusion: The OMSC is effective compared to usual care when delivered within healthcare settings.

Implications: Smoking causes many negative health outcomes for individuals who continue to smoke. There remains a paucity of research understanding the effectiveness of the OMSC in supporting those admitted to healthcare settings to quit within wider settings. More research is needed to develop this evidence base.

Introduction

According to Public Health England (2021), smoking is a leading cause of premature death within the United Kingdom (UK). While rates of smoking within the UK are declining, 14.1% of the adult population are currently smokers (Office for National Statistics, 2020). There remains a need to provide evidence-based treatment and support for smoking cessation (Public Health England, 2015) to target those where traditional support may lack effectiveness.

Smoking cessation within the NHS are poorly aligned to support patients in quitting smoking when these are most susceptible to change (Buttery et al., 2022). This is a specific opportunity in which to encourage an individual to access support for smoking cessation when these come into contact with a health service (Frazer & Kelleher, 2018). The NHS Long Term Plan will deliver specific funding so everyone who receives care from maternity, mental health, or primary care services will be offered support to engage with smoking cessation services (NHS Long Term Plan, 2019). Furthermore, Core20PLUS5, (NHS England, YEAR) is an NHS approach to reduce health inequalities across the most deprived 20% of the population. This also suggests focusing support on ethnic minority , maternity and those with a severe mental illness

whilst highlighting smoking cessation as a key preventative strategy to reducing health inequalities.

An evidence-based model the NHS is considering implementing is the Ottawa Model for Smoking Cessation (OMSC; Reid et al., 2006). The OMSC was conceptualised and created at the University of Ottawa Heart Institute through identifying a lack of support for cardiac patients to quit smoking despite their admission being directly attributable to their continued smoking. The OMSC was created to engage smokers during their hospital admission by offering specialist support, pharmacotherapy, and post discharge support.

One reason the OMSC is seen as effective is all new admissions are screened for smoking status and those who smoke are automatically referred for specialist support within 48 hours. Each screening includes offering very brief advice on the harms of smoking while pharmacotherapy is prescribed. The initial screening is augmented by a smoking cessation adviser who offers specialist behavioural therapy. A Cochrane review shows combined behavioural therapy alongside pharmacotherapy is the most effective way for someone to quit smoking (Stead et al., 2016). This pharmacotherapy includes Nicotine Replacement Therapy (NRT), varenicline and bupropion but did not consider electronic cigarettes, although these are as effective as other forms of pharmacotherapy (Hajek et al., 2019). The smoking cessation adviser will ensure follow up support is available to maintain a quit attempt upon discharge. The offer of follow up support does require additional funding, but the OMSC has been shown as cost effective (Mullen et al., 2015; Evison et al., 2021) even where there may be an elevated initial expenditure with setting up the system (Pokhrel et al., 2016).

A further reason for the OMSC appearing effective is during a hospital admission, a patient can experience a ‘teachable moment’. A ‘teachable moment’ is a complex phenomenon which is poorly understood (McBride et al., 2003). Lawson and Flocke (2009) identified a ‘teachable moment’ as events or circumstances which can allow positive behaviour change, one synonymous with opportunity, albeit an unpredictable one (Locke, 2022). The OMSC can utilise this ‘teachable moment’ of a hospital admission by offering immediate support to quit smoking when an individual is most susceptible to behaviour change (Olander et al., 2016). The OMSC places smoking cessation staff with a patient within 48 hours who build and support their motivation to quit smoking (Michie et al., 2011) utilising the ‘teachable moment’ of their hospital admission (Reid et al., 2022).

A final reason for the OMSC appearing effective is a streamlined process of referral and subsequently support offered. During admission, patients are screened for smoking status using the 3A’s; asking about smoking status, provide advice on their chosen health behaviour, and acting on their intention to seek help by referring for support. The 3A’s are effective when used within smoking cessation due to the ease with which healthcare professionals can perform these (Boe & Ridner, 2021). Within a sample of UK health settings, only 1 in 7 are referred for smoking cessation support (Davidson et al., 2018). However, a delay between referral and support offered can

lead to a lowering of motivation within a patient and intention to quit may diminish (Aveyard et al., 2012). The OMSC reduces the likelihood of patient motivation decreasing as this aims to act on each referral within 48 hours.

By utilising a 'teachable moment', having an easy referral process, accurate screening and being cost effective, the OMSC appears an effective tool in increasing individuals likelihood of quitting smoking following a hospital admission.

Review rationale

The OMSC is a tool many healthcare systems are considering implementing to increase successful outcomes for patients regarding smoking cessation. However, there are limited studies which have tested the effectiveness of the OMSC on quit outcomes. It is currently unclear the impact the OMSC has on such outcomes within a review. Therefore, the current systematic review was conducted to establish how effective the OMSC is at increasing quit outcomes. The aim of this review is to report the results of a systematic review and meta-analysis of studies using the OMSC to increase rates of successful quit outcomes compared to usual treatment.

Research questions

1. Is the Ottawa Model for Smoking Cessation effective compared to usual treatment as a community or hospital-based model of smoking cessation support?
2. Is the Ottawa Model for Smoking Cessation effective amongst different population groups (e.g. Severe mental illness, pregnant individuals, ethnic minority groups)?
3. How effective is the Ottawa Model for Smoking Cessation when delivered in combination with different forms of pharmacological support (Nicotine Replacement Therapy, Varenicline, Bupropion) or electronic cigarettes?

Methods

This systematic review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2015). A protocol for this systematic review was registered with Prospero. Prospero registration number: CRD42022298708

Eligibility criteria

Inclusion criteria were classed according to PICO (Methley et al., 2014), specifying the population, intervention, comparison, and outcomes. The intention is to include only RCT's within this systematic review.

- Population: Current smokers
- Intervention: Ottawa Model for Smoking Cessation

- Comparison: Smokers who received usual care, a placebo, no therapy, or monotherapy (Behavioural or pharmacological)
- Outcome: Biochemical, through either cotinine or carbon monoxide validation, or self-reported cessation from smoking

Studies were excluded if these did not meet the eligibility criteria, follow the OMSC protocol (Reid et al., 2006) or report cessation outcomes. Only English language studies were included as there were no resources for translation. Limits were placed on year of publication from January 1st, 2006. This was selected as this is the first identified research referencing the OMSC (Reid et al., 2006).

Information sources

A comprehensive search was conducted in May 2022, using six databases: CINAHL, Cochrane Library, PsycArticles, PsycInfo, PsycMed, and Scopus. Additionally, key websites relevant to smoking cessation were searched including the Department of Health, the National Centre for Smoking Cessation and Training, the National Institute for Health and Care Excellence and the University of Ottawa Heart Institute. Searches were also conducted in CADTH grey matters, OpenGrey, Wonder, and Zetoc. Relevant authors, as agreed by two authors (PM & KC), alongside key researchers identified through the reading of journals were contacted. A final search was completed in December 2022, which did not find any further studies to include.

Search strategy

An example of the electronic search strategy is as follows:

("smokers" OR "ex-smokers") AND ("smoking cessation" OR "stop smoking" OR "smoking therapy" OR "smoking abstinence" OR "Tobacco dependence" OR "Adjunct Behavioural Support") AND ("OMSC" OR 5 A's" OR "3 A's" OR "Ottawa Model" OR "CURE") AND ("pharmacotherapy" OR "varenicline" OR "nicotine replacement therapy" OR "bupropion" OR "e-cigarettes") AND ("smoke free" OR "quit" OR "abstinent" OR "ex-smoker" OR "non-smoker").

Searches in databases used the same free text terms and used thesaurus terms relevant to that database.

Study selection

After duplicates were removed in Refworks, all articles were screened for inclusion. The title and abstracts of all identified studies were screened by the first reviewer (PM), with 10% screened by a second reviewer (KC). Following this, all full texts were screened by the first author (PM) with a second reviewer (KC) reviewing 30% of articles. Inter-rater reliability was high (Kappa = .79; 94% agreement). All disagreements were resolved through discussion.

Data collection process and data items

Data was extracted from included studies using the Cochrane "Data collection form for intervention review: RCT's and non-RCT's" (Cochrane, 2014) as a guide. Data extraction included study characteristics, participant characteristics, intervention and control group details, and smoking cessation outcomes. Data extraction was completed independently by two authors (PM & KC) who are both trained in smoking cessation. Data extracted had a high agreement and where disagreement arose, this was resolved through discussion. Authors were contacted to provide additional information if data was not published, however, no further data was generated this way.

Quality assessment

The Cochrane Risk of Bias 2.0 (Higgins et al., 2011) tool was used to assess the risk of bias within the included studies. The Cochrane Risk of Bias 2.0 has been used to assess smoking cessation interventions in other reviews (Hersi et al., 2019; Knock et al., 2019; La Torre et al., 2020). The risk of bias was undertaken by two authors (PM & KC) who independently assessed the risk of bias for all included studies. Risk of bias is categorised as high, some concerns, or low for the following domains: "risk of bias arising from randomisation process", "Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)", "Missing outcome data", "Risk of bias in measurement of the outcome", and "Risk of bias in selection of the reported result". In addition to judging each domain separately, an overall judgement on risk of bias for each trial was reached by consensus by both reviewers. Where disagreement arose, this was resolved through discussion. Inter-rater reliability was high (Kappa = .71, 88% agreement).

Summary measures

The summary measures used in studies were biochemical verification (carbon monoxide or cotinine) or a self-reported quit. Length of time post cessation was taken at the largest available time point up to six months, which was selected as this is a common marker in studies measuring effectiveness of smoking cessation (Stead et al., 2016).

Data synthesis

Odds ratios were used to determine the likelihood of an individual quitting smoking when using the OMSC compared to the control. Scores closer to, and above 1 suggest those using the OMSC are more likely to have quit compared to those in the control group. A forest plot was used to display results. Tests of heterogeneity between studies and publication bias are also included. Publication bias was assessed using funnel plots and Egger's Regression Test.

Results

Study selection

Study selection is illustrated in Figure 1. A total of 6675 records were identified through searching databases after the removal of duplicates. No further studies were identified through forward reference list searching or contacting authors. Screening of titles and abstracts resulted in 6606 records being excluded, leaving 69 full texts for screening. Sixty two were excluded for a number of reasons. The primary reason for exclusion was the study being unrelated to the OMSC (n=34). The other common reasons for exclusion included not meeting the definition of the OMSC (n=10) and unclear outcomes (n=10). One key study (Evison et al., 2020) was excluded because there was no control group, although this met all other criteria. A total of seven studies were included in the review.

Insert figure 1 here

Study characteristics

Table 1 summarises the intervention characteristics and results of the seven included studies. No included study were RCT's as all data collected for a comparison group was either historical data prior to implementation of the OMSC within the hospital (n = 6), or a wait-list control (n = 1). All studies included used usual care as the control, even with the wait-list control. Studies included used different lengths of success from 1 week smoke free to 6 months.

A total of 3902 participants were included within this review. The intervention group had 1538 participants, smaller than the control group with 2364 participants. The control group all received usual care for each hospital prior to OMSC implementation. Reporting of participant demographics including the age, ethnicity and gender was inconsistent across the studies. Three studies reported gender characteristics of participants by OMSC and usual care group (Li et al., 2018; Mullen et al., 2017; Papadakis et al., 2011). Of these three studies, 49.2% of participants were male within the OMSC group compared to 47.67% within the usual care group. In total, gender was identified within 38.6% of all included participants. None of the included studies reported significant differences between their intervention of usual care group for gender. Each of these studies included the age of participants. Li et al., (2018) average age of participants was 64.9 years, Mullen et al., (2017) was 52 and Papadakis et al., (2011) was 54. Reid et al., (2009) reported the characteristics of all participants. Of the whole sample, 60% were male and the average age was 55.6. Of the included studies, only one cited the socioeconomic status of the participants (Mullen et al., 2017) showing within the OMSC group, 49.1% were from the lowest two income quintiles and within the usual care group, 50% were from the lowest two income quintiles. Nahhas et al., (2017a) provided detailed participant demographics, including ethnicity, of all admissions through the healthcare system without focusing on those in either the OMSC or usual care group. We were unable to extrapolate this data meaningfully. Two studies did not provide meaningful data for participant

characteristics beyond the size of the OMSC and usual care groups (Papadakis et al., 2013; Reid et al., 2018).

Three studies implemented the OMSC during admission to a hospital setting (Mullen et al., 2017; Nahhas et al., 2017a: Reid et al., 2009), one was within a stroke clinic (Papadakis et al., 2011), one within a diabetes education group (Reid et al., 2018), one with a General practitioners (Papadakis et al., 2013) and one within a rehabilitation hospital (Li et al., 2018). Of the seven studies, only one (Nahhas et al., 2017a) did not originate from the University of Ottawa Heart Institute, the creators of the OMSC. Mullen et al., (2017) detailed the medical conditions of all included participants. Hypertension and chronic obstructive pulmonary disorder were the most common medical condition with 41.84% and 29.55% of participants.

Insert table 1 here

Quality assessment

The overall risk of bias using the Cochrane Risk of Bias 2.0 (Higgins et al., 2011) showed all studies had 'concerns'. Two areas scored high for each of the studies: 'Risk of bias due to deviations from the intended intervention', and 'Missing outcome data'. One section reported low across all seven included studies. This was 'Risk of bias in selection of reported results'. Although six of the seven studies originated from the institution which created the OMSC, there was no evidence of publication bias as shown in a forest plot (Figure 2). Furthermore, Egger's regression test was not significant (0.54, $p = 0.59$) and the fail safe N value of 226.

Intervention effects on main outcomes

Figure two shows the outcome of a meta-analysis of odds ratios generated for the seven studies. Overall, those receiving the OMSC had the highest odds of successfully quitting smoking compared to usual care within each setting (OR = 0.91, SE = 0.11; Z = 8.37, p <.001; CI [0.70; 1.12]). Odds ratios ranged from 0.61-1.71. Heterogeneity between studies' effect sizes was low (Q = 7.07, p = 0.32, I2= 20.55%). The largest effect was shown in Papadakis et al., (2013). Two studies (Li et al., 2018; Papadakis et al., 2011) showed no effect of OMSC compared to usual care because the confidence intervals included zero. Alongside the significant odds ratio, the OMSC has a successful quit rate of 38.49% in comparison to the usual care group with 19.2%.

Insert figure 3 here

As all settings of included studies were primary care, no studies considered other settings including maternity or mental health. Furthermore, outcome by ethnicity was not possible to determine due to limited reporting within included studies. Additionally, only NRT was used, it was therefore not possible to compare other forms of pharmacotherapy and electronic cigarettes.

Discussion

To our knowledge, the current review is the first to systematically assess the effectiveness of the OMSC. Results from the meta-analysis of odds ratios show patients

who received an intervention based on the OMSC had higher rates of successfully quitting smoking compared to the comparison group. Due to a lack of studies, we were unable to compare results across settings for the effectiveness of the OMSC. Furthermore, all studies used NRT as the choice of pharmacotherapy, therefore we were unable to establish if choice of pharmacotherapy impacted the effectiveness of the OMSC.

One key study not included within this meta-analysis due to no control group was Evison et al., (2020). This had the largest sample within the intervention group of 1450 patients. Evison et al., (2020) utilised the OMSC framework within a large primary care NHS trust in the UK to support those admitted to stop smoking known as the "CURE" project. Of the sample, 36.2% successfully abstained from smoking at 12 weeks. Although this did not have a control group as historical data could not be obtained, this does show the feasibility and effectiveness of implementing the OMSC in other countries beyond Canada and the USA.

Other studies have shown brief healthcare initiated smoking cessation programs, beyond the OMSC, increases the chance of successful outcomes for the intervention group (OR=1.78, Wray et al., 2018). Hartmann-Boyce et al., (2021) found in an umbrella review, those who received behavioural support increased their chance of a successful outcome (OR = 1.44). Although the effect size reported in this review is smaller (OR = 0.91), this does show the OMSC as effective in supporting smokers to quit.

Each of the included studies showed a higher percentage quit rate for the OMSC compared to the control, although two studies (Li et al., 2018; Papadakis et al., 2011) showed no difference between control and OMSC. A potential reason for this is both used a small sample which can reduce the likelihood of finding a significant effect size. A further potential reason for a decreased effectiveness is the healthcare setting. These studies used a stroke clinic and a rehabilitation hospital. These are settings where motivation to commit to behaviour change may be lower as a hospital admission can be a strong motivator to quit smoking (Clark & Moss, 2011). Only one study (Nahhas et al., 2017a) measured participant motivation showing intention to quit was higher than their confidence to remain smokefree.

However, Reid et al., (2018) and Papadakis et al., (2013) did not use the hospital admission as a driver of change as these were conducted in a diabetes education group and through general practitioners. General practitioners are in a position to influence behaviour change and may explain why this was successful within this setting opposed to a stroke clinic or rehabilitation hospital where these may not be led by doctors. Health education can prime individuals to commit behaviour change by using skilled professionals to use motivational interviewing to take their motivation into action (Sepúlveda-Sánchez et al., 2018). By offering a referral for support immediately can sustain the intention to commit to behaviour change.

Components which make the OMSC effective

The effectiveness of the OMSC is reliant upon opt-out referrals and the 3A's; asking about smoking status, advising on benefits of quitting smoking, and acting by referring

to a specialist. Santi et al., (2022) showed that independently the 3A's and opt-out referrals increase successful outcomes in primary care for smoking cessation.

Many healthcare professionals identify providing advice on health promotion can damage the patient-practitioner relationship (Godin et al., 2008), while many healthcare professionals remain unsure where to send health promotion referrals (van Schayck et al., 2020). Within a sample of UK general practitioners, only 8% would discuss smoking (Asthhma UK & British Lung Association, 2021). Martinez et al., (2017) found healthcare professionals need more training to implement effective referral pathways and to have the confidence to discuss health behaviours. The use of opt-out referrals to make this easier for healthcare professionals in different settings is being explored (van Westen-lagerweij et al., 2022).

The 3A's are non-confrontational and easy to teach for healthcare professionals. Patients expect to be asked about smoking status (van Rossem et al., 2015), and patients report positive experiences of healthcare professionals using the 3A's as a tool to discuss their smoking (Evans et al., 2018). Healthcare professionals are reluctant to discuss a referral (Jackson et al., 2021) but are more likely to consider the ask and advise (Gould et al., 2019).

Opt-out referrals were deemed appropriate within a UK sample of hospital patients (Hryhorskyj et al., 2022) for health promotion and are clinically effective (Jenssen et al., 2019) by reducing those offered very brief advice and not taking the subsequent support. Davidson et al., (2015) found 84% of patients were given very brief advice, 80% were offered a referral with only 11% accepting the referral. Limited evidence exists to understand this substantial decrease. Nahhas et al., (2017b) found in a sample in the USA, only 26% accepted an opt out referral for smoking, but in those who accepted, 83% made contact with a specialist, however, there was a decrease of 49% in ongoing support once discharged from hospital. They found males (RR=1.29) and younger age groups (RR=1.33) were less likely to access support. However, achieving meaningful outcomes in different settings away from primary care is challenging. Acceptance within cancer settings (Stewart et al., 2022) and maternity services (Campbell et al., 2019) was high. Within mental health settings, this requires more tailoring of the opt-out approach to be effective (Sanford et al., 2022).

The OMSC extends beyond the 3A's and opt-out referrals by augmenting this initial conversation with support and ongoing pharmacotherapy. These are cost effective modes of support, well supported by patients and clinically effective. Being cost effective, clinically effective and having patient acceptance are important components of an effective health promotion strategy (Owens et al., 2016).

The OMSC has been shown as cost effective in Canada (Mullen et al., 2015), the UK (Evison et al., 2021) and the USA (Cartmell et al., 2018). Evison et al., (2021) found a per cost quitter of £30.49 and Cartmell et al., (2018) per cost quitter of $34.21. However, Mullen et al., (2015) expressed the cost effectiveness as C$1386 per quality adjusted life year. These values are comparable to the same treatment offered by smoking cessation services. However, the OMSC access a population which smoking cessation services have low uptake from. These show the OMSC as cost effective to implement in different health settings as a health prevention strategy.

Implications of review findings for implementation of the OMSC

Despite the OMSC being shown as effective, to effectively implement this across a wide range of healthcare systems will need to overcome a number of challenges. These challenges include understanding the different healthcare systems including primary care, maternity and mental health services, cultural changes, effective electronic patient record systems and additional funding for pharmacotherapy.

The NHS long term plan aims to implement cost effective services for smoking cessation within primary care, maternity and mental health services. The OMSC is shown as effective within primary care, however, no evidence exists for this within maternity and mental health services.

Maternity services have well established pathways with community smoking cessation services (Thomson et al., 2022) with acceptance of the 3A's being high (Diamanti et al., 2019) and maternity healthcare professionals accepting of new modes of support (Jones et al., 2019). This offers the OMSC an effective opportunity to successfully improve outcomes within an environment already performing parts of the OMSC and healthcare professionals receptive of change. However, understanding the effectiveness of key components of the OMSC; the teachable moment, the 3A's and opt-out referrals, and their application within mental health services remains an unresearched challenge. This however should not ignore the challenges posed within smoking cessation in mental health services to reduce this health inequality.

Overcoming these challenges across mental health settings, but also maternity and primary care requires executive decision making alongside strong clinical leadership to successfully implement change. Justifying change is difficult in spite of knowing the effectiveness of the OMSC. Outcomes should be tied to hospital initiated outcome metrics which can deliver internal change through adopting priorities important to each hospital (Mullen et al., 2015). Furthermore, having this acceptance from senior leadership and clinical staff across a range of professions from an early implementation stage increases success (Evison et al., 2021; Reid et al., 2016; Reid et al., 2010). Additionally, performing an ongoing analysis of success and failures creates increased programme acceptance (Rodrigues et al., 2022).

Changing a culture is challenging, however, change can occur from a 5 minute training across clinical and non-clinical staff which can allow a progressive culture of change within a healthcare system (Martinez et al., 2019). When clinicians receive support and training within the OMSC, uptake and acceptance increases helping to drive cultural change (Papadakis et al., 2016).

Further challenges face the effective implementation of the OMSC. Healthcare systems need to consider if these can develop an effective referral system within their electronic patient record system (Agrawal et al., 2022). Many systems allow for screening of smoking, however, generating a system which can allow referrals to be processed and actioned is a vital component of the OMSC. Systems which allow this to happen can easily spread a demand across different professions, reducing the burden on any one health professional within a healthcare system. Trapskin et al., (2022) found building very brief advice into existing medication workflows resulted in increased prescribing of NRT and behavioural support offered across a multi-disciplinary team. However,

Yiloja et al., (2017) found upscaling from a pilot site to a whole healthcare system faced difficulties mainly from staff acceptance.

Another challenge within implementing the OMSC within healthcare systems is the need to fund an increase in pharmacotherapy. Hospitals will routinely prescribe NRT to smokers on admission, although less than a third receive this (British Thoracic Society, 2019). Implementing the OMSC does lead to an increase in NRT cost (Evison et al., 2021), however, no study considers the subsequent savings made from quitting smoking on other medication which can be reduced. Identifying this saving may prove positive in highlighting savings which can be made within the short term.

Limitations of included studies

Only one study identified for this review had no affiliation with the University of Ottawa heart institute, the creators of the OMSC. However, there was no identified publication bias within the included studies. A further limitation is the size of samples. Several studies had a small sample size, which can be difficult to find significant effect sizes. Additionally, defined period of success for smokefree varied between studies from 7 days to 6 months. Furthermore, only NRT was used in all included studies. Hartmann-Boyce et al., (2021) and Thomas et al., (2021) showed varenicline and electronic cigarettes are as effective as NRT in supporting smokers to quit.

Participant demographics were reported inconsistently across the included studies. This is of concern as age of participant can influence uptake of smoking cessation referrals with those in older age groups more likely to access support (Nahhas et al., 2017b). Additionally, socioeconomic status is inversely associated with an increased prevalence of smoking and lower access to smoking cessation services (Hiscock et al., 2015). Generalisation of results is difficult due to uncertainty about sample representativeness.

Strengths and limitations of systematic review

A strength of this review is this is the first to consider the effectiveness of the OMSC exclusively as a model to support smokers to quit. A further strength is a wide search strategy used to identify all available research projects. Furthermore, the inclusion of a meta-analysis within this review is a strength. As the OMSC becomes more widely adopted, more research will determine the effectiveness in different settings allowing future research to build on this review.

A limitation is the use of the Cochrane Risk of Bias 2.0 for the quality assessment. As no studies were RCT's, a different quality assessment tool would have been appropriate. The Effective Public Health Practice Project Quality Assessment Tool (Armiljo-Olivio et al., 2012) would have provided quality appraisal from a public health perspective where smoking cessation is often considered. The Cochrane Risk of Bias 2.0 was selected as other studies within smoking cessation used this (Hersi et al., 2019; Kock et al., 2019; La Torre et al., 2020).

Implications for future practice and research

This review indicates that based on available evidence the OMSC is an effective tool for increasing smoking cessation. However, this conclusion is based on only seven

studies and a relatively small total sample size, so, future studies are needed to continue testing the effectiveness of the OMSC, especially in different settings including maternity and mental health services. Future studies should better report patient demographics as this would allow us to determine if these impact on OMSC. Furthermore, more consideration should be taken when selecting choice of support to include varenicline and electronic cigarettes as these are both effective alternatives to NRT in helping individuals to quit smoking.

Future research should continue to understand the cultural challenges of implementing smoke free policies and programmes within hospital settings and the effectiveness different clinical leads can have on the success of a programme. This should include qualitative studies to understand specific challenges within different settings and how this could be matched to theories to support future implementation. Additionally, by linking a smoking cessation intervention to financial incentives has been shown as effective (Hartmann-Boyce et al., 2021). Research should consider if implementing the OMSC with financial incentives increases successful outcomes.

Conclusion

This systematic review and meta-analysis provide support for the effectiveness of the OMSC as an approach to increase smoking cessation. Important next steps are to ensure a wider pool of data for the OMSC is published from different healthcare institutions and to consider the OMSC in different settings (e.g. maternity and mental health services) and delivered in combination with varenicline and electronic cigarettes.

Declarations of interest

None of the authors have any conflict of interest with this material presented in this paper to report.

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Table 1: Study characteristics of all included studies including outcomes and quality assessment

Reference	Sample description	Intervention group size	Control group size	Control group treatment	Outcomes
Li et al., 2018	Patients within a rehabilitation hospital	56	55	No cessation support	Intervention: 16/56 continuous abstinence at 12 weeks Control: 9/55 continuous abstinence at 12 weeks
Mullen et al., 2017.	Patients admitted to a hospital setting	256	221	Self-help material	Intervention: 90/256 6 months continuous abstinence Control: 45/221 6 month continuous abstinence
Nahhas et al., 2017a	Feasibility study of opt out referrals in patients admitted to hospital	703	1121	Opt-out referral to support on discharge	Intervention: 359/753 1 month continuous abstinence Control: 304/1121 1 months continuous abstinence
Papadakis et al., 2011.	Patients who had recently had a stroke receiving support in a stroke clinic	15	13	Prescription for NRT, no other support offered	Intervention: 5/15 6 months continuous abstinence Control: 2/13 6 months continuous abstinence
Papadakis et al., 2013	Patients seen by general practitioners	35	480	OMSC during consultation, no follow up support after consultation	Intervention: 9/35 7 day continuous abstinence Control: 41/480 7 day continuous abstinence
Reid et al., 2009	Patients admitted to a hospital	275	360	No cessation support	Intervention: 97/275 6 months continuous abstinence Control: 78/360 6 months continuous abstinence
Reid et al., 2018	Patients within a diabetes education group	198	114	1 year wait list	Intervention: 22/198 6 months continuous abstinence Control: 2/114 6 months continuous abstinence

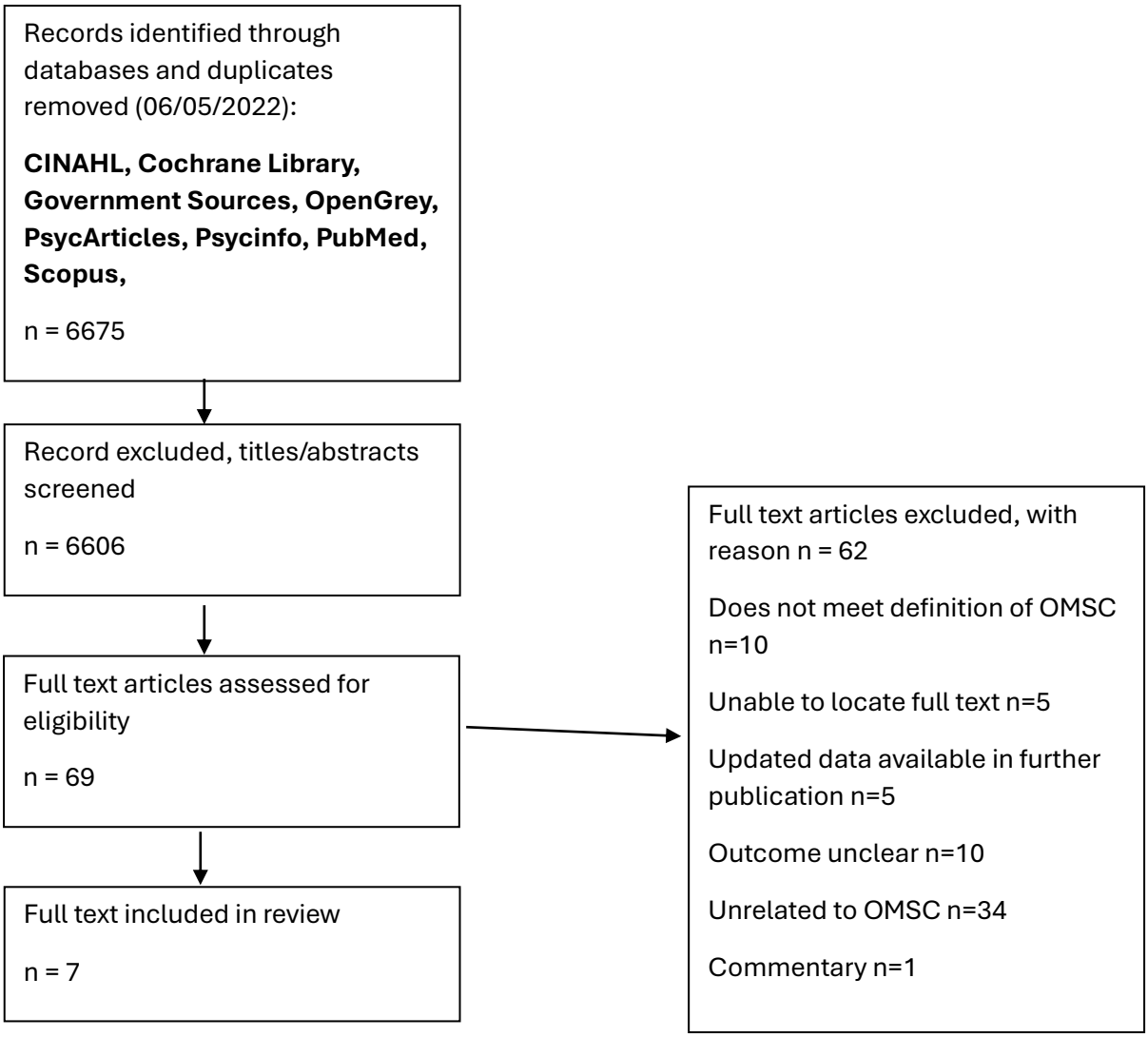

Figure 1: Outline of study selection and exclusion criteria

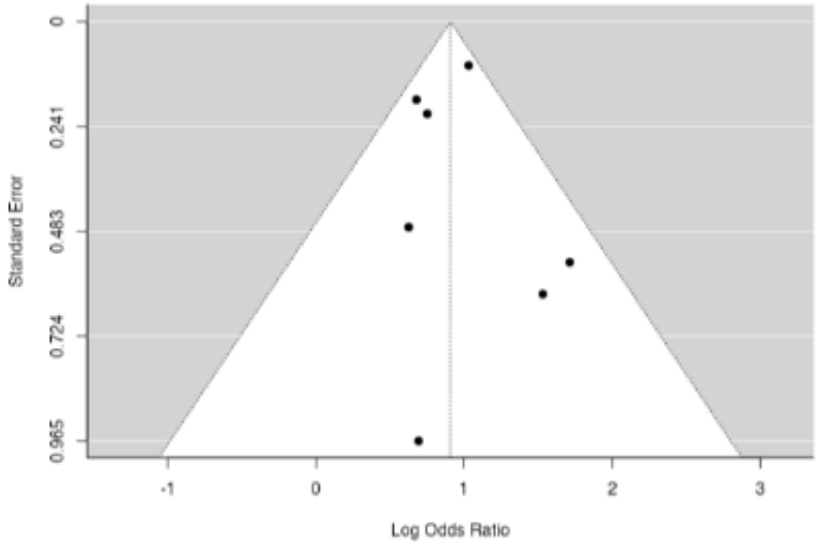

Figure 2: Forest plot showing any publication bias

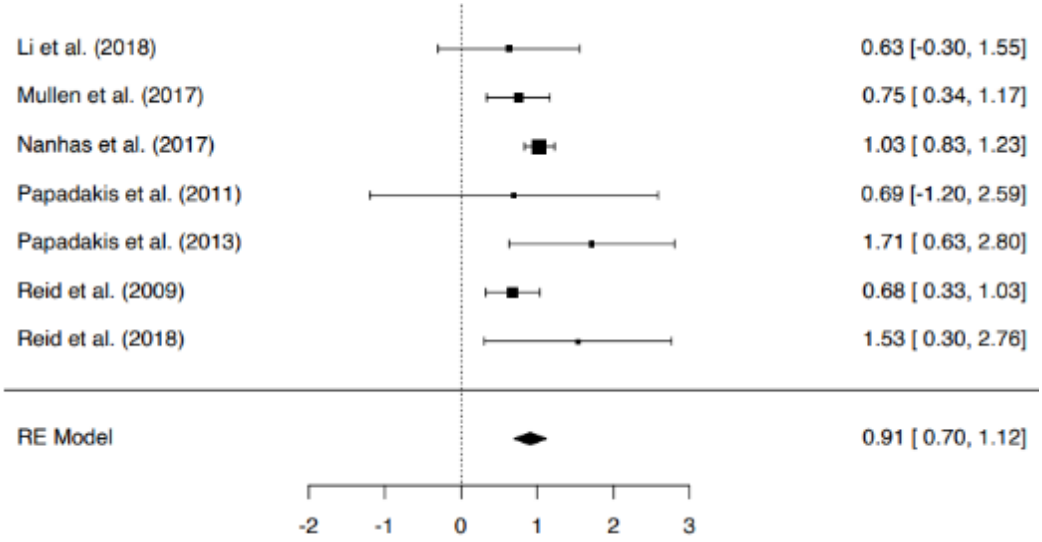

Figure 3: Study results as shown in a forest plot

2.2 Systematic Review Reflective Commentary

Background

Systematic reviews are important due to the consolidation of evidence to improve our collective understanding of research within a specific area. These are important within healthcare and can influence organisations to set research agendas, deliver new treatments of patient care and improve policy guidance.

Although I had some familiarity with systematic reviews, I was hesitant to start the review doubting my own ability as a researcher to successfully conduct one. I did identify this as an opportunity to learn a new process, one which is important within my role in health promotion. I worried whether I was selecting the 'correct' review topic. I was able to put my doubts to one side, remembering mistakes are normal, it is the learning from these is what develops us as professionals.

I chose my review topic as the Ottawa Model for Smoking Cessation (OMSC) (Reid et al., 2006) as this was becoming regularly cited within key literature within the NHS as a form of support to help individuals to quit smoking. The OMSC matched closely to the intentions of the NHS long term plan to ensure all smokers admitted to hospital are offered support to quit. As I was working within smoking cessation, I was familiar with the OMSC, but few others understood this widely cited model. When reviewing key literature (Action for Smoking and Health, 2016) and NHS documents (NHS Long Term Plan, 2019), the OMSC success was based on a small number of studies (Reid et al., 2006; Reid et al., 2010). This focused me to undertake the scoping exercise to understand the feasibility of this as a review topic. If the OMSC was becoming an influential model, yet the evidence was limited, it was important to identify if this was effective.

I was fortunate to change my placement during me conducting the review. The review came from something just for the doctorate into an important part of my role in developing a protocol based on the OMSC within mental health settings. I was able to deepen my understanding and knowledge of the OMSC and with a supportive structure in my placement and from my supervisors, I felt able to complete a meaningful review.

Within this commentary, I shall outline how I designed, conducted, and wrote up this systematic review. I shall highlight the challenges I faced, how I overcame these and how I have developed as a professional through the process.

Designing the systematic review

Scoping

During my initial searches of the OMSC I found a wide range of policies and guidance citing this as effective to support smoking cessation. However, when searching for the references, a limited pool of evidence was cited. Through the scoping review I found no review of the OMSC, and reference to the OMSC in key reviews were not apparent.

After the initial scoping, I searched PROSPERO to check whether a review was in progress. I found one (PROSPERO ID: 42013004803) and initially I was unsure how to proceed. I stepped away from the process and in doing this I understood what I

actually wanted to do and how I could produce something different and meaningful. When I reviewed the protocol, I noticed the process had not progressed from registration. I searched for all cited authors to identify if these had published without updating their progress, which they had not. By stepping back and analysing my options I feel I strengthened my rationale for undertaking this review and was able to identify what was important to me as a researcher, but also a professional working in health promotion.

Writing the protocol

The protocol was drafted within a short time period as I was keen to keep momentum. I used the previous protocol (PROSPERO ID 42013004803) as a base to guide me on writing a protocol. I delayed writing some parts as I would ponder if this was 'right' or 'wrong'. However, through conversations with my supervisors discussing parts of the protocol, I learnt having a strong rationale alleviates the 'right' or 'wrong' concerns. This has helped me professionally as I am able to make decisions having generated a rationale for this and discussing this with superiors to make changes where previously I would have spent time pondering the 'right' decision.

As I was working within smoking cessation, I was able to ask different individuals feedback on parts of the protocol, including the research questions, inclusion and exclusion criteria, and what outcomes are important. I sought the views of academics, public health managers and commissioners, and staff within stop smoking services. This was helpful as it added to the protocol with parts I had not considered. One area raised was how effective is this within different population groups compared to usual care. Although this added time to the design, it showed me the need to consult others outside my own sphere to understand the bigger picture. It also showed me how using other individuals experiences and expertise can increase the quality of work produced. I extend this into my professional practice, being mindful to seek other professionals opinions and collaborating to enhance the value of work produced.

Successfully defining the research questions are key to an effective systematic review (Cherry & Dickson, 2014). I took several attempts writing these. As my initial reason for conducting the review was to inform health promotion activities, I focused this as the basis for my review questions. I originally focused on types of pharmacotherapy and electronic cigarettes as these interact with levels of effectiveness of interventions (Hartmann-Boyce et al., 2021) I added in based on the feedback a question on different settings including maternity, mental health and primary care services due to the alignment with the NHS long term plan (NHS Long Term Plan, 2019). I initially dismissed an obvious question for this review as I was focused on being different from the other protocol. I had not included how effective the OMSC was in general. I did not consider this a unique research question. It shows to me the power of not overcomplicating a process which is already challenging. It also demonstrates the power of asking for help from different areas I would not have normally considered.

Defining the search terms

For my search terms and guiding my inclusion and exclusion criteria, I used the "PICO") method (Methley et al., 2014. "PICO" stands for; Population, Intervention,

Comparison/Control and Outcome. “PICO” is recommended for systematic review searches and also recommended as a tool for RCT’s which I opted to focus on to improve the quality of my review.

“PICO” allowed me to use broad search terms related to the area to ensure I did not miss any key papers. When I initially used the search terms, I noted some papers I identified from my initial scoping were being omitted. I became frustrated and unsure why. I stepped back and assessed with a colleague familiar with the OMSC. I had not considered the other names of the project such as “CURE” for the project in Manchester, or using the 3A’s and 5A’s, important parts of the OMSC, to generate more relevant results. By stepping away I was able to see the error and the results increased.

Prior to this review, I was limited in what databases I used for my studies limiting myself to one or two. Now I had to use a variety of databases to ensure I extracted all possible results. This is a useful skill as a research professional to ensure I have an understanding of different search databases, however, I opted to learn for myself how to use these with different thesaurus relevant terms. Instead, I should have sought help to guide my understanding from a specialist such as a university librarian and is something I will look to do with my qualitative and quantitative research projects.

Conducting the review

Screening

I used Refworks as my reference management software. I did not use any further systems to aide data management, opting to manually do this with a spreadsheet. I had over ten thousand returns and with duplicates removed over six thousand. On reflection I should have used a data management system such as Rayyan to manage this. However, by doing this manually it helped me understand the wider systematic review process which is important in developing as a research practitioner. This also allowed me to become familiar with the wider literature within smoking cessation which I have been able to bring into my professional role.

My second reviewer was selected as these are trained in smoking cessation and were undertaking an MSc in health psychology. These screened 10% of titles and abstracts as is considered good practice (Dundar & Fleeman, 2014) and were selected using a random number generator to remove selection bias from the process. I was relieved we had a high level of agreement. This is something I was concerned with to know if I was ‘right’ or ‘wrong’. However, even when discussion over articles arose, although I had a supportive supervisor who was able to look objectively, choosing to use someone more familiar with smoking cessation gave me confidence in myself to know I was not missing anything.

Inclusion and exclusion criteria

It was important I stuck to the inclusion and exclusion criteria rigidly to ensure the validity of the review. This was challenging as few papers came through the screening process. I questioned if my criteria were too strict for the review.

Many papers came through aligned with the principles of the OMSC which are: the 'teachable moment', the 3A's, opt-out referrals, and a systematic cultural change within a healthcare setting. This created a dilemma, to focus exclusively on the studies following the OMSC, or to consider the principles of the OMSC and their effectiveness.

The OMSC encompasses each of these principles in a holistic way and assessing each in isolation would undermine the effectiveness of the OMSC as a whole. I felt it more beneficial to consider the whole over the constituent parts as individuals could consider the 3A's as quicker and easier than creating systematic cultural change, but one does not occur without the other within the OMSC. Furthermore, I identified this as being more important for my target audience and would address my initial concerns of the OMSC being widely cited but not well referenced. I was fortunate within Refworks I recorded these papers so in future I would be able to perform this review.

Data extraction

Data was extracted independently as is considered good practice (Fleeman & Dundar, 2014). However, as I had not created a data extraction form before, I was unsure what to include. As a guide, I used the Cochrane data extraction form (Cochrane 2014) as this is appropriate when conducting a meta-analysis. I struggled to identify what was and was not relevant, instead focusing on over capturing as the irrelevant data could be eliminated. Although I only had seven studies, over collecting data was time consuming but manageable. In future I shall look to work with an expert to learn what is a more practical way of creating a data extraction form.

Much of the data in the included studies was irrelevant to answer the specific research questions. Drawing out the key information independently was challenging as this was not always easily identifiable. Furthermore, of the seven included studies, there was variety in what success was termed. Within the UK, success is termed as four weeks smoke free. Across the studies included, successful outcomes were reported at seven days through one year. As a team we decided to go with the largest reported outcome up to 6 months as some studies carried this time period. It was difficult for me to understand this difference in reporting and how this impacts on the review. However, my supervisor explained this is merely a limitation of the evidence and not a reflection of the review which helped me to refocus on completing the analysis.

Quality assessment

Performing a quality assessment is an important part of the review process as this generates confidence in each studies outcomes. I chose the Cochrane Risk of Bias 2.0 (Higgins et al., 2011) as the intention was to only use RCT's as this had been used in other studies in smoking cessation (Hersi et al., 2019; Kock et al., 2019; La Torre et al., 2020). My initial results were strange as were the second reviewers. We had misinterpreted some of the questions. Meeting with my supervisor allowed me to understand the questions better and subsequently the results were more appropriate.

Using the Cochrane Risk of Bias 2.0 as a tool to for my quality assessment was inappropriate as no included studies were RCT's, explaining why some of the outcomes could be misread/misinterpreted. Instead, I should have used the validated Effective Public Health Practice Project Checklist for quality appraisal (Armiljo-Olivio et al.,

2012). Later conversations allowed me to understand why this was the case and on reflection, I should have considered this part more during the writing of the protocol, and something I will pay closer attention to next time.

Initially when viewing the included studies, I had some concerns over data quality. This was because six of the seven included studies were generated from the Ottawa Heart Institute, the creators of the OMSC. However, when the quality assessment was complete, all studies had the same level of bias. I was convinced this would not be the case as the creators have a vested interest in success. However, being wrong allowed me to understand both publication and research bias objectively and is something I shall take forward with me as a research professional.

Data analysis/synthesis

Of the whole review process this was the most challenging. I had predominantly conducted qualitative research throughout my academic studies and only touching briefly on quantitative. Using the experience of my supervisor, but also their encouragement and their enthusiasm for teaching about quantitative research helped guide me through the reading to understand the meta-analysis and the odds ratios. Odds ratios are important within medical literature and I learnt to understand these and risk ratios and I have been able to bring this knowledge into my professional role through explaining different research articles a colleague wished to reference in training.

Write up

When I first considered the write up I focused on what I as a reader would want to know. However, I realised for my intended audience to read this I would have to write with both a journal and my intended audience in mind would be difficult. I focused on two journals with similar guidance to aim to publish within. I used the PRISMA guidelines (Moher et al., 2015) which is a checklist to improve the reporting of systematic reviews, particularly those with a meta-analysis.

I found the most challenging part the results. I sought advice and guidance to ensure I was in the right direction but I also considered a variety of journals to understand what I should be reporting. Initially my results were too brief and lacked meaning. I found it challenging to add in the level of depth required when only seven studies were included and there was only one outcome and no secondary measures.

I included the raw data outcomes within my results alongside the odds ratios. This is something not usually done within smoking cessation research. However, as I wanted those who are decision makers and working in smoking cessation, these often work to quit outcomes as percentages not odds ratios. I was aware this was unorthodox but I would make the same decision again as research outcomes can be difficult to determine.

Within my professional role I write to all levels from academics and decision makers through to service users with a low reading age. This creates challenges for me with ensuring I am writing at the correct level for the audience to understand. Initially, I got this balance wrong and it was too focused on decision makers and did not align with journal publishing standards. Instead, I added in a specific section to focus on the

limitations of implementing the OMSC which is relevant to the decision makers while changing the style to align with the journal. Making a clear distinction between the two audiences allowed me to change my writing style to reflect the needs of both and something I am more conscious of in my professional role.

Overall reflections

I enjoyed undertaking the systematic review, starting off nervous to even begin scoping to writing the whole project. I found a number of challenges I faced, I was able to step away and assess before making a correct choice on how to proceed. I found the challenge of defining my idea and then refining this a positive experience which has allowed me to be more coherent in my ideas and execution within my professional role. I feel I have learnt a lot from the process of undertaking this review which has helped me develop my research skills.

One lesson I found was the need to chip away at this over an ongoing period. At times this could be the sole focus of my doctorate but other times it was easy to focus on other competencies without feeling I was neglecting this. It was important for me to understand myself more and I could switch off from this without feeling I was neglecting the course.

I hope this review is able to be published and provide some evidence of the effectiveness beyond the studies cited in key texts. I hope it will help a number of systems to improve their understanding of the OMSC prior to implementing this. Finally, I hope it spurs new research in areas such as the OMSC in mental health and maternity but also with electronic cigarettes.

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2.3 Quantitative Research Manuscript

Understanding pharmacists' beliefs and knowledge about electronic cigarettes.

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Abstract

Introduction: Pharmacists have been shown to be effective at supporting patients to quit smoking, however, they are often limited to offering nicotine replacement therapy. It is therefore unclear how pharmacists' view e-cigarettes as an alternative smoking cessation intervention. Understanding pharmacists' beliefs and knowledge about e-cigarettes can aid understanding of implementing e-cigarettes within community settings.

Method: One-hundred and nine qualified pharmacists completed an online survey designed to assess their beliefs and knowledge about e-cigarettes. The survey had five sections: [1] general smoking cessation questions, [2] E-cigarettes as a quit aid, [3] Health and e-cigarettes, [4] pharmacists supporting the use of e-cigarettes as a quit aid, [5] "emerging themes". Exploratory analysis was undertaken to understand pharmacist knowledge through their responses to frequency items with correlational analysis to show relationships between items and constructs.

Results: Over 70% of pharmacists strongly agreed or agreed that they possessed the knowledge needed to support patients to quit smoking, however, pharmacists overstated the harms of e-cigarettes both in comparison to both combustible and chewing tobacco. Fifteen large correlations (r=>0.5) were found. Relationships identified include; (1) pharmacists have appropriate knowledge to support patients, but also how to modify the treatment to each patient needs, (2) pharmacists believe e-cigarettes are a more effective quit aid compared to NRT and other medication.

Conclusion: While most pharmacists reported knowing how to support patients to quit smoking, we also found evidence of gaps in their knowledge about e-cigarettes. Correlational analysis showed pharmacists were in favour of e-cigarettes being used as an appropriate quit aid for patients. This survey has indicated pharmacists may lack the necessary knowledge to inform their decision making. Therefore, this could be used to identify and design suitable interventions to improve smoking cessation outcomes delivered by pharmacists utilising e-cigarettes.

Introduction

Smoking is a leading cause of premature mortality and debilitating illnesses (Office for Health Improvement and Disparities, 2024) with the average smokers' life expectancy reduced by 10 years (Royal College of Physicians, 2018). While rates of smoking in the UK have been falling since the 1970's, 11.9% of the population are current smokers (Office for National Statistics, 2024). Declines in UK smoking rates have been linked to the success of smoking cessation services since 2007 (Beard et al., 2020).

The United Kingdom (UK) government pledged to make smoking obsolete by 2030 (Department of Health and Social Care, 2023). As part of their pledge to make smoking obsolete, they outlined a range of funding initiatives (Department of Health and Social Care, 2023). These include (1) financial incentives to support pregnant individuals to quit smoking, (2) additional funding for smoking cessation services, and (3) providing one million free electronic cigarettes (e-cigarettes) to smokers; as e-cigarettes are the most popular quit aid in the UK (Hartmann-Boyce et al., 2024). This funding has led services to consider alternative routes to support patients, including community pharmacies offering smoking cessation advice (Saba et al., 2014).

Across England there are 11414 community pharmacies. Their primary role is to dispense medication to patients; however, they are increasingly important in providing additional clinical roles as part of national, regional or locally commissioned services. These include annual flu vaccinations, performing medication reviews or undertaking health promotion campaigns (Health Security Agency, 2019).

Within health promotion, in parts of the UK, community pharmacies have successfully offered smoking cessation services (Brett et al., 2019). Since 2022, a nationally commissioned pharmacy led smoking cessation service has operated to support patients quit attempts once discharged from hospital (National Centre for Smoking Cessation and Training, 2023). Community pharmacies offer a different approach to traditional smoking cessation services. They have specialist knowledge of drug interactions, are a community asset and high levels of public trust, (Condinho et al., 2021). A strength of community pharmacies is their accessibility, operating where the demand for services is greatest, notably areas of higher deprivation (Astbury et al., 2021; Todd et al., 2014). This accessibility is important in meeting the pledge to make smoking obsolete because those from the most deprived areas are more likely to smoke (Action on Smoking and Health, 2019) negatively impacting the social gradient of health (Kotz & West, 2009) and driving health inequity. Community pharmacies offer trusted advice, operate where demand is highest and improve outcomes to smokers given their unique position to counsel patients and provide advice.

Community pharmacies have comparable success rates to traditional smoking cessation services (Saba et al., 2014) despite only being able to offer Nicotine Replacement Therapy (NRT). Traditional smoking cessation services utilise additional options including prescribed medication (Varenicline, Bupropion, Cytisine) and e-cigarettes which have increased successful outcomes compared to NRT (Chan et al., 2021). Therefore, pharmacists could utilise additional pharmacotherapy options becoming more effective in supporting patients becoming smokefree.

While pharmacists support smoking cessation (Bains et al., 2014) and support prescribed medication as a quit aid for smokers (Berry et al., 2023), the opinions of the profession are less clear regarding e-cigarettes. Evidence is often limited to pharmacy technicians or pharmacy students, groups who do not have the same level of training as a qualified pharmacist. A review paper found pharmacists lack knowledge and confidence about e-cigarettes, potentially reducing their ability to offer them to smokers (Barrett & Aldamkhi, 2021). A limitation of this review is the most recent study was 2019 with few studies considering this since (Mohammad et al. 2023) and rarely in Western samples. Evidence on e-cigarettes continues to grow as an effective quit aid (Hartmann-Boyce et al., 2024), but also as a lifestyle choice (To et al., 2024).

Across the literature, it is unclear what beliefs pharmacists hold about e-cigarettes, which has the potential to impact on patient outcomes through not following evidence-based practice. Understanding pharmacists' beliefs about e-cigarettes may help to design interventions to increase the likelihood of pharmacists offering these. This ensures pharmacists offer patients evidence based practice and increase their chances of success.

With e-cigarettes being the most effective quit aid (McDermott et al., 2021), pharmacists may be creating an unequal service compared to smoking cessation services if they do not follow national guidance and offer e-cigarettes. Understanding the views of pharmacists through the constructs of knowledge and beliefs will allow this gap in the literature to be addressed through intervention design and improve patient outcomes.

Research questions

1. Do pharmacists possess the knowledge needed to deliver behavioural support, NRT, licensed medications and e-cigarettes as forms of smoking cessation?
2. How well do community pharmacists understand the relative harms of e-cigarettes compared to other forms of tobacco use?
3. Is there a positive correlation between pharmacists' beliefs about the harms of e-cigarettes and their willingness to recommend them to patients as a smoking cessation aid?
4. Is there a positive correlation between pharmacists' beliefs about the harms of e-cigarettes and their length of time qualified?

Methods

Participants, study design and setting

A cross-sectional study design was used. One-hundred and nine qualified pharmacists operating primarily in a borough within Northwest London were recruited. Pharmacists were invited to take part through two local pharmaceutical committees representing community pharmacies across Northwest London. Surveys were completed online using Microsoft Forms in January 2024. In line with increasing response rates to surveys (Edwards et al., 2023), incentivisation was used. The first 100 pharmacists completing the survey received a £10 voucher.

Survey construction, items and piloting

The survey (Appendix 1) was designed by staff from a public health team within a London Borough. The first three authors worked within this team. Further input was provided by the last author, an expert in survey design methodology. The survey was constructed using existing evidence about e-cigarettes (Hartmann-Boyce et al., 2024) and the service specification for the National community pharmacy smoking cessation service (National Centre for Smoking Cessation and Training, 2023). Furthermore, it was also influenced by a public health team who were looking to commission community pharmacies to use e-cigarettes in their smoking cessation service. The survey was split into two sections.

In the first section, participants reported personal and professional characteristics. Personal characteristics included age group, gender and ethnicity. Professional characteristics included length of time qualified (in years), and the borough the pharmacist operated in. The second section contained questions applied to five broad categories which aligned with evidence of how healthcare professionals view e-cigarettes: (1) general smoking cessation questions, e.g., "I think pharmacists have a role in giving appropriate advice on smoking cessation; (2) E-cigarettes as a quit aid, e.g., "I believe e-cigarettes are helpful in supporting individuals to quit smoking"; (3) Health and e-cigarette use, e.g., "E-cigarettes are more harmful than smoking or chewing tobacco"; (4) Pharmacists supporting the use of e-cigarettes as a quit aid", e.g., "As a pharmacist I should offer e-cigarettes to patients as a quit aid; (5) "emerging themes" e.g., "I am worried about the environmental impacts of e-cigarettes". These last questions were added as emerging themes of interest to the public health team. A key was designed to aid in interpreting findings (See appendix 2).

There were seven knowledge items; a knowledge question refers to the pharmacists understanding of existing evidence to make an informed decision. Four of the knowledge items related to the first research question, as they focused on delivering smoking cessation support. The other three items relate to the second research question as they are about the harms of e-cigarettes. The remaining 18 questions were belief items. Belief items refer to how pharmacists innately feel towards e-cigarettes and how this influences the way they view these within a professional context, regardless of evidence. Belief questions were in all sections of the survey.

All belief and knowledge items were measured using a 5-point Likert scale, ranging from Strongly agree to Strongly disagree. Five questions were negatively scored and reversed before analysis took place.

The survey was piloted with three pharmacists to check acceptability and suitability to the population. Minor recommendations were suggested to the wording of questions and amendments were made. Further amendments were also made to the flow of questions within each section.

Ethics

Participants were invited to take part in the survey through membership to a local pharmaceutical committee with an informational email. Participants provided informed consent prior to completing the survey. The survey was completed as part of

a public health team programme and ethical approval was granted by the University of Staffordshire Ethics Committee (see Appendix 3).

Data analysis

Frequencies for knowledge items were used to assess the first two research questions. Pearson's bivariate correlations were run to answer the third and fourth research question and investigate interrelationships between items on this novel survey.

Results

Sample characteristics

Table 1 displays the sample's personal and professional characteristics. Sixty percent of our sample identified as male. The sample were mostly aged 35-44. The largest ethnic group identified as either Asian or Asian British – Indian. Pharmacists qualified for 10+ years were most represented, with the London Borough of Harrow the most represented borough for pharmacists practice location.

Insert table 1 here

Do pharmacists possess the knowledge to deliver behavioural support, NRT, licensed medications and e-cigarettes as different forms of smoking cessation?

Figure 1 displays the responses for the knowledge items. Appendix 2 provides the item key for survey responses. First looking at the four items that relate to Research Question 1, we see that over 70% of respondents strongly agreed or agreed they had knowledge of national guidance to support a patient quitting with less than 10% disagreeing or strongly disagreeing. Similarly, 70% of participants agreed or strongly agreed they could modify treatment to patient needs with less than 10% disagreeing or strongly disagreeing. Responses to knowledge of appropriate behavioural treatment found strong agreement dropped to 43% and both disagree and strongly disagree increasing to over 35%. For responses to using e-cigarettes as a quit aid and the same skills, 40% agreed with this and a further 10% strongly agreed. Just under 25% were neutral with the remaining 25% disagreeing.

Insert figure 1 here

How well do community pharmacists understand the relative harms of e-cigarettes compared to other forms of tobacco use?

Responses to the three items about e-cigarette harms, which relate to Research Question 2, showed great variability. With the two questions around the harm from e-cigarettes, whether the harm was compared to tobacco or the health impacts of the e-cigarette vapour, the most common response were neither agree or disagree. This suggests that most pharmacists were unsure about the harms of e-cigarettes in comparison to both tobacco, but also the vapour from e-cigarettes. The second most common answer for these three items was agreeing the harms of e-cigarettes is lower than tobacco. Few pharmacists strongly agreed with e-cigarettes being less harmful than tobacco. With regards to adverse harms from e-cigarettes, disagree was most

common with over 40% followed by neutral at 30% with strongly disagree 15% and agree 5%.

Is there a positive correlation between pharmacists' beliefs about the harms of e-cigarettes and their willingness to recommend them to patients as a smoking cessation aid?

Responses to this question showed there was a mixed answer whether there is a positive correlation between beliefs and willingness to provide e-cigarettes as a quit aid. The survey showed a gap in pharmacists knowledge regarding the harms of e-cigarettes in comparison to both combustion and chewing tobacco. However, pharmacists understood these do help patients to quit smoking and over 40% of pharmacists agreed they should provide e-cigarettes to patients as a quit aid with less than 20% disagreeing or strongly disagreeing. Because of this, there was a mixed answer whether there is a positive correlation between beliefs and willingness to provide e-cigarettes as a quit aid.

Is there a positive correlation between pharmacists' beliefs about the harms of e-cigarettes and their length of time qualified?

Responses to this question showed time qualified had only a small or null correlation between time qualified and (1) belief pharmacists should give smoking advice, (2) delivering treatment, and (3) modifying treatment. However, Pharmacists who were qualified for longer time periods were less likely to agree that pharmacists should give smoking advice, deliver treatment or modify treatment. There was also a negative correlation between time qualified and the item 'e-cigarettes cause more harm than other forms of tobacco'.

Insert table 2 here

Correlations between items within the "General smoking cessation questions" section

Five large-sized, positive correlations ($0.5 < r < 0.62$; Table 2) were identified in this section. Three were relationships between pairs of belief items: (1) pharmacists giving advice and advice given is appropriate; (2) pharmacists giving advice and pharmacists support all referrals, including those in the community and discharged from hospitals; (3) the advice given for smoking cessation is appropriate to support all referrals received. These results show that pharmacists believe they can give advice on smoking cessation, the advice is appropriate and appropriate to all clients. There was one relationship between the belief item offering appropriate advice and the knowledge item related to national guidelines showing awareness of guidelines is related to offering advice. The final relationship was between two knowledge items: having knowledge of national guidance and modifying treatment to patients. The other two items in this section both related to treatment and while they had a moderate correlation with each other ($r = 0.40$), they had only small or null correlations with the other items, suggesting that beliefs and knowledge related to treatment are seen as separate from the other items.

Insert table 3 here

Correlations between items within the "E-cigarettes as a quit aid" section

There were nine large-sized, positive correlations (0.5<r<0.75; table 3) all between five belief items in this section. For instance, the item 'I believe E-cigarettes are helpful in supporting individuals to quit smoking' had large-sized correlations with items about e-cigarettes being more beneficial than NRT and prescribed medication, E-cigarettes being included in commissioned services, and E-cigarettes supporting those with a severe mental illness. The smallest correlation between any pair of these items was r = 0.50. This clustering of responses indicates pharmacists' beliefs on these issues were coherent. The other two items in this section—about offering e-cigarettes to pregnant individuals, and e-cigarettes swapping one addiction for another—did not correlate with these five items or one another. The item regarding pregnancy had small or null correlations with all other items, suggesting this is a separate theme to explore. Within this section, this is the question which had the most responses agreeing or strongly agreeing e-cigarettes should not be given to pregnant individuals with 71 responses. Only 8 responses agreed with guidance suggesting these should be offered to pregnant women with a 30 remaining neutral. This level of response was also the second lowest of this section. The item regarding swapping one addiction for another had a moderate-sized negative correlation with the item about commissioned services; those who agreed that e-cigarettes should be part of commissioned services disagreed with the statement that offering e-cigarettes is swapping one addiction for another.

Insert table 4 here

Correlations between items within the "Health and e-cigarettes" section

There were three moderate-sized positive correlations (0.35<r<0.4; table 4) in this section. These showed moderate relationships between; (1) long term unknowns and young people using e-cigarettes, (2) long term unknowns and e-cigarette vapour, (3) e-cigarette vapour and harm from tobacco being greater than e-cigarettes. The item about e-cigarettes not causing adverse harm had only small or null relationships with the other items in this section.

Insert table 5 here

Correlations between items within the "Pharmacists supporting the use of e-cigarettes" section

In this section, there was a large-sized positive correlation (r = 0.53) between reducing patient dependence on e-cigarettes and supporting someone to quit uses the same skills. Moderate-sized positive correlations between offering e-cigarettes and (1) reducing patients dependency on e-cigarettes (r = 0.34) and (2) using the same skills (r = 0.30). The item about confidence if offering e-cigarettes only had small or null correlations with the other items.

Insert table 6 here

Correlations between items within the "emerging themes" section

There were moderate-sized positive correlations between patients being supported to reduce their e-cigarette use and (1) pharmacists should support adolescents to reduce use (r = .44) and (2) concerns over environmental impacts from e-cigarettes (r = .41). These latter two items only had a small correlation (r = .21) between them, suggesting that pharmacists see these as separate issues.

Insert table 7 here

Discussion

This study provides insights into the knowledge and beliefs of pharmacists towards e-cigarettes from a UK sample. Pharmacists beliefs about smoking cessation advice and providing treatment was correlated with their knowledge of national guidance while beliefs about e-cigarettes were more coherent in those pharmacists who support their use. Furthermore, the greater the length of time qualified showed lower beliefs and knowledge regarding pharmacists providing smoking cessation advice and the use of e-cigarettes

The responses to our survey were mixed with some positive findings, but also findings which identified a gap in the knowledge of pharmacists to support and deliver evidenced base care to their communities if asked. Our first research question regarding whether pharmacists have the knowledge to deliver behavioural support alongside pharmacotherapy or e-cigarettes. Pharmacists have appropriate knowledge for NRT and other licenced medication but when considering e-cigarettes, their knowledge was sub-optimal. For the second question, how well do pharmacists understand the harm from e-cigarettes, there was great variability in the responses. For our third question, regarding a positive correlation between pharmacist beliefs of the harms of e-cigarettes and willingness to recommend these as a smoking cessation aid, pharmacists understood these help individuals to quit smoking, but a gap in their knowledge around harms may cause professional reservations to offer these. Our fourth research question focusing on a positive correlation between pharmacist beliefs about the harms and length of time qualified found a negative correlation suggesting pharmacist who are qualified for fewer years had more positive views of e-cigarettes.

Most pharmacists sampled knew about national smoking cessation guidance and how to modify treatment for smoking cessation. This aligns with pharmacists having the skills necessary to act on this guidance to deliver evidence-based practice (Brett et al., 2019). Our findings show pharmacists would have knowledge and guidance to deliver smoking cessation support regardless of treatment type, making community pharmacies an appropriate service to target smoking cessation. Furthermore, due to the correlation between smoking status and deprivation, pharmacies are more likely to be located within more deprived areas. Therefore, they can offer e-cigarettes where there is higher demand.

In contrast to knowledge about smoking cessation in general, pharmacists' knowledge about e-cigarettes was variable; they overstated the harms from e-cigarettes as well as reporting uncertainty about chewing tobacco, vapour and providing e-cigarettes during pregnancy. Prevalence of chewing tobacco is limited to pockets within

communities (Longman et al., 2010) so pharmacists are less likely to see chewing tobacco and the harms this causes compared to combustion tobacco. E-cigarette vapour has not been identified as harmful to those around the e-cigarette user (Hartmann-Boyce et al., 2023). Lastly, e-cigarettes have been recommended to be given during pregnancy if NRT does not lead to cessation (National Institute for Health and Care Excellence, 2023). Within our findings, the belief from pharmacists were to not want to provide these for pregnant individuals which was different to how they viewed this for those with a severe mental illness. Such findings suggest further research is needed to find out more about pharmacist's views on these matters.

Large-sized positive correlations between scale items were found within three sections of the survey. First, within general smoking cessation sections, there were correlations regarding pharmacists delivering smoking cessation advice and this advice being appropriate to meet the needs of the patient in quitting. A further large correlation suggest pharmacists can adapt the guidance to the needs of each patient. Second, in e-cigarettes as a quit aid section, pharmacists found e-cigarettes appropriate for individuals with a severe mental illness. Large correlations were also found between items showing pharmacists favour e-cigarettes in a smoking cessation service as these benefit the patient while understanding e-cigarettes are more effective as a quit aid than NRT aligning with recent evidence (Hartmann-Boyce, 2024). Lastly, a large positive correlation was found showing pharmacists supporting patients to quit smoking with e-cigarettes use the same skills to that of NRT.

One interesting finding was the moderate negative correlation between years qualified and altering treatment; those who were qualified for *fewer* years felt more confident in altering treatment to support a patient. Although a moderate correlation, this may suggest some experienced pharmacists may require more knowledge and training in areas outside their traditional skill set to better support patients. Our data indicates a potential dichotomy between a professional opinion and a personal view regarding e-cigarettes. Pharmacists, like other healthcare professionals, undertake training in critical appraisal enabling them to review evidence and make informed decisions. However, with current evidence on long term safety lacking, pharmacists may hesitate about offering e-cigarettes due to safety concerns. Responses to the knowledge items suggest pharmacists were unsure by choosing neutral for items about the safety of e-cigarettes.

Our results indicate pharmacists are aware of the benefits e-cigarettes bring to patients as a quit aid. However, long term unknowns cause professional reservations (Brett et al., 2020). E-cigarettes are supported as a quit aid by medical colleges including the Royal College of Physicians (Royal College of Physicians, 2021). However, the Royal Pharmaceutical society do not. Instead, they seek further regulation notably around a medicinal licence for e-cigarette-based products allowing their members to prescribe e-cigarettes with more certainty (Royal Pharmaceutical Society, 2022). This further creates confusion among pharmacists potentially explaining hesitation in providing e-cigarettes. However, our correlations indicate pharmacists are willing to provide e-cigarettes in a smoking cessation service if they feel these benefit the patient. This suggests a level of pragmatism in their approach to e-cigarettes, but importantly, they were are able to put the patient outcomes before their professional and personal views.

Study strengths and limitations

To our knowledge, this is the first UK study to survey qualified pharmacists on their beliefs and knowledge about e-cigarettes. In addition, our sample size was greater than other studies (Erku et al., 2019; Gomes et al., 2016; McConaha et al., 2018). This is also the first study to provide an indication of the correlations between beliefs about different aspects of e-cigarettes among pharmacists while indicating pharmacists may be willing to utilise a pragmatic approach to supporting a patient using an e-cigarette. The finding that certain beliefs about e-cigarettes cluster together suggests that factors that could be targeted in interventions aimed at increasing pharmacists' decisions to offer e-cigarettes. In addition, findings that time qualified was negatively related to beliefs about e-cigarettes harm suggests there is a need for training for pharmacists to ensure they are up to date with evidence in this area.

Study limitations include a sample containing a majority from one ethnic group, which may impact the generalisability of the survey findings to other groups. Our sample was overwhelmingly from the Asian or Asian British – Indian sample, 60%, higher then the national make up of 21% of all pharmacists. Furthermore, our sample of white British pharmacist were significantly below the 27.6% of registered pharmacists in the UK (General Pharmaceutical Council, 2023). It would have been useful to ask pharmacists about their smoking status and providing e-cigarettes if they were commissioned to. Pilot work with pharmacists could check that other concerns about e-cigarettes were not missed.

Future research

Future research could sample pharmacists across the UK to check generalisability of findings. Future research should also monitor early adopters of community pharmacies utilising e-cigarettes to model this approach for other more hesitant pharmacists. Furthermore, there should also be some consideration to developing some qualitative research to explore pharmacists beliefs in greater depth then a survey is able to.

Conclusion

Pharmacists report having appropriate knowledge and skills to support smoking cessation interventions for patients in general. However, their knowledge about e-cigarettes specifically is more variable. This may impact on patient outcomes. Our study also showed pharmacists beliefs about e-cigarettes clustered together and that time qualified was related to misperceptions about e-cigarettes.

Acknowledgements

The authors would like to thank the Middlesex Local Pharmaceutical Committee and the Kensington, Chelsea and Westminster Local Pharmaceutical Committee for their help, expertise and involvement in the project.

Conflicts of interest

The authors have no conflicts of interest to declare.

Appendices

Table 1: Sample characteristics

Gender	
Male	65
Female	41
Prefer not to say	3
Age range	
18-34	31
35-54	55
55-64	17
65+	7
Ethnicity	
White – British	7
White – Other	5
Mixed – White and Black African	2
Mixed – Any other Background	1
Asian or Asian British – Indian	68
Asian or Asian British – Pakistani	2
Asian or Asian British – Bangladeshi	4
Asian or Asian British – Any other Asian background	7
Black or Black British – African	2
Other ethic groups – Chinese	1
Other ethnic group – Any other ethnic group	5
Not stated	5
Borough	
Brent	17
Ealing	14
Harrow	20
Hammersmith and Fulham	6
Hillingdon	13
Hounslow	10
Kensington and Chelsea	6
Westminster	16
Other	7
Time qualified	
< 1 year	5
1-3 years	11
3-5 years	4
5-10 years	16
10+ years	73

Table 2: Correlations between scale items and time qualified

	r
Belief – pharmacists giving advice	-.321
Belief – Appropriate advice	-.172
Belief – Support all referrals	-.188
Knowledge – national guidance	-.227
Knowledge – Behavioural treatment	-.058
Belief – Delivering treatment	-.308
Knowledge – Modifying treatment	-.463
Belief – e-cigarettes help	-.102
Belief – E-cigarettes VS NRT	-.108
Belief – E-cigarettes VS prescribed medication	-.029
Belief– e-cigarettes in services	-.089
Belief – E-cigarettes and pregnancy	-.176
Belief – E-cigarettes and SMI	-.031
Attitude – substituting addiction	.067
Knowledge – e-cigarette harm vs tobacco	.387
Belief – young people using	-0.70
Knowledge – e-cigarette adverse harm	.001
Belief – Long term unknowns hesitation	.180
Knowledge – E-cigarette vapour	.261

Belief – Offer e-cigarettes	-.270
Belief – not confident supporting patients e-cigarettes	-.028
Belief – Reducing patient dependence	-.050
Knowledge – Supporting using same skills	-.073

Table 3: Correlation matrix for General Smoking Cessation Questions

	Belief – pharmacists giving advice	Belief – Appropriate advice	Belief – Support all referrals	Knowledge – national guidance	Knowledge – Behavioural treatment	Belief – Delivering treatment	Knowledge – Modifying treatment	Time qualified
Belief – pharmacists giving advice	1							
Belief – Appropriate advice	.583**	1						
Belief – Support all referrals	.622**	.596**	1					
Knowledge – national guidance	.262	.495**	.333**	1				
Knowledge – Behavioural treatment	-.09	-.018	-.024	.057	1			
Belief – Delivering treatment	.131	.194*	.134	.185	.401**	1		
Knowledge – Modifying treatment	.326**	.410**	.387**	.535**	.09	.22*	1	
Time qualified	-.321	-.172	-.188	-.227	-.058	-.308	-.463	1

*Denotes items of <.05 significance

**Denotes items of <.001 significance

Table 4: Correlation matrix for E-cigarettes as a quit aide

Item	Belief – e-cigarettes help	Belief – E-cigarettes VS NRT	Belief – E-cigarettes VS prescribed medication	Belief – e-cigarettes in services	Belief – E-cigarettes and pregnancy	Belief – E-cigarettes and SMI	Belief – substituting addiction	Time qualified
Belief – e-cigarettes help	1							
Belief – E-cigarettes VS NRT	.746**	1						
Belief – E-cigarettes VS prescribed medication	.641**	.668**	1					
Belief– e-cigarettes in services	.753**	.589**	.600**	1				
Belief – E-cigarettes and pregnancy	.193*	.151	.126	.068	1			
Belief – E-cigarettes and SMI	.587**	.533**	.490**	.671**	-.036	1		
Attitude – substituting addiction	-.330**	-.317**	-.260*	-.386**	-.241*	-.247*	1	
Time qualified	-.102	-.108	-.029	-.089	-.176	-.031	.067	1

*Denotes items of <.05 significance

**Denotes items of <.001 significance

Table 5: Correlation matrix for Health and E-cigarettes

Item	Knowledge – e-cigarette harm vs tobacco	Belief – young people using	Knowledge – e-cigarette adverse harm	Belief – Long term unknowns hesitation	Knowledge – E-cigarette vapour	Time qualified
Knowledge – e-cigarette harm vs tobacco	1					
Belief – young people using	-.007	1				
Knowledge – e-cigarette adverse harm	-.013	-.229	1			
Belief – Long term unknowns hesitation	.197*	.355**	.096	1		
Knowledge – E-cigarette vapour	.401**	.193*	-.249*	.380*	1	
Time qualified	.387	-.070	.001	.180	.261	1

*Denotes items of <.05 significance

**Denotes items of <.001 significance

Table 6: Correlation matrix for pharmacists supporting the use of e-cigarettes as a quit aide

Item	Belief – Offer e-cigarettes	Belief – not confident supporting patients e-cigarettes	Belief – Reducing patient dependence	Knowledge – Supporting using same skills	Time qualified
Belief – Offer e-cigarettes	1				
Belief – not confident supporting patients e-cigarettes	.270*	1			
Belief – Reducing patient dependence	.340**	.222*	1		
Knowledge – Supporting using same skills	.299*	.167	.526**	1	
Time qualified	-.270	-.028	-.050	-.073	1

*Denotes items of <.05 significance

**denotes items of <.001 significance

Table 7: Correlation matrix for “emerging themes” questions

	Belief – Patient support to reduce use	Belief – Supporting adolescent use	Belief - Environment
Belief – Patient support to reduce use	1		
Belief – Supporting adolescent use	.436	1	
Belief - Environment	.405	.210	1

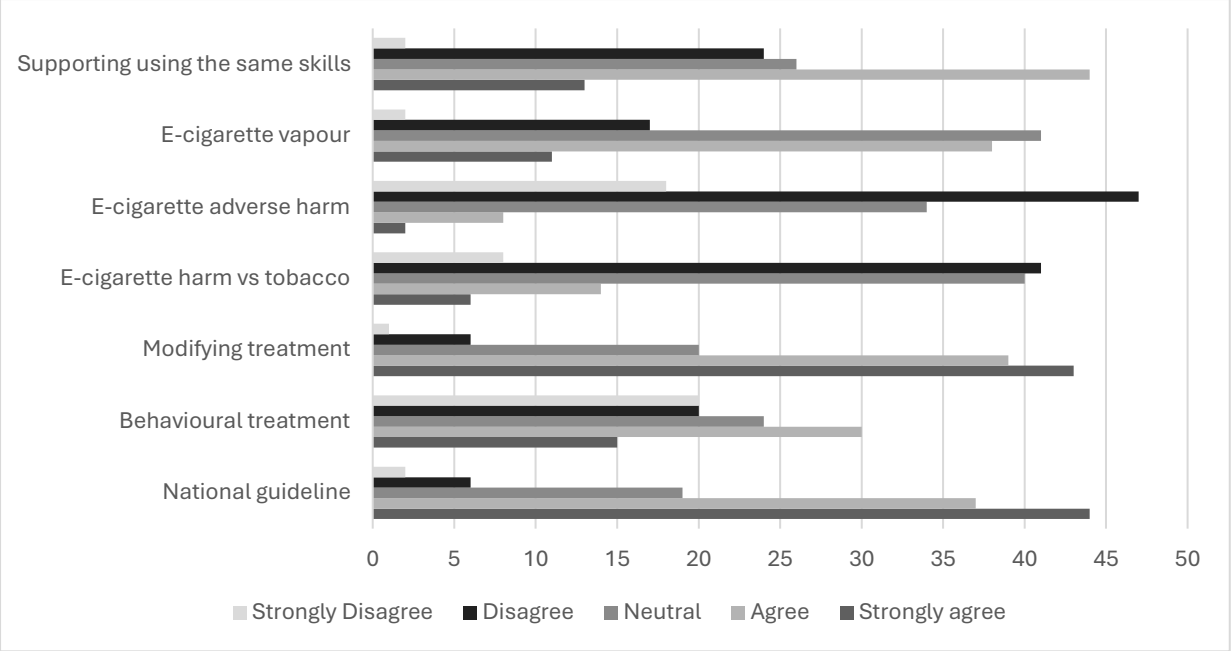

Figure 1: Frequencies of knowledge items

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2.4 Quantitative Research Reflective Commentary

Identifying the area of research and developing a rationale

Across the doctorate I worked in roles with smoking cessation at the core. These were often patient facing helping individuals to quit smoking. I gradually reduced this and began leading a new service decreasing my patient contact. I now work in tobacco control as a public health strategist. When I started the role, this coincided with national government strengthening their commitment to smoke free (less than 5% of the adult population smoking) by 2030. Smoking rates continued to fall but not as steeply as before remaining at 11.9% when I started this project. Within the government commitment came two key announcements (Department of Health and Social Care, 2023): (1) increase in funding for tobacco control, and (2) 1 million free electronic cigarettes (E-cigarettes) through "swap to stop". Both actions would increase the amount of individuals who access a stop smoking service to make a quit attempt. Implementing these locally however would require more consideration to maximise the benefits.

One approach to increasing access to stop smoking services utilising the additional funding is to commission community pharmacies to deliver smoking cessation support. Pharmacists are effective in delivering support (Saba et al., 2014) to help individuals quit smoking. They also benefit from being trusted local community assets and operate in the most socially deprived areas having a greater reach compared to traditional stop smoking services. Community pharmacies are likely to be found in areas where demand for smoking cessation services is greatest due to the social gradient of tobacco use (Astbury et al., 2021; Kotz & West, 2009; Todd et al., 2014).

Aware pharmacists are effective in delivering smoking cessation support, coupled with being trusted community assets and well located across a local authority where demand is highest, we aimed to commission pharmacies to deliver smoking cessation support to complement our existing services to benefit our residents. One challenge however was in offering additional forms of pharmacotherapy beyond nicotine replacement therapy (NRT) to ensure best practice (National Institute for Health and Care Excellence, 2023). This includes e-cigarettes. E-cigarettes are more effective for individuals to quit smoking compared to NRT yet there use in community pharmacies is limited.

Combining the two government initiatives, we looked to commission pharmacies to deliver smoking cessation support while offering e-cigarettes alongside other forms of support including NRT. A literature search identified limited findings on pharmacists views towards e-cigarettes (Barnett et al., 2021) compared to other healthcare professions where there is hesitation towards these. In some studies there is also pragmatism of e-cigarettes as a quit aid versus a lifestyle choice which often negatively impacts the conversation around effectiveness. Furthermore, there was also some initial hesitation from our local pharmaceutical committee (LPC) towards including e-cigarettes. As an effective quit aid, it was important to understand this hesitation from pharmacists to allow us to incorporate e-cigarettes into our locally commissioned services. From previous experience in earlier placement, I had seen how the views of healthcare professionals can directly impact a projects success.

Due to a lack of evidence from the literature, I thought it important to understand the views of pharmacists across the region I was employed within to positively impact residents who use tobacco. To my knowledge, this would be the first study to explicitly ask the views of UK pharmacists about e-cigarettes. From this we could look to design an intervention to increase pharmacists willingness to provide e-cigarettes if this was found to be low.

Developing the survey

Before designing the survey, I spent time identifying if a similar survey existed which could offer comparative data, but there was nothing. My earlier literature searches allowed me to understand some different types of questions which could be used to assess pharmacists views towards e-cigarettes. As surveys on pharmacists are less common, I broadened the search to other healthcare professional groups. One thing noted was surveys lacked a theoretical construct with which these are tied to. The survey could be used to influence local decision making and therefore was important to ensure the survey had strong theoretical underpinning which could increase acceptance from decision makers. Furthermore, if views were negative towards e-cigarettes, it was important an intervention could be designed to challenge these perceptions. This also aided my decision to utilise some theoretical underpinning. I would utilise my knowledge of the topic and some skills developed on the doctorate.

Initial survey design planned to use either COM-B or Theory of Planned Behaviour to underpin the survey due to the wide evidence base to create an intervention. However, although important, I was easily losing sight of the key aim of the survey which was to understand pharmacists views towards e-cigarettes more broadly. Using these theories and their constructs within survey design would detract from this aim of a broad understanding I required, Although I would want my survey tied to a theory to aid intervention design later, focusing questions around specific constructs was something which would have limited my understanding and therefore be of less relevance to the residents I aimed to support. Getting this balance right is one I felt I mostly achieved.

Developing the initial set of questions I used my own knowledge of smoking, coupled with some findings from my scoping review. Furthermore, I also added in a service specification from a national pharmacy smoking cessation service and utilised the resources available through the National Centre for Smoking Cessation and Training. This evidence base allowed me to develop a number of questions I felt were appropriate. Lastly, I considered the work of Edwards et al., (2023) who identified what is important in survey design to increase responses.

Knowledge was a key area I wanted to understand as healthcare professionals are trained to a high standard and required to undertake ongoing learning for their development. They are also taught to understand evidence prior to making clinical decisions. As evidence on e-cigarettes was mixed and increasingly presented in abstract ways, busy healthcare professionals lack time to do their own research. Knowledge was key to understand when designing this survey, particularly for any subsequent intervention designed for healthcare professionals.

Aware from my qualitative interview script the importance of outside support, I sought help from members of the public health team to develop the survey from initial sets of questions to a coherent structure. A question which I found useful was "what are you trying to find out with this question?". Although simple, I noted how each question was added allowing me to begin unpicking what I wanted to know and why. As the topic called for exploratory analysis it changed my approach from being driven by a behaviour change construct to instead what the sections would tell us and what we wanted to find out. The decision to come away from my initial instinct of wanting to tie the survey to a theory is one which helped the overall design and something I will be reminded of in future. This was also reaffirmed by some initial pilot testing with three pharmacists to confirm this would work with the target population. They suggested minor amendments which were made to reflect their feedback.

Participants and recruitment

Prior to recruitment, I worked with two LPC's in the region who had over 200 community pharmacies as members to distribute the survey to. The view of community pharmacies were, if the LPC send it, then it is worth their time. Both LPC's agreed to distribute the survey as they saw benefits to their patients. The LPC's were the pharmacists who helped me pilot the survey using their own views to gain a consensus from their members. Taking the time to work with the LPC was beneficial as it allowed me to develop rapport and trust with what I was doing. Importantly I consulted these at every step to ensure they remained committed and happy with what was asked of their members.

One element of recruitment I was mindful of was survey fatigue or interest. Edwards et al., (2023) identifies ways to overcome this including short and easy questions or an engaging topic. However, the single biggest way is financial incentives which nearly doubles responses. I was lucky to have a small allocation of funding to offer an incentive but in future I am unlikely to have this and therefore it is important to learn additional lessons on effective survey design. Participants were provided a £10 amazon voucher for their time.

The study was advertised through the LPC's with the subject heading "£10 for a 7 minute survey – Pharmacists and e-cigarettes/vapes". I deliberately chose to emphasise the £10 as this would incentivise individuals. I also chose in the email to highlight the role pharmacists play in patient care knowing these are often overlooked compared to other healthcare professions. In under 24 hours of the survey being sent, over 100 responses were received.

Data collection

Being employed within a local authority and the NHS, I was limited in the software I had access to for participants to complete the survey on. I previously used Qualtrics due to ease of extracting data, however, this was not available so I opted for Microsoft Forms. Using this meant it was easy to collaborate with others without needing to access specialist software. It also allowed for anonymity and is user friendly.

When inputting the survey, it was important several people reviewed it unrelated to the survey to see how this looked on both a desktop and phone setting. Although very

minor, this can impact on responses. Furthermore, they were also able to spot typos and suggest edits to wording or the flow of the questions.

Data was collected and stored confidentially. All participants provided consent to complete the survey and for this to be used in future research. Most responses came within 24 hours. As we were providing £10 vouchers we recorded emails to distribute these. This posed a challenge around colleagues not having access to the survey data and having to wait for me to distribute the anonymised data, Distributing the vouchers was a time-consuming experience, but the trade-off was substantial in responses received.

Seeking and obtaining ethical approval

As I required ethics for secondary analysis, I wrongly assumed the ethics process would be easier than that of primary research. When completing the forms required to receive ethical approval, this can be frustrating particularly with secondary data explaining why processes were as they were. However, it is important to remember why ethics are there for the safety of all involved.

Completing the original forms in conjunction with my supervisor, they were sent to the ethics committee. These were returned with "Revise and resubmit". Reading the feedback it was clear I lacked the necessary detail required with a false assumption of secondary data not needing as much detail to receive approval. This has taught me to put in the correct level of detail and not assume my initial thoughts to be correct. Reading comments it reflects badly on my naivety of the submission with clear omissions of parts which I should have known to include. I feel I rushed the forms and in turn delayed the project.

Speaking with my supervisor, there was nothing egregious which could not be amended. However, one assumption I had not considered was whether I needed NHS ethical approval. I assumed as this was community pharmacies which were independently owned I would not need to, but a reviewer did note this. I undertook the Health Research Authority decision making tool and fortunately would not need them. This could have delayed the project and my doctorate further as this can be a lengthy process. I made all the necessary revisions and resubmitted to the committee for review. Gaining approval, I began data analysis.

Data analysis

I was least confident about performing data analysis. While I had some understanding of statistics reported in published papers it had been some time since I last used SPSS to run analysis myself. Compounding this further, I also lacked confidence in writing results even after I conducted the analysis.

With my supervisor, we began considering what types of analysis to run. The initial test were Cronbach's alpha to test for reliability. After this it would be frequencies and correlations of the differing constructs to identify if there were meaningful results.

I inputted the data into SPSS but did not format this correctly. This is an important step which I missed. Formatting the data took longer then anticipated and the mistakes I made here, such as ensuring data is inputted as a numeric variable opposed

to string is an error I will not make again. Furthermore, in running Cronbach's alpha for the whole survey, I was pleased to see a score of 0.8. The survey however does not show anything meaningful and instead, running by sections and constructs was more appropriate to the data. The scores decreased noticeably indicating low reliability between questions, constructs and sections.

With correlations, although relatively simple compared to other analysis types, I needed additional guidance over which constructs to test against each other. Although I ran multiple tests, I felt more confident in performing correlational analysis, I needed support to ensure the data coming out was correct and meaningful. I am aware my role in public health requires data analysis and from this experience I need to undertake CPD in this area.

The survey showed several outcomes which could be reported. The survey had moderate internal reliability. There were also some frequency analysis where inferences could be made to understand the knowledge of pharmacists. Lastly, the correlations between questions identified pharmacists may provide e-cigarettes with sufficient knowledge.

Writing the manuscript

When I wrote the manuscript, I chose journals focusing on nicotine/tobacco research opposed to health psychology. I initially considered the "Nicotine and tobacco research" journal due to a global audience. However, reading through publications, few had survey data so I considered alternatives. I chose "Tobacco prevention and cessation" as this had a primary audience across parts of the world where the e-cigarette and tobacco landscape and legislation is similar and where pharmacists offer smoking cessation support.

The guidelines helped me write the manuscript and notably how to present survey data in appropriate ways for readers to understand and interpret the findings. Previously I would have presented based on how I had done this in other pieces of work, however, having specific guidelines and examples helped in the way I presented the data and something I have taken into my workplace. Furthermore, taking time to read other pieces of work within the journal helped me understand what is and is not relevant.

The aim of this survey was to understand the views of pharmacists towards e-cigarettes. From this, within my placement an intervention has been designed to support pharmacists through behaviour change to improve their knowledge to increase acceptance to offer e-cigarettes.

Lastly, I shared the findings with the LPC's. Sharing research allows them to understand their contribution to the process was appreciated and valued. Furthermore, I have presented the findings regionally and I would look to publish these findings to create a positive conversation around community pharmacies and smoking cessation advice.

Adjusting to failure

When I submitted this in June 2024, I was moderately confident of this passing, but there is always some doubt as at other times during the course, I had also failed some

submissions. When the outcome came back, I was of course frustrated and disappointed. But this also gave me the opportunity to understand where what went wrong could be addressed to improve my own writing style and again learn from experts in sharing their feedback with me.

Noting all the feedback provided, I worked to address each of these. It took some time, particularly with rewriting some sections notably the summary of the results within the discussion. I spent a portion of time reviewing published work and getting the support of my supervisor to ensure this would pass. Some parts of me failing were frustrating as these were simple elements I had missed and something I have done at other times during the doctorate. As I look to finish the course, this is something I must address as I progress into being a psychologist.

Overall reflections

The process of creating a survey focused on a question from my workplace which did not place emphasis on academic rigour associated with publications. Hindsight suggests I should have piloted this further to assess reliability while also adding and removing questions. As this was secondary data, the process of survey design and getting responses occurred before data was accessible reducing the support an academic could offer. In future, if I construct surveys, I will undertake more piloting and ensure constructs/questions align better. Furthermore, certain questions were missing which would have allowed for greater understanding and interpretations of the correlations including smoking/e-cigarette use status.

I enjoyed the overall experience and this research had a direct impact on my placement. This was the first time I had been able to do this with research. It was inevitable I would miss questions and instead something to learn from. On reflection these were fundamentally important to both the analysis and my own role but something I must accept and adapt my own understanding when discussing the findings.

Within this piece of research, I have been able to develop my research skills and learn new techniques in survey design and analysis. I gained further experience in gaining ethical approval, undertaking data collection, recruitment, performing data analysis and writing to a level required to pass the doctorate second time around. These are skills I aim to use in future research to continue my development as a psychologist.

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2.5 Qualitative Research Manuscript

Understanding the implementation and delivery of the tobacco dependency service in the mental health services in the NHS. The view from tobacco dependency leads

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Abstract

Introduction: Smoking remains a leading cause of premature mortality globally. Within the UK, the NHS now implements support for patients across acute, maternity or mental health services. The model chosen to implement is the Ottawa Model for Smoking Cessation (OMSC), an acute model which systematically identifies and supports patients while admitted and offers post discharge support. Research into implementing the OMSC in mental health settings is lacking. This study looks to understand what is required to implement the OMSC in mental health settings to deliver the tobacco dependency pathway.

Methods: One-to-one, semi structured interviews took place with seven tobacco dependency leads discussing their experiences of implementing and delivering the tobacco dependency pathway. Interviews were transcribed verbatim and analysed using template analysis.

Results: Four themes with corresponding subthemes emerged from the analysis. The first theme is “the theory” with the subthemes “underpinning knowledge” and “different systems”. The second theme is “the system” with the subthemes “resources” and “leadership and culture”. The third theme is “the delivery” with the subthemes “the team”, “Policies and tools”, and “the ward environment”. The fourth theme was “the person/individual” with the subthemes “the people skills”, “collaboration outside the system” and “pragmatic realism”.

Conclusions: Tobacco dependency leads faced numerous challenges with implementing and delivering their tobacco dependency pathway. “Leadership and culture” along with “resources” proved the most difficult to overcome, but all leads were adaptive in their approach to overcome the challenges. Future research should look to understand how the experiences of a wider sample of tobacco dependency leads matches to this analysis to support more pathways being implemented and delivered.

Implications: Key areas were identified as hampering the tobacco dependency pathway implementation and delivery. These areas can now be targeted to better support pathway development and improve outcomes for patients.

Introduction

Smoking accounts for 8 million deaths annually with 22.3% of the global population using tobacco (World Health Organisation, 2023). Within the United Kingdom (UK), rates of smoking have decreased substantially since the 1970's with 12.9% of adults currently identified as smokers (Office for National Statistics, 2023). Furthermore, smoking reduces life expectancy by 10 years within the general population, but up to 20 years for those with a severe mental illness (Royal College of Physicians, 2018). Smoking remains a key driver of health inequity, with those living with a severe mental illness more likely to smoke compared to the general population (Action on Smoking and Health, 2016). Since 2007, stop smoking services have helped many people to quit smoking, but the rate of success has decreased from 44% to 33% (Beard et al., 2020). Stop smoking services struggle to support those with a severe mental illness with this group preferring and succeeding with a different approach to quitting (Gilbody et al., 2019) and may explain the decrease in successful outcomes.

The National Health Service (NHS) identify they are in a position to support those with a severe mental illness to quit through the long term plan (NHS long term plan, 2019). The long term plan aims to improve care for patients ensuring everyone is provided health opportunities throughout their life span to ensure we live healthily. A focus is on prevention of major health problems with smoking being a leading contributor.

The NHS long term plan aims to ensure any individual encountering health services are offered support to quit smoking by March 2024. This is inclusive of individuals accessing acute, maternity or mental health services. The long term plan identifies the Ottawa Model for Smoking Cessation [OMSC (Reid et al., 2006)] as a model to implement. The OMSC systematically engages smokers during an acute admission offering specialist support, pharmacotherapy and post discharge support. The success of the OMSC aligns with the "teachable moment" principles suggesting contact with a health service provides a unique opportunity to encourage an individual to consider a health behaviour change (Lawson & Flocke, 2009) including smoking (Buttery et al., 2022; Frazer & Kelher, 2018). The long term plan builds on recommended guidance of ensuring all patients are offered an opportunity to quit (National Institute for Health and Care Excellence, 2023) while creating a rationale of opportune support at the right time to ensure an opportunity to quit smoking at every engagement with healthcare services.

The long term plan creates the "Treating tobacco dependency service" which is staffed by a new team delivering intensive support within a healthcare environment. A key factor in the success of the OMSC is a new team delivering support and not creating an additional workload for existing healthcare staff (Evison et al., 2020). The OMSC creates a systemic cultural change within a healthcare organisation where all healthcare professionals make referrals to the tobacco dependency team (Reid et al., 2010). Within the UK, healthcare professionals know the harm of tobacco, but many choose not to discuss or refer patients for support (Asthma UK & British Lung Association, 2021).

Initial research on implementing the OMSC within the NHS identified key areas to focus on within an acute trust (Rodrigues et al., 2022). These included 26 behaviour

change techniques from COM-B (Michie et al., 2011). Shaping knowledge was the key driver of implementation success within this research.

The OMSC is an acute model not tested in mental health or maternity services. Prior to the long term plan, support for smokers looking to quit within a mental health service was limited (Lappin et al., 2020). Gilbody et al., (2023) has shown interventions to support individuals to quit smoking in mental health services has been known for 20 years, but successfully achieving these outcomes is challenging (Brose et al., 2020). These challenges include staff engagement and a culture of smoking within mental health services (Huddlestone et al., 2022).

Research of implementing the tobacco dependency pathway in mental health services is limited. Barnett's (2023) qualitative study identified several barriers and facilitators in mental health services. Facilitators included stakeholder interest and support, supportive management, enhanced support for severe mental illness populations to quit, existing infrastructure used by stop smoking services and prior experience of project leads. Barriers included a lack of funding, short implementation time frames, recruitment, and competing demands within the wider healthcare system. Barnett's work consists of community mental health services as these were early implementation sites. The role of these sites was to understand the challenges and develop ways to overcome these to support other trusts during a national roll out of the tobacco dependency service.

This study aims to understand the key components involved in implementing the tobacco dependency pathway. It will also identify if similar facilitators and barriers to Barnett's (2023) study are apparent within a wider sample of NHS trusts and will focus exclusively on inpatient services. As trusts are at different stages of implementing their tobacco dependency service, qualitative research will allow for a deeper understanding of barriers and facilitators to implementation. Where possible, we will apply COM-B to findings to see where there are divergences or similarities with acute services shown by Rodrigues et al., (2022).

Research questions

1. To understand the key components involved in setting up and implementing the treating tobacco dependency pathway in mental health services.
2. To map the identified key components to the COM-B model

Methods

Study design

A qualitative design was used to understand how mental health services implemented their tobacco dependency pathways. Semi structured interviews were used as these allow for a series of questions to be asked while allowing for follow up queries and tangential points to be discussed. The focus of these interviews was to understand key components which influenced different stages of implementation and delivery of the tobacco dependency pathway.

Participants

Tobacco dependency leads were invited to take part in the study through their involvement with networks designed to support the implementation or improvement of the tobacco dependency pathway in mental health trusts. The first author belonged to these networks through their job role. Individuals were excluded if they were not involved in implementing and delivering the tobacco dependency pathway.

Nine tobacco dependency leads were initially recruited from seven NHS trusts. Two were removed as these did not implement the service leaving seven from seven trusts. Two participants had clinical registration as nurses, one as a nursing associate with the remaining four having experience within public health, addiction services, stop smoking services or the NHS. Length of time in their role as the tobacco dependency lead varied from six months to four years. Each trust varied in the delivery of the tobacco dependency programme from covering an entire trust to smaller ward based offers. Each participant remained confidential with the use of pseudonyms with place/organisation names removed.

Data collection

The study was approved by the university of Staffordshire ethics committee. All participants were recruited between July 2023 – September 2023. Tobacco dependency leads agreed a convenient time to be interviewed. They were provided with an information sheet about the study and provided consent to be interviewed. Data was collected through a one-to-one semi-structured interview using Microsoft Teams. The first author, who is trained in tobacco dependency, conducted all interviews. Interviews lasted 35-55 minutes.

Interview content

Interviews were conducted using an interview guide developed by the first author using open ended questions which defined areas of exploration. Table one shows interview topics with example questions.

Insert table 1 here

Questions were developed based on the first authors knowledge of working within tobacco dependency services. This was complemented by consulting one policy document (NHS Long term plan, 2019), a research presentation (Barnett, 2023) and one research paper (Rodriques et al., 2022).

One pilot interview was conducted using a tobacco dependency lead after which the topics and interview guides were optimised. Further feedback was provided by the third author.

Analysis

A "subtle realist" approach (Hammersly, 1992) was adopted as the first author led their own tobacco dependency pathway within a mental health service. This epistemological position was taken as the researchers perspective will influence the interpretation of the results. This position retains the belief in phenomena which are independent of the researcher and knowable through the research process.

The data was analysed thematically using a template methodology (Brooks & King, 2015) involving six stages. The first stage was becoming familiar with the transcripts and noting issues which arose. Secondly, a preliminary coding of the data took place. This generated *a priori* themes based on Barnett (2023), the NHS Long Term Plan (NHS Long term plan, 2019), and Rodrigues et al., (2022). Initial higher order themes included theory, system, delivery. These were tentative and subject to change, re-definition or removal. Furthermore, with initial coding, some labels ("a code") was used to describe what had been interpreted in a passage as important in relation to the research questions. These included IT systems, staff training and behaviour change.

The third stage incorporated all emerging themes into meaningful clusters where the first and second authors agreed a set of codes to apply to a transcript based on initial coding and *a priori* themes (Supplementary material – Template 1). This included three higher order themes: Theory, system, delivery with lower order themes clustered within these. Here it is not uncommon for themes to emerge showing lateral relationships across clusters.

The fourth stage took the initial template against one transcript and making refinements based on the template mapping to the transcript (Supplementary material – Template 2). Here a further higher order theme emerged: "the individual". Stage five takes this refined template and subjects this to further transcripts while making necessary modifications. This is an iterative process making amendments over several transcripts where codes emerge with the addition and removal of codes within several templates. This generates a rich and comprehensive understanding of the data (Supplementary material – Template 3 & 4).

The sixth stage finalises the template and is applied to the full data set. Here, there is never a final version of the template and if a new theme emerges, there is refinement to a code to incorporate this. Policy was originally within "the system" but after completing analysis, it was determined this would split into two themes within "the theory" and "the delivery".

The first author initially applied the analytical framework to the transcripts with others in the research team. The second author reviewed transcripts for consistency in coding and analysis with any disagreements or discrepancies resolved through discussion and consensus.

Findings were discussed with an independent third party who was familiar with tobacco dependency. This helped provide a further perspective on the analysis and helped shaped the results drawn.

Results

The analysis produced a template with four themes: The theory, the system, the delivery, and the person/individual. See table 2 illustrating these four themes along with corresponding sub-themes on implementing the tobacco dependency pathway in mental health services. Illustrative quotes are used to present each theme.

Insert table 2 here

The theory

This theme describes what underpins the who, what, where, when and why the programme is implemented the way it is. It corresponds with two sub-themes: Underpinning knowledge and different systems.

Underpinning knowledge

Underpinning knowledge is the relevant theories and information to build the tobacco dependency pathway on. Within this, our leads would use existing knowledge and theories alongside guidance and necessary training required to support pathway delivery.

> "Our service rely, on, you know on admission and referrals and providing NRT [Nicotine replacement therapy] and treatments. Luckily we do provide vapes [E-cigarettes]" – Victoria

A key part of the guidance and the OMSC is accurate screening for smoking status on admission. Accurate screening was adopted by all leads in the design of the pathway. Victoria also discusses forms of treatment including nicotine replacement therapy and e-cigarettes on admission, again acting on the guidance to deliver best outcomes for patients. One challenge for all leads was the lack of research on those with a severe mental illness and supporting these to quit.

> "SCIMITAR [Smoking cessation for people with severe mental illness (Gilbody et al., 2019)] trial came out and actually proved, you know, when I was sat with stakeholders, we need to adapt our services to mental health patients" – Samantha

Samantha, like all the leads, cited the outcomes of this study to identify what elements of behaviour change should be focused on to support patients in quitting. The guidance did not focus on this study, although it is one cited by leads regularly and the necessity to adapt services to the patient needs to deliver outcomes. Our leads acknowledge if they followed the guidance as was written it would have led to poorer outcomes and delayed delivery.

Different systems

The OMSC is a key model to implement in achieving the NHS long term plan. Each lead used the OMSC as the basis for their own pathway design. As with the underpinning knowledge, there is an acknowledgement that they need to adapt to achieve outcomes.

> "I took the Ottawa Model and what our neighbouring trusts were doing and what the guidance was saying and then thought about it in context of what I know about our trust and, and, and those different parts of it" – John

As John demonstrates, flexibility with the approach and knowing the setting this will be applied within supports implementation. Elisha acknowledges the OMSC's deficiencies as an acute model lacking flexibility with the approach.

> "its an acute model cause mental health didn't have one and it was very robotic. It was very much based on 20-minute appointments, no gaps…it was a very tight model" – Elisha

A recurring theme was the OMSC is predicated on constant patient contact with continuous referrals and support, which is less likely to occur within mental health settings. All agreed the principles of the OMSC could work in mental health services but it could lack the necessary flexibility to be applied in this setting. It is possible for some lessons to be learnt here for those writing policy to factor in flexibility to remove the rigidity with which this model struggled to be implemented.

The system

This theme describes the specific arrangements made within the NHS trust where the programme is implemented and how these impact the pathway. This is driven by two sub-themes: resources and leadership/culture.

Resources

Resources are what those implementing the pathway need, whether this is funding, IT/Data systems, or staffing. No tobacco dependency lead interviewed said they felt appropriately resourced to deliver the pathway.

> "I'm the only one so I cannot manage you know all those wards, to be on every single MDT [Multi-disciplinary team] meeting to facilitate for every single person" – Laura

As Laura was the only person on the team, implementing the pathway independently impacted on the support she could offer patients with quitting, but also how she would interact with the wards as her time was limited. All leads noted not having consistent interactions with the wards through their own time limitations impacted on how the team could be perceived negatively and impact the pathway.

> "…when you have somebody that is designated into, you know, holding these clinics, referring patients to be prescribed… it [funding] helps the process be a bit more streamlined" – Samantha

Samantha demonstrates how having more resources in the team helped to support more patients and the pathway would continue to develop. It was important our leads acknowledged the lack of resources and instead focused on what could provide the greatest outcomes.

Leadership and culture

Leadership and culture within tobacco dependency is having an agreeable culture driven by senior leaders to create positive change to impact the culture of an organisation. For our leads, they all faced historical beliefs about smoking and mental health by most within the trust. This impacted how senior leadership viewed and accepted the tobacco dependency programme within the trust.

> "I've spoken to matrons, they said 'oh patients here aren't interested in stopping smoking' and I went round with pharmacy I spoke to two

> patients…they [pharmacy] thought I had some magic wand because I spoke to patients, and they signed up to get NRT and didn't sign up to stop smoking" – Fiona

Fiona demonstrates how a matron, someone senior within a ward team, had a negative view towards smoking. Fiona was able to show patients had the opposite views to the matrons beliefs to deliver a positive outcome. The cultural norms around smoking are longstanding. All leads highlighted the tobacco dependency pathway could be scapegoated by leadership when situations changed, notably around violence and aggression.

> "You know there's an increase in violence on the ward. What are you going to do about it and the smoke free thing? Its like well not really within my reach or gift to wave my magic wand, there's lots of other multifactorial things going on there, really, smoking is a symptom" – Elisha

Elisha demonstrates the common belief of leadership where implementing smokefree policies leads to an increase in violence and aggression. Robson et al., (2017) disproved this association but this myth perpetuates throughout mental health services hindering progress of the tobacco dependency team. However, all leads would routinely track violence and aggression against the process of implementing the pathway to challenge beliefs of senior leaders and this could lead to change. The leads saw how leadership had competing priorities and tobacco dependency could sometimes be reduced to a smaller concern.

> "…the reality is right now, despite some of the ambitions that are in place, its [Tobacco dependency pathway] so far down the list. Uh, that is, its disappointing, but understandable." – Geoff

Healthcare systems are complex with competing demands. Ensuring senior leadership has oversight of the tobacco dependency pathway is important as Geoff demonstrates, the demands of the programme versus the wider system are complex. Without senior leadership support, it hindered progress. With each obstacle, the leads would find ways to overcome these and it was individuals who helped.

> "There's a lovely OT [Occupational therapy] assistant, and sort of peer support…she has been fantastic support, the ward admin staff…have been fantastic to me" – Victoria

As Victoria demonstrates, although there are overarching challenges with the culture surrounding smoking, there are many who do support the work. All leads acknowledged there were individuals across the trusts who supported the work, although not always those in leadership. Culture and leadership proved a key barrier for our leads in implementing the tobacco dependency pathway.

The delivery

This theme describes how the pathways are delivered with the sub-themes: The team, policies and tools, and the ward environment.

The team

Although the leads were important, the tobacco dependency team members (*where resourcing allowed*) skills and personalities positively impacted on delivering the programme.

> "Its about people's personalities isn't it? At the end of the day … you can teach someone a model, but its, its, I think fundamentally about people's interpersonal skills isn't it? And their ability to engage, not just service users but to also gain the trust of staff as well" – Elisha

Recognising the interpersonal skills of each team member and providing autonomy allowed staff to feel empowered to deliver strong outcomes for patients and the pathway. However, sometimes members outside the tobacco dependency team could influence projects positively. These include using patients with lived experiences as two of the leads did.

> "We actually used our, involved patient groups. So we've got four patients from the involvement team … you know they look at it from a different perspective [smokefree policy]" – Victoria

The patients with lived experience added depth none of the leads could themselves bring, and this unique insight developed the pathway and support offered to patients further. All leads noted co-production would improve their pathways and would have like lived experience to facilitate this as Victoria shows their benefit. Other factors such as resources, time and availability of patients with lived experience impacted this not happening.

Policies and practice tools

Policies and practice tools is defined as ensuring a policy is in place to ensure the tobacco dependency team are delivering best practice and guidance while having all the necessary tools to achieve this. A policy relies on the guidance and the want/vision of each healthcare system. Each lead noted the different policies across the country varied, but they all followed a similar agenda.

> "So we've heavily referenced the NCSCT [National Centre for Smoking Cessation and Training], the long term plan, um national guidance. So we put all those references in. To be honest, once you start looking at one policy…policies tend to be quite similar" – Victoria

Victoria demonstrates key references included in her policy and all leads used similar ones. However, the policy was challenging to implement and this was further hampered by not having the correct electronic patient record/clinical systems in place to document and record the work completed with patients.

> "So we, we still don't have our clinical system in place, but we go onto the wards everyday, we know our patients well. Whenever there is a new admission, we, we find out their smoking status because we can't trust the system, the clinical notes" – John

Each lead, like John, had a similar experience. If they are unable to report their outcomes through a quantifiable means, stakeholders may not be able to monitor, evaluate and support the work being undertaken in the pathway. Some leads noted this as it has hampered some discussions around progress being made and it appeared anecdotal.

Best practice to support patients would be included in smokefree policies. It is important the correct practice tools are there to complement the policy. For instance, leads would implement smoking screening of a patient on admission using a carbon monoxide monitor and would be referred through the electronic patient record to the tobacco dependency team. The screening varied by each pathway due to lacking the tools to implement this.

> "…it's a little bit difficult to get a real systematic approach to that [screening]. Once our tool is in system one, all new referrals will come into a kind of waiting area in our system" - John

Once a patient is referred, the tobacco dependency team could deliver evidenced-based treatment. Yet, even if the policy was well implemented, they had all they needed to succeed with practice tools, success was not a certainty due to challenges with the patients own mental health. However, the leads all acknowledged giving someone a chance, and a patient in turn had a greater chance in succeeding if not now, but in future and the pathways acknowledge this.

> "if people have periods of temporary abstinence when they are ready and that might not be, and it probably wont be until they're discharged, they had that experience of perhaps trying vaping devices, different types of NRT, you know that they've got some skills they can apply in the future" – Samantha

The ward environment

The ward environment is the place where the tobacco dependency team work and the relationships they develop with the ward and the staff. It also considers how each ward would impact on the tobacco dependency teams ability to support patients through the ward culture, hampering the policy, lack of training, or the culture and staff beliefs. Tobacco dependency teams would cover multiple wards and would not embed themselves within one team. This meant they could feel disconnected from the ward staff while not being able to address misconceptions of their role and the pathway.

> "It's more hurtful when the staff are saying, "oh your job is not worth it really because you don't do nothing. They will smoke"…its hurting me personally…they were people I was working with before…they're trying to minimise my effort" – Laura

A ward culture coupled with lacking training and staff beliefs hampers progress of the tobacco dependency pathway. As Laura shows, what is said can minimise the role of the team on improving health outcomes, with some ward staff seeing no health benefits to a patient if they stopped smoking. This view was shared by other leads about their own wards.

An admission to healthcare provides a unique opportunity to ask about smoking and to act on this conversation and getting the patient the support they want. However, this negative ward culture impacts staff asking this question and subsequently impacts the patients health further.

> "People are scared to have that conversation [about smoking] with people with mental health problems…If someone is a smoker, the first thing they're gonna ask when they come in is where are my cigarettes…the door is open isn't it" – Elisha

The person/individual

This theme focuses on the tobacco dependency lead and the person responsible for implementing and delivering the pathway. The subthemes incorporated within this are: The people skills, the collaboration outside the system, and pragmatic realism.

The people skills

The people skills is having the emotional intelligence, personal resilience and requisite professional skills to navigate the system to deliver the pathway. Successful pathway implementation and delivery would positively impact patients health by quitting smoking but also the leads own development. The leads are uniquely placed to navigate a challenging system.

> "I was there to answer every one of this points [About the ward going smokefree] in a very matter of fact, but non, you know, not sort of jargony and wordy corporate lingo. I just got to say that this is happening whether we like it or not. Every hospital is doing this, its not gonna be easy. And while you're on the [Ward], and so it was, it was a real kind of, I had to take control of the narrative" – John.

John had the emotional intelligence to take control of the narrative of a difficult situation and turned this into a positive experience. By having these personal skills, the leads could navigate topics around smoking which uniquely placed them in difficult situations, such is the nature of smoking in mental health services. A personal resilience allowed the leads to face the challenges of the job including difficult cultures, rejection by a patient or lacking the necessary resources.

The complexity of healthcare systems requires a delicate balancing act for the leads professional skills to deliver positive outcomes for patients. One skill demonstrated is maintaining working relationships with key individuals.

> "I just had a very honest conversation with the ward managers and matrons and said, how is this working in practice [being smokefree]? As you would expect, lots of bizarre workarounds with the policies and procedures and the interpretations. Its only when you put those things into practice that you really test out what is working" – Elisha

Here Elisha demonstrates how an open dialogue with key members of a ward team allows for her to discuss how the smokefree policy is not being followed. This has the potential to be a difficult conversation and all the leads had examples of these, but they all demonstrated professional skills to gain positive outcomes. Although there are also

times for the leads where these were also negative. The leads were sometimes reflective and acknowledge the need to handle difficult situations differently in the future.

> "I think anytime something doesn't land you, you have to go back and yes, you can be frustrated that others didn't receive the message, but you also have to look at yourself…and see the learning curve around different ways you can word something and you need to speak the language of the people and understand…Its recognising their priority isn't your priority and it was almost trying to figure out where does this fit for you" – Geoff

Here Geoff is reflective of how the difference in priorities doesn't always overlap, and similarly to the other leads, it is making the right approach to the right person at the right time. Importantly, for Geoff and all the leads, there was acknowledgment they got it wrong at times but were all quick to understand their mistakes and address these going forward.

The collaboration outside the system

All leads found working within their own trust as challenging, from utilising their resources best, to leadership and culture impacting on the outcomes of the team. However, they all saw the struggles they were facing mirrored by others in local, regional and national forums. These provided an opportunity to get support and ideas from others.

> "Because I'd say in our trust, other than a few key people, it was quite unsupportive. But actually…Joan and a couple of others were instrumental in me learning the role, learning the world, getting those key introductions…its true collaborative working…working with people outside your specific trust" – John

> "One of the biggest motivator for me is actually the national and regional meetings that occur because getting to work with your colleagues across the board is actually really helpful, if not just for how you approach things, but also for your own morale to hear that other people are experiencing or have experienced similar things and how they've approached it to improve it. Umm, I think this area of work without those networking opportunities that ultimately turn into a support network are invaluable." - Geoff

The leads all saw collaborative working outside their own trust as an opportunity to problem solve using collective working and knowledge. This helped all our leads with a different range of answers to questions they thought they were struggling with in isolation.

Pragmatic realism

Acknowledging the difficulties of implementing the tobacco dependency pathway was important for all the leads and in turn, what success looked like became difficult to define. The national aim was to ensure all patients coming into contact with health services by April 2024 would be offered support to quit smoking. The leads noted this aim but the difficulties come in trying to achieve this.

> "I think its ones of those things. I'm not saying it's a poisoned chalice [being a tobacco dependency lead], but I think, its you know, its quite tricky isn't it? People have very strong views around smokefree…I suppose because my focus isn't just smokefree, I guess I get respite from it because it is, it's a hard, you know, it's a hard sell isn't it?" – Elisha

Elisha recognises the regular challenges and difficulties of the job could impact the leads wellbeing. For Elisha, she had other projects she also worked on which helped her own wellbeing, but for others, this was there sole role and the need to develop strategies to face the demands was difficult. For the leads, being able to overcome this made their job more manageable to the challenges they faced.

> "…initially when I started [the role]…they were saying we just wasting money for your job because this is pointless. And I did say to one person 'ok so are you trying to say that you don't do your job properly?'…I said 'seriously, so why that patient who has got mental health problems is coming back'…I challenged with that king of answer with very polite manner" - Laura

As Laura shows here, the difficulties could come from anywhere, yet the response is used to justify their own place in the system. It is important to acknowledge that all leads adopted a realistic approach to what they were being asked to do and were honest enough to express their concerns to the stakeholders of the programme. The leads personal skills made this a manageable conversation and allowed them to have a positive relationship with the stakeholders to understand the project was not likely to meet the recommendations of the NHS long term plan.

> "I actually put into perspective for stakeholders how to adapt their services…what is actually feasible for them, what they can commit to helped shape some of, how the service is running today" - Samantha

The leads were pragmatic in their approach while understanding the limitations and addressing the concerns to allow the programme to produce the strongest outcomes. This pragmatic realism was apparent in all leads and although it felt difficult to accept the aims of the programme were unlikely to be met, they knew they went above what the resources could provide and pushed the trust leadership and culture to progress in a way which led to positive outcomes for patients to stop smoking.

Discussion

Semi-structured interviews were conducted with seven tobacco dependency leads to identify and understand some key components involved with implementing and delivering the tobacco dependency pathways in mental health services. This is the first study to consider the implementation of the pathways beyond the work of Barnett (2023). This study goes beyond the previous work highlighting the barriers and facilitators and therefore provides a fuller context to the research literature. This includes identifying the underpinning knowledge and models used to facilitate the implementation and delivery of the tobacco dependency programme.

Our analysis identified four key themes which are important when considering how to deliver the tobacco dependency pathway. Each of our leads referenced these as

interwoven with one another but a clear definition allows us to understand each theme in isolation, putting the findings in the context of other research. For the tobacco dependency leads, the theory underpinning their work is vital as it supports a rationale for their way of working while using existing models of delivery provides a framework with which to structure their own pathway. The system with which they operated within would either hamper or help their success. Our tobacco dependency leads acknowledged this was pivotal in utilising the theory and having the resources and support from management to implement the pathway. The delivery of the pathway were a result of the system and the theory but there were either hindered or helped by the components within this theme. The person/individual as the tobacco dependency lead plays a crucial role in the implementation as these could positively or negatively influence the previous three themes. This could be to the detriment or success of their pathway. This study has used template analysis to help determine what are some components required to develop and implement a tobacco dependency pathway in mental health services within the NHS.

The theory

Our tobacco dependency leads used a variety of "underpinning knowledge" to guide the development/implementation of their tobacco dependency pathway. Alongside the OMSC, all identified the need to be flexible and cited the smoking cessation for people with severe mental illness trial (Gilbody et al., 2019) where traditional support was not sufficient to help someone quitting. The tobacco dependency leads also noted other supportive elements including pharmacotherapy, problem solving, social support and elicitation (Brose et al., 2018). Our study identified flexibility within our leads approach to support patients as a rigid structure with a set protocol of support has unsuccessful outcomes both for patients and the pathway. Fredman-Stein et al., (2022) supports this by identifying the need to develop "individual strategies" to support patients with the practitioner being "supportive but not lecture-y". This is a recurrent theme throughout with our leads acknowledging the evidence to support patients quitting and pathway development to produce the best outcomes.

Evidence for the effectiveness of the OMSC within mental health settings has yet to be shown. Importantly however, the components which make the model effective in acute settings; the teachable moment, accurate screening with very brief advice, and opt out referrals are well known (Mullen et al., 2017), the effectiveness is less understood in mental health settings. Huddlestone et al., (2022) found dedicated specialist staffing increased successful outcomes for patients, something less commonly cited within the acute literature. Our leads noted they were not reliant on ward staff to deliver interventions without specialist knowledge or time. They instead identified being a separate team without time constraints, which ward staff faced, they could justify their position within the system which would create a perpetual cycle of building success slowly (Ugdale et al., 2021). Although the OMSC lacked the evidence to support its efficacy in mental health, it acted as a guide to implement a pathway. It did however require adaption to the environment and patients.

The system

Within this theme, two overarching sub-themes emerged which aligned with the findings of Rodriques et al., (2022). These were resources and leadership/culture. Burns et al., (2018) found appropriate resources and supportive leadership/culture were vital in successful implementation of tobacco dependency pathways.

For our tobacco dependency leads, resource allocation to the pathway were insufficient to meet the aims of the programme. Lightfoot et al., (2020) states more resources would produce better outcomes for patients. Furthermore, each pathways resource allocation varied greatly as trusts were spread over the country. The geographical spread led to different challenges with funding, rates of smoking and workforces. All previous research on mental health settings considers a one hospital or ward approach. This is one of the first studies to consider a wider range of trusts operating multiple hospitals/wards making comparisons to other research difficult.

Leadership/culture of an organisation underpin some key decision making and choices made (Ruchlin et al., 2004) with healthcare no exception (Fulop & Mark, 2013). Our leads faced varying views from senior leadership which influenced culture within the trust. Even within one trust, there was little uniformity between views towards the tobacco dependency pathway, making the role of the leads more difficult.

Healthcare professionals, despite knowing the harm of smoking, often feel uncomfortable discussing this with patients (Davidson et al., 2018) and even more so within mental health settings (Farver-Vestergaard et al., 2023). This juxtaposes how tobacco control is viewed in society as being widely supported (East et al., 2021). Our leads describe these challenges from consultants viewing smoking as “a human right” or staff saying “smoking calms them down”, both of which have been debunked as inaccurate (Taylor & Treur, 2023). Views such as these create a culture of negativity toward the tobacco dependency team when discussing smoking even when it is not harmful to a patient-practitioner relationship (Taylor et al., 2021). Culture/leadership influences the support for different agendas including tobacco dependency, yet our leads found it was often hampered by leadership and healthcare professionals own intrinsic biases about patients motivations and ability to quit (Smith et al., 2019) and further complicated by staff who smoke (Chawlowska et al., 2022).

Of all areas our leads identified, they found leadership/culture impacted the most on their pathways implementation and development. To overcome this, the leads found an approach of auditing and sharing findings with leadership and decision makers could change perceptions leading to increased support. However, the leads acknowledged support for change in smokefree agendas required a delicate interplay whereby leadership accepted the need for change as a cultural issue between smoking and mental health. A common area challenged was the notion of violence and aggression increasing when smokefree is implemented (Russel et al., 2021). However, the evidence shows when implemented well, the opposite occurs (Robson et al., 2017). Our leads would work across a variety of challenges utilising the evidence to influence leadership which could impact the culture within the organisation.

The delivery

Beyond the long term plan citing the OMSC, the tobacco dependency leads were given little guidance on implementing and delivering the tobacco dependency project. Our leads ascribe to the unrealistic time frames and competing demands within the NHS as found by Barnett (2023).

Findings indicated these challenges would be compensated through having a strong team around our leads on the tobacco dependency projects. Bax (2020) found collaborative team working as important to improving screening for smoking in first episode psychosis teams. Our leads identified how integrating into ward teams as a designated person to discuss tobacco improves patient outcomes, similar to other research (Rodgers et al., 2017). Furthermore, some tobacco dependency programmes utilised peer-support workers who offered their own insight into challenges faced in mental health settings through co-production which improves health outcomes (McKay & Dickerson, 2012).

With "the delivery", our tobacco dependency leads identified policies and practice tools alongside the ward environment impacted the programme. Both had similar impacts to those within "the system", but within this theme, it is important to know how this impacted on patients through the ways healthcare professionals viewed the tobacco dependency programme. If a programme was well resourced and had the necessary tools to support the policy, healthcare staff would perceive the programme positively with patient interaction being stronger with opposite findings for those less well resourced (Sohal et al., 2016).

The individual

A successful outcome is often attributed to the intervention, yet it is still important to understand what drove success and the person behind the intervention. Success within tobacco dependency is a partnership within a hospital with senior leadership embracing the necessary change (Evans et al., 2019). As none of our leads were in a senior leadership position, it was instead their ability to engage with those in senior leadership which allowed the process of change to occur. There were many challenges, but the leads used their own diverse skillsets, backgrounds and knowledge to support this change.

Pragmatic realism is the clear need to understand what is feasible within the programme versus the expectations placed upon it. This included the leads desire to do more and to better support those patients wanting to quit but they were hampered by a lack of resources. Our leads would have honest conversations with stakeholders allowing positive relationships to develop and an agreement of the pathway which is most suited to their own trust. They would acknowledge limitations and not being a mirror image of the initially proposed pathway.

A final important aspect not considered elsewhere within the literature was collaboration within teams outside their system or trust. Collaboration is important as it allows shared learning and understanding of issues outside your own knowledge base (Schot et al., 2020). Our leads acknowledged this occurrence and its benefits and helping the understanding of their own pathways and the challenges they faced.

Study strengths and weaknesses

This was the first study to understand some of the underpinning knowledge and requirements needed to develop and implement the tobacco dependency pathway in mental health services. It builds on the earlier work addressing barriers and facilitators. A strength of this study was the use of qualitative interviews led by someone familiar with a tobacco dependency programme to help to elicit more detailed responses which allowed for a greater understanding of each leads perspective. Furthermore, template analysis allowed the research team to be guided by existing evidence to develop a robust template while allowing for the natural progression and development of themes. A further strength was a unanimous agreement by all our leads that the template represented their experiences.

With over fifty NHS trusts in England providing mental health services, it was not possible to summarise the national picture. This is important as different parts of England have varying levels of funding which, as demonstrated, impacts the perception of a pathway's success. Our leads also varied in stage of developing and implementing their programme which allowed for some to be more reflective of their pathway and experiences. A further limitation was we were unable to identify the key components of behaviour change as was our original intention. Therefore, it was not possible to rank order these findings as other studies considering implementation had (Rodrigues et al., 2022). Instead, we contextualised the findings within mental health settings (Jones et al., 2020).

Implications and future research

As this was the first study to consider the broader factors to implementing the tobacco dependency pathway beyond facilitators and barriers, key areas can be identified to support trusts where there is a delay. Furthermore, it is important to note key components which drove each trusts implementation and their applicability to other health behaviour programmes within mental health settings.

Future research should consider more trusts to understand a wider sample for the representativeness of this template. Furthermore, research should consider the impact a lead has on an individual programmes success alongside understanding collaboration outside a system and how this can influence a project. Additionally, research should look to consider the necessary behaviour change techniques to be able to quantify and improve outcomes further. A challenge with this study was in coding new methods of behaviour change relevant to the environment. However, if coding is reliable and in a larger sample then this study, Black et al., (2019) identified there could be new methods to analyse and evaluate the impact of different styles of support and pathway development and this is something to consider. Finally, future research should look to address the challenge health care professionals face in delivering tobacco dependency treatment to make this pathway more sustainable.

Conclusion

The NHS long term plan identifies the need to offer all patients admitted to mental health services as important in reducing the health burden associated with smoking.

Tobacco dependency leads have identified what was important in implementing and delivering this pathway but faced two key challenges around the subthemes of "resources" and "leadership and culture". The leads were adaptive in how they chose to tackle these but were always realistic in their approach and what is achievable.

Acknowledgements

The authors would like to thank members of the East of England mental health tobacco dependency group for their support.

Conflicts of interest

The authors do not note any conflicts of interest with the materials covered in this manuscript.

Journal guidelines

Journal chosen for this manuscript to be submitted to is the "nicotine and tobacco research" journal.

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Table 1: Semi-structured interview guide

Interview theme	Example questions
About the lead	How did you become involved in this project? Had you worked in smoking cessation before? What made you want to work in this area?
Setting up the tobacco dependency project	What was the trust doing for smoking cessation before this project? What was the trust doing for smoking cessation before this project? Did you consult with other trusts on their progress or was this performed in isolation? Which professionals helped in the early phases of the project? If you were to name three components which were vital in helping the project to start, what were these?
Implementing the tobacco dependency project	Do you operate any of the following within the project: Opt-out referrals, very brief advice, the 3 A's? What is your process of delivering tobacco dependency to service users and patients, can you talk me through this from admissions to discharge? Are there any skills you use to reinforce behaviour change?
Building a successful programme beyond where you are	How do you envisage your programme going over the next 12-24 months? What are the plans for evaluating the success of the programme?

Table 2: Finalised template used for the analysis of all transcripts inclusive of definitions

Higher order themes (some definition)	The theory – Underpinning the who, what, where, when and why we do	The system – The arrangements we work within	The delivery – how we do what we do	The person/individual – The individual making it happen
Lower order within the higher theme (Some definition)	Underpinning knowledge: *the relevant theories and information to build a programme upon* Different systems to implement: *Ottawa model for smoking cessation (including teachable moments, very brief advice, opt out referrals)*	Resources: *Do we have what we need to succeed (funding, IT systems/Data, staffing)* Leadership and Culture: *An agreeable culture driven by leadership to create positive change.*	The team: *Not just the lead but the team who support* Policies and practice tools: *is there stuff in place to support the work of tobacco dependency (screening, CO monitors, referrals forms, vaping)* The ward environment: *Does the ward staff hamper implementing the policy and successfully delivering the TTD program through culture, training or personal beliefs*	The people skills: The emotional intelligence to navigate the system for the best outcomes The collaboration outside the system: *Working with others outside the system to problem solve and for support* Pragmatic realism: *The outcomes are more difficult to achieve and defining success is variable*

2.6 Qualitative Research Reflective Commentary

Rationale for research/identifying the area of research

I became interested in this topic having experienced the difficulty of implementing the tobacco dependency pathway in the NHS through my placement. I realised from speaking with others within my trust how the project was viewed, particularly due to the perceived role smoking/tobacco has within mental health services. The idea continued to develop after speaking with other tobacco dependency leads across the country and how there was a clear lack of planning to implement the pathway. Furthermore, I had spent time conducting my systematic review on the proposed implementation model; the Ottawa Model for Smoking Cessation [OMSC (Reid et al., 2010)]. The NHS long term plan identified the OMSC as the model to implement within mental health services. However, this is an acute model and mental health services struggled with delivering the OMSC. Furthermore, other challenges existed including funding, resources, and a need for cultural change.

Completing my systematic review on the OMSC I was aware of the lack of research considering the implementation of the OMSC. This presented the opportunity to utilise my own knowledge of implementing the pathway alongside my relationships with tobacco dependency leads to begin to understand how they had implemented the OMSC in mental health. Therefore, I aimed to understand the common themes between different NHS trusts to begin developing an approach to systematically implementing the tobacco dependency pathway in mental health services.

One key paper was Rodrigues et al., (2022) which considered how the OMSC was implemented in Manchester and mapped onto COM-B. I considered this approach and trying to identify a common narrative within different NHS trusts implementation approach. I would have then mapped this onto COM-B and ranked these based on importance. One difficulty was NHS trusts were at different stages of implementation and adopting the approach of Rodrigues was not possible. However, it is something to consider in future as more pathways are established. Instead, the idea changed to interviewing leads as a qualitative study with the possibility to explore themes linked to COM-B. To my knowledge there was no previous research on this area of understanding how to implement the tobacco dependency pathway in mental health services.

Developing study materials

Prior to submitting my forms to the ethics committee, I developed my participant information sheet, consent form, debrief form, and my interview guide. For all the forms except the interview guide, I found using examples of approved documents helped ensure I was on the correct track. Importantly here I was also able to see ones which were modified to use online opposed to paper copies. Although there was no difference, it was nice to see how it was viewed online through different platforms as all my previous work had used paper copies.

I used my trusts research team who helped me to design my forms and allowed me to develop my interview guide before using the knowledge and experience of the university lecturers. For the interview guide, they were familiar with research in smoking, but as I was fully immersed in the area, they acted as a good sounding board to understand if the interview guide would generate the required level of detail. Initially they highlighted my questions were too direct and focused too heavily on behaviour change. They asked "does anyone know what you mean by behaviour change?". This simple question switched my thinking away from focusing on what makes a successful quit but to instead focus on what impacted delivery and implementation of the programme. I was too focused on trying to mimic the work of Rodrigues et al., (2022) and instead lost what I would be able to achieve. Using someone less familiar with the topic is something I would do again as this helped me to understand my own interview guide and to focus on what was achievable.

Ethics and approval

When completing the necessary forms for ethical approval it is easy to become frustrated with the detail required, but its fundamental importance is to ensure the safety of all involved, even in "low risk" studies. This necessary step in the research process forced me to consider the level of ethical approval I would need. Conducting interviews with NHS staff could lead to needing Health Research Authority approval, which from speaking with colleagues, trainees, and my supervisor, is a lengthy process and one I was keen to avoid. I used the "decision making tool" provided by the Health Research Authority which helps determine what ethics are required. Fortunately I would not need their approval. This helped as this could have delayed my doctorate timeline. I could recruit through the necessary channels and undertake my desired research by completing ethics at the university which was simpler and quicker.

My original ethics application was returned quickly with "approved subject to minor amendments". Speaking with my supervisor I made the necessary amendments and wrote a cover letter outlining the changes made and responding to each comment which I returned to the ethics committee. Upon gaining approval I began data collection.

Research design

Using a qualitative approach was the most appropriate way to answer my research questions. I planned to use one-to-one interviews as there would be different views towards some questions asked and it is important I could obtain this. Furthermore, focus groups require alignment of diaries which is not always possible and something I knew would be difficult given how busy my interviewees are. Additionally, some participants within a focus group can be overpowered by louder confident voices within the group, although they do allow for participants to discuss ideas with one another. Overall, the question lent itself more to individual interviews.

Participants and recruitment

I advertised the study through three different networks; one national network, one national newsletter, and one regional network. I was aware there was high membership with likely overlap. I received some interest shortly after advertising. I think my choice to use one newsletter helped as this was distributed through a national programme of quality improvement in tobacco dependency hosted by the Royal College of Psychiatrists. It did however look like the college had supported the study where they had not. On reflection I think I should have been more explicit about this and something I am mindful of for the future.

I had not set a timeline for when my interviews would be completed by as it was near the summer months when there was likely annual leave. This helped as several individuals wanted to take part but needed to wait several weeks. By not having a small window I did not put pressure on the recruitment process and allowed more people to take part.

Many leads expressed an interest but only seven took part. I would have liked ten but several I spoke with were not in a position to be included for various reasons including; not leading the service for the development or the service not being set up. With the leads, two were registered nurses, one a registered nursing associate with the other four not having professional registration. The nature of the role does not require a particular skillset, rather an individual willing to work in developing a service. A benefit was the different backgrounds of the leads which helped add different views to the study. I knew two leads through a regional network, but I don't think this hindered the study as removing these would have only made my sample smaller. Furthermore, a theme identified was "collaboration with those outside the system". This seemed an inditement of the theme's existence.

Data collection

All seven interviews were conducted over a seven week period. This helped me reflect and understand how I could refine my interview style to elicit more detailed responses. Although I knew the area well, I could see a change in how I would ask more probing questions without seeming so direct. Here it was clear how removing the focus on behaviour change helped and instead focus on specific techniques. Although I piloted the interview guide, it still showed the need to adapt frequently to better the study. I had also given each lead the option to see the interview guide in advance, but none took the offer.

Due to the geographical spread of leads, I had already chosen to conduct the interviews using MS Teams with the choice of video optional. Across the pandemic more people got use to different video call software and many were comfortable to have the video on. Having the video on helped build rapport as it was easier to see one another's facial expressions and other non-verbal communications. Video interviewing also allowed the possibility to see someone thinking through a question and knowing silence was helpful. Previously when I conducted phone interviews, I would fill the silence after

asking a question with more explanation even when this was not warranted. This is something I noted during other competencies as well and how I have developed to be comfortable with the silence.

With the interviews I felt rapport had been developed which helped as it allowed the leads to progress their answers more. In future interviews I would hope to generate rapport, but I do feel it helped I was familiar with the area. Throughout the interview, it felt like a natural conversation discussing work. However, it was important I remembered certain skills during the interview. These included active listening and a relaxed body language (Which is both easier and more difficult when you can see yourself). Furthermore, I would also check for understanding by paraphrasing their responses which allowed for them to elaborate further.

One challenge was where the interviews were conducted. For two leads, it was possible to see these thinking through an answer and trying to find a way to say an appropriate response to where they were. Although this could have hindered the interview, the leads still gave full and well-rounded answers. It is something to consider in future, particularly if discussing a sensitive subject. One option would be to advise the use of an alternative room or a headset.

Transcription and data analysis

Transcription and data analysis are typically thought of as separate within research, but for me, it is important to acknowledge the overlap. Transcription is the process of ensuring what was said during the interview is recorded accurately. This process allows for familiarisation of the data prior to the analysis, where in qualitative literature, familiarisation is the first step of analysing the data. When doing transcription and becoming familiar with the data I am already thinking ahead of the themes these could represent. It is important to understand each process separately and something I remain mindful of when conducting qualitative data analysis.

Transcription

I was aware from my MSc and BSc that interview transcription is time consuming and identifying ways to shorten this process without hampering the accuracy of the data was important. I did not have funding to pay for a transcription service, but MS Teams has a function which transcribes recordings potentially saving time. However, quickly it was obvious the quality of the transcription was lacking as it would get large volumes of text onto the page, but it did require extensive editing and checking for accuracy. It is something if I did not have funding I would use again, but I would be mindful of the time to correct each transcript was more than anticipated.

Data analysis

I had previously conducted thematic analysis, narrative analysis, and interpretative phenomenological analysis during other research projects. However, the module lead suggested this project could lend itself to template analysis due to the research questions, particularly around behaviour change. Template analysis uses a similar

approach to thematic analysis but creates a template, a set of known themes which could appear within the data while being open to new emerging themes. I am glad I used this method as this would complement my own knowledge of the area to identify key areas prior to analysis. However, it was clear my initial thoughts would be heavily modified by the data.

Designing the first template I relied on three sources of information. I was aware these had some bearing on my own implementation of the pathway. I also spoke with some research students undertaking a placement within the trust. These had no knowledge of the area but used the same sources and identified areas I had not considered. This provided me with broad themes within a template to analyse the first transcript. Importantly here is the process of noting all codes which emerge from the transcript and seeing how these fit to the template.

The first analysis did not fit the template well beyond the broad themes. I realised I was both too broad and too narrow with some themes which would inform the second template. Adding definitions to each sub-theme helped as other members of the research team were less familiar with the area. The second template was produced from the first template and adding in sub-themes generated by the codes from the first analysis. The second template was reapplied to the first transcript. Although repetitive, this is an important step in familiarisation with the data. It did also show how much could be missed during a first process of analysis. This is something I had not noticed with other qualitative approaches as these used a more open approach, however, template analysis is open, it is primarily driven by the template you are aligning with. When the template was expanded to a second transcript, this created new codes, further change, new definitions, and more refinement to each template. The process is ongoing, and after each template was created and tested, it was important to take a break. Although this delayed my project timeline, I had not anticipated how challenging this would be. Breaks helped my own understanding and being “fresh” to review and analyse

In total I created five templates which represented the data most accurately. The process of template analysis is an iterative cycle where constant refinement occurs. With all qualitative analysis, there is never a “right” analysis as it is subject to the researchers own interpretations. With template analysis, not only does it have this, but it also has the process of when the template is “right”. A predetermined end point is set, usually when there is high levels of agreement over the template with others in the research team.

I felt this was the most I had analysed transcripts when I reflected on this experience compared to other analysis methods. Although this was a useful analysis method to use and I was glad I have learnt this under the direction and supervision of university lecturers, I am unsure if I would choose this method again. I do however see how template analysis lends itself to certain research questions. It is important I can use different research methods to best understand and answer these questions and this is another one I have added to my skillset.

Writing the manuscript

When I wrote the manuscript, I chose journals focused on tobacco and research opposed to ones aimed at health psychology. I opted for the "nicotine and tobacco research" journal as this has a global audience where the UK is currently one of the leading countries in tobacco research. Furthermore, the journal has a high impact factor and I do have to tell myself to aim big as this is new, novel and of interest to people.

The guidelines helped me to write the manuscript, and in particular consider smaller things such as table formatting, reference amounts, and use of abbreviations. The journal gave more words compared to quantitative research, but I struggled to meet the word count. The use of quotes which emphasise a theme limit the ability to remove sections of text without impacting the overall quality of the research was difficult. Redrafting helped, while reading other qualitative research within the journal allowed me to understand what was and was not needed. As this was using template analysis, I used lots of examples to structure my own manuscript.

With this piece of research, I will share my findings with the participants as all requested a copy. It allows them to know their contribution to the research are appreciated and valued. I would also like to share at tobacco conferences, but I would be hesitant to say to those implementing the pathway this is what to do as it was a small sample. What it does do is create a conversation around what is important to others and if this can help another pathway this is only a benefit of the research being conducted.

Overall reflections

I enjoyed this experience, both within the doctorate but also within the realms of my placement. Within my placement, I was able to demonstrate to stakeholders the challenges I was facing were mirrored by others across the NHS. But I was able to show how important specific areas were to success, particularly "pragmatic realism". Within the doctorate I was able to build on my qualitative skills while also learning a new technique which can open future possibilities in research. I gained further experience and knowledge in developing research materials, seeking and obtaining ethical approval, recruiting participants nationally, doing template analysis and writing to a level required to pass the doctorate. These are skills I hope will allow me to grasp future research opportunities when they arise.

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Chapter 3. Consultancy

3.1 Consultancy Case Study

Background

Health psychologists have a varied and diverse skillset which makes the profession an ideal candidate to undertake consultancy. A client would identify they would need a consultant when they may lack the necessary skills required to complete a task. Consultants have a number of key skills including developing and managing effective relationships, negotiation, project management, effective at communication, and capable problem solvers.

Many approaches to detail the relationship between consultancy and health psychology have been proposed (Lippitt & Lippitt, 1994; Michie, 2001; Schein, 1999) They propose broadly similar approaches and theories (Assessment, negotiation, planning, maintaining relationships, and evaluation). For this, I have chosen to use Earll and Bath's (2004) approach to demonstrate how I undertook my own consultancy. The consultancy supported the development of a co-production tool for a councils adult health and social care service. This case study will demonstrate how I addressed the following stages of consultancy:

- Assessment of request for consultancy
- Negotiating and planning
- Establishing, developing and maintaining professional relationships
- Undertaking the work
- Evaluation

Assessing the request for consultancy

Identifying different client groups is recommended (Earll & Bath, 2004; Newton, 2010). Within this consultancy I identified and met the contact, intermediate, primary and ultimate clients (Schein, 1999) (See table 1). Breaking up the client groups allowed me to clarify the extent of their involvement. This is something I will take forward into other projects with multiple stakeholders, However, I may add other categories including client staff and client stakeholders as proposed by Newton (2010) as Schein (1999) may not be appropriate with more complex projects which require further understanding of different client groups and how these interact with one another.

Table 1: outline and definition of each client group and who these were within the consultancy

Client category	**Client**
Contact client • *The individual who is the first contact with a request, question or issue*	Co-production team – Local authority Involvement manager – Previous placement • Started contact with the co-production team through involvement noting the need for specialist knowledge to support the

	project. Was a member of working group already
Intermediate client • *The individual or group who are involved at various stages as the consultancy evolves*	Co-production team • Involved in all meetings and communication to action deliverables
Primary client • *The individual/group who "own" the project/issue being work one*	Co-production manager • Responsible for the delivery of the co-production tool
Ultimate client • *The individual/group/organisation where the consultancy project will impact*	Co-production working group • Responsible for overseeing co-production within the council and therefore the effectiveness of the tool

Clarifying the question

An important step between a client and consultant is the need to clarify the question. This can be achieved through scoping meetings allowing each party to understand if their skills and aims match one another. Block (2011) provides two questions to consider prior to these conversations: "What can I offer the client?" and "What I think the client wants?".

I mulled these questions over having had other consultancy opportunities which failed to come to fruition as our skills and aims did not match which is not uncommon during this stage (Earll & Bath, 2004). Using these questions allowed me to prepare and reflect on my own skills and what I can offer.

During the scoping meetings I found I asked "simple" questions around the backgrounds of individuals within different client groups. I did this to ascertain what skills were already in the team and what I would bring. Although it appeared I lacked knowledge of the programme, it did enhance my understanding of the client groups and how my skills would complement the aims of the project. On reflection, I should have proposed introductions which included brief backgrounds of individuals with a rationale as to why. This is something I have taken forward into my professional practice and has helped me when undertaking new projects with new individuals to understand my role and what I need to bring.

After identifying skills I could offer, the client demonstrated their own needs/requirements which matched. For this consultancy I was an "expert consultant" (Schein, 1999) which was important to meet the client needs while working within my professional boundaries (British Psychological Society, 2021).

Consultancy can empower a client or leave them dependent on the expert knowledge of the consultant (Block, 2011). As I was the "expert" it was important I worked with

the client at each stage. This enabled me to understand their evolving needs at each stage of the consultancy. It also ensured the relationship was mutually beneficial ensuring the client was empowered and not dependent.

This was my first-time providing consultancy and being an "expert" was daunting despite having the necessary skills required to complete the proposed project. This competency has provided a positive learning experience and professional development opportunities. It has also developed my confidence in my own skills, but also to understand where I can develop further.

Planning and negotiating the contract

Negotiating

Being my first consultancy, I lacked confidence prior to negotiating, thinking I may agree to more than necessary to please the client. It is not uncommon for trainees to lack confidence throughout their training (Jenkinson & Naqvi, 2013). The scoping meeting involved all client groups except the ultimate client. This allowed for a conversation about the whole project showing commitment to both myself and the project. This helped build my confidence and allowed me to realise what is and is not within the scope of the consultancy. During this scoping meeting I pitched my approach and deliverables. This can be described as "framing a proposal". I presented this verbally allowing for discussion and questioning ensuring I understood the needs of the client.

Within the negotiations, the initial timeline proposed by the client was shorter then anticipated. This would rely on the client delivering different parts of the project for me to complete my own deliverables. I proposed an alternative timeline which allowed for delays which was rejected. A compromise was made ensuring both parties remained committed. When negotiating I was clear, articulate, confident and assertive in stating the need to compromise and ensured a positive outcome for both parties. A clause was inserted into the contract ensuring each party knew their obligations and responsibilities (See contract clause 6.1). Previously I would have lacked the necessary skills to negotiate and compromise in these situations. Now I have developed an adaptive style to negotiating and something I have tried to develop across the doctorate.

After negotiations, the completed contract outlined both parties deliverables and expectations. Unfortunately, the first contract submission failed delaying the project. It is easy to become disheartened knowing how this could impact the consultancy. Gathering my thoughts and reflecting on failure, I spoke openly and clearly with the client about the implication this delay would have. We jointly adjusted the deliverables and timelines ensuring this could be completed.

Rewriting the contracts allowed me to understand and reflect on the mistakes made. Furthermore, I sought the advice of a legal professional who proposed minor changes notably on clarifying passages of text to ensure no ambiguity. Ambiguity favours the client and something I addressed. Seeking external support allowed me to address

issues I would not have considered and something I will take forward across the doctorate.

As this consultancy was voluntary, I did not negotiate a fee for my time. Instead, I developed a hypothetical budget (See appendix 1). It was important to consider all resources and time potentially needed to ensure no surprises when finalising at a later time. Valuing myself was difficult to understand my own "worth". I based my fee to that of a trainee health psychologist within the NHS which felt appropriate. In future when qualified, I would raise these to be comparative with a qualified health psychologist.

Planning

Having never worked on a project requiring pieces of work outside my own control to be completed to allow me to undertake my own deliverables, I was unsure in developing a timeline to meet the client needs. It was clear from negotiating the client wanted this completed swiftly, however, it was contingent on them delivering their own parts.

Inserting within the contract the clause ensuring timely delivery of necessary parts from the client made the project manageable. Developing a GANTT chart (see Appendix 2) ensured I would remain on track with the deliverables. With my planning I deliberately allocated more time than needed to complete each task. I opted to do this knowing I do not like to work up to a deadline, preferring to complete a task with time to spare and avoiding the planning fallacy (Khanamen & Taversky, 1979), particularly with group tasks (Sanna et al., 2005). This is the notion of underestimating the time needed to complete each task. Allowing extra time impacts a project timeframe, however, it allows for any unforeseen issues causing delays. Building in additional time is something I have implemented in my placement ensuring a smooth delivery of subsequent projects.

I was mindful across the consultancy of my contract failure and how this delayed the ultimate clients overall project. Although the project required parts beyond my control, where possible I felt it important to action this within a shorter time period then the contract specified. I was fortunate my own diary allowed a prompt completion of the work and meeting the needs of the client. This consultancy arose at an opportune time for myself, and in future the need for project management skills will be something I will continue developing.

Establish, develop and maintaining working relationships with the client

Establishing relationships

Key within consultancy is establishing, developing and maintaining relationships with clients (Earll & Bath, 2004). I already knew the primary client through a previous placement, however, this was a role where I was an "expert", therefore it was important to produce a good impression which would develop a positive working relationship.

Within consultancy, confidentiality was key for the client. For me, this was a given due to the nature of the work and knowing the need to follow professional guidelines (British Psychological Society, 2017; Health and Care Professions Council, 2024). However, the client was not aware of me knowing the need to maintain confidentiality and their response was not as expected. I had assumed there would be an understanding by the client of the need to ensure confidentiality of their work but they were not aware I would know this. This in turn created an opportunity to discuss the professional doctorate and health psychology alongside the professional guidelines we subscribe to (British Psychological Society, 2021). This created a common understanding from a miscommunication helping establish rapport with the client and they demonstrated what felt genuine interest in me.

Developing and maintain relationships

Successful consultancy relies on maintaining key relationships. I was keen to collaborate with the team within the parameters of the deliverables while remaining independent, which was important for the ultimate client. Collaboration is important for consultancy (Bronnemayer et al., 2016) and something I would look to include in future opportunities which arise.

Collaboration would differ across different types of communication. I had two face-to-face meetings one at the start and one towards the end of the consultancy, where it felt more organic to look at the wider work and offer my own views with the idea of collaborating. It was important to respect the client views but also allow our different ideas to be shared in a collaborative environment. Discussing collaboration allowed each party to understand the wider work each was doing, and for me, it helped me to understand where this project I was supporting fitted with the clients wider work. For the client, it felt they had an interest in some of my other work both within my doctorate and placements by asking questions and seeing if some of my own knowledge/experience could aid some of their other work. Both these I felt helped develop my relationship with the client further.

Face-to-face meetings also allow for more informal conversations, those “water cooler moments”, something not apparent with other meeting types such as online (See appendix 3). Face-to-face meetings helped foster a common understanding and helped maintain relationships with the client groups and is something I would look to include in future consultancy.

Other forms of communication beyond face-to-face such as emails and MS teams messages are quicker and were a preferred method of communicating during the project (appendix 4). Important within communication was a response time agreed within the contract to ensure neither party was delayed by the other. I was fortunate myself and the client were always prompt in responding to MS Teams messages and emails which fostered a strong working relationship which I felt had a positive experience.

Agendas are important to ensure a level of formality and understanding to meetings (See appendix 5). It was important to understand the required level of formality needed with some "catch ups" requiring a check in on one or two issues. Again, knowing which level of formality helped maintain relationships and I felt I had the right balance between formal and informal. Communication types does impact on this, particularly with electronic formats sometimes missing the point, it was important to address these through open and honest conversation. I was quick in one instance to have a call with the client to alleviate an issue of misunderstanding by myself to ensure I could continue the work to the expected standard. This is something I am mindful of for future consultancy.

Undertaking and monitoring the work

Undertaking the work

Completion of the first deliverable required me to use Braun and Clarke's (2021) approach to inductive thematic analysis to analyse feedback from the pilot co-production tool. I chose this method as it was appropriate for the data, but also it was a technique I was familiar with. This proved a strength as it allowed for a condensed timeframe to complete the work.

The analysis produced broad themes I shared with the client groups. By sharing these it allowed me to gauge a reaction from the client groups which aided me in delivering the second and third deliverables.

Presenting the results allowed me to demonstrate my knowledge of the area and provide recommendations the client had not considered. I structured the presentation around the themes identified. Within the presentation I was asked for my own thoughts based on my background working within co-production. I had not anticipated this, instead thinking any questions would focus on other tools strengths and weaknesses.

This showed I had executed the deliverables and the ultimate client was satisfied with the outcome. Providing my own thoughts on the topic is something I would do again, however, it would be contingent on being asked. I would also have to consider if I was knowledgeable enough of a topic to ensure I remained within professional boundaries (British Psychological Society, 2021).

Throughout the consultancy I was mindful of what was asked beyond the contract. There were no amendments required. However, if changes occurred in a future consultancy, I would consider amendments to the contract if the modifications were substantial to protect both the client and myself.

Managing and maintaining the work

Effective project management will build a successful project. I produced a GANTT chart which allowed me to monitor progress against agreed timelines (see appendix 2). I moved each deadline forward ensuring I would not be working to the last minute. I was also mindful of the project delay caused by my contract failure. A positive from

my earlier failure was the client had all the feedback I would need to undertake analysis ensuring the project could be completed quicker.

Across this consultancy, regular and effective communication including check ins allowed for the project to be monitored and information being acted upon in a timely manner. With the check ins, it helped with delivering the final deliverable (Producing a report from the thematic analysis – See appendix 6). I utilised a check in, using an agenda, for me to understand the ultimate clients knowledge and understanding of the evaluation. I asked how best to write the report knowing the primary client would write reports for the ultimate client. They informed me to avoid jargon and define unfamiliar terms. Before this consultancy I would have written a report in my own style, however, asking the questions and communicating effectively allowed me to write a report in a format suitable to the ultimate client.

Evaluation

Evaluation is important within consultancy, for this, I created an evaluation form based on a previous trainees evaluation form (See appendix 7). As this was my first consultancy, I was pleased to see my negotiating of the contract was understanding of the clients needs. This was the most difficult part for me, so I was happy with the outcomes and has subsequently increased my confidence when negotiating.

One area I will need to improve is my communication of results. Although this did not show in the feedback, from conversations, there was confusion in how some results were presented. For me, knowing the audience is important and although the primary client understood, the ultimate client did not as I failed to understand this client group better. Excluding myself from the ultimate client until the end was a joint decision to keep impartiality. In future, it is important for me to better understand the ultimate client to ensure outcomes are both aligned to their need and delivered in a well communicated way.

Overall reflection

I enjoyed undertaking this consultancy having stepped away from co-production when I changed placement. This consultancy required me to take ownership of a project with little support or guidance and with time, my confidence grew in the skills required to deliver the project. At each stage I learnt valuable skills including writing contracts and learning to negotiate. Although my first attempt at the contract failed, it forced me to develop my own communication skills to maintain professional relationships. The clients evaluation, coupled with my own reflections will allow me to continue developing as a consultant.

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3.2 Consultancy Contract

CONSULTANCY AGREEMENT

THIS CONSULTANCY AGREEMENT (the "AGREEMENT") is made on the 31st of July 2023 is made between the following parties:

CONSULTANT

Peter Marriott (Trainee Health Psychologist) of Staffordshire University, Leek Road, Stoke-on-Trent, ST4 2DF (the "Consultant")

CLIENT

[redacted] (the "Client")

1. **BACKGROUND**
   1.1. The Client is of the opinion that the Consultant has the necessary qualifications, experience, and abilities to provide consulting services to the Client, and the Client wishes to engage the Consultant to provide such services to the Client.
   1.2. The Consultant is agreeable to providing the services to the Client in line with the terms and conditions set out in this Agreement.
   1.3. In providing the services ("the Services") outlined in this Agreement, it is understood that the Consultant is acting as an independent contractor and not an employee. This Agreement is exclusively a contract for this service.
   1.4. This consultancy work will be written up as a case study as part of the Professional Doctorate in Health Psychology and any confidentiality provision contained within this agreement is subject to this clause.

2. **IN CONSIDERATION OF** the matters described above and of the mutual benefits and obligations set forth in this Agreement, the receipt and sufficiency of which consideration is hereby acknowledged by each Party, the Client and the Consultant (Individually the "Party" and collectively the "Parties" to this Agreement) agree as follows:

3. **TERMS OF THE AGREEMENT**
   3.1. The terms of this Agreement (the "Term") will begin on the date of this Agreement and continue until 31st November 2023. This is subject to earlier termination or when the services detailed have been delivered, as provided

in this Agreement. The Term may be extended with the written consent of both Parties.

4. SERVICES PROVIDED

4.1. The Client hereby agrees to engage the Consultant to provide the Client with the following consulting services (the "Services"):

4.1.1. To function as an independent evaluator to [redacted] Co-Production team task and finish groups on improving co-production within health and social care services.

4.1.1.1. The Consultant will work externally to this group providing feedback and recommendations where deemed necessary or appropriate.

4.1.2. The Consultant will undertake an inductive thematic analysis based on the feedback about user experience from groups using the pilot co-production tool.

4.1.3. The Consultant will provide an overview of findings from the pilot co-production tool as a presentation to the task and finish group.

4.1.3.1. This will be delivered on PowerPoint and made available to the Client through email.

4.1.4. The Consultant will produce a written report of up to 1000 words for the Client. This will include recommendations, feedback, and outcomes of the inductive thematic analysis.

4.2. If the Consultant is unable to provide the Services due to unexpected circumstances (for example injury or illness), they shall notify the Client as soon as is reasonably practical.

5. DELIVERABLES AND ANTICIPATED MILESTONES

5.1. At the end of the Term, all Services will be delivered. Anticipated Milestones (the "Milestones") are shown below, and outline targets for the completion of certain stages of the Services provided.

5.1.1. By 31st August 2023: The Consultant will have completed the analysis of feedback obtained from the pilot co-production tool by the Client.

5.1.2. By 30th September 2023: A presentation providing an overview of findings from the analysis will be delivered to the task and finish group.

5.1.3. By 31st November 2023: To complete and submit a written report of up to 1000 words.

5.2. These Milestones are a guide for reference only. The Consultant will provide evidence of progress of each Milestone during the course of the Term. Progress towards achieving the Milestones will be continually monitored and communicated with the Client fortnightly. These Milestones are subject to change should unanticipated events occur (i.e., delays to data

collection beyond the control of the Consultant). The Milestones will act as a guide for the discussion of progress and content.

6. ROLES AND RESPONSIBILITIES

6.1. The Clients roles and responsibilities:

6.1.1. The Client will be the main point of contact for the Consultant throughout the duration of the Term.

6.1.2. The Client shall provide access to contacts and networks if these are deemed necessary and appropriate by both Parties to complete the Agreement.

[redacted]The Client will lead the task and finish group who are designing the co-production tool to be used within [redacted]

6.1.4. The Client shall provide access to the draft co-production tool at all stages of development for the duration of the Agreement.

6.1.5. The Client shall collect and provide access to all data necessary for the required analysis as agreed within the Services. This shall be anonymised and sent electronically via email to the Consultant.

6.1.5.1. Data will include feedback obtained from the draft of the co-production tool.

6.1.6. The Client shall provide and evaluation of the services offered by the Consultant.

6.2. The Consultant's roles and responsibilities:

6.2.1. The Consultant is responsible for completing each Milestone (detailed above within the "deliverable and anticipated milestones") and providing evidence to the Client.

6.2.2. The Consultant shall deliver an overview of findings from their analysis in a presentation to the Client, through the task and finish group.

6.2.3. The Consultant will produce a written report of up to 1000 words including recommendations, feedback, and outcomes of the analysis.

6.2.4. The Consultant will provide the Client with both the presentation and report via email on completion of the Agreement.

6.3. Both Parties roles and responsibilities:

6.3.1. The Client and the Consultant agree to be in contact at least once per fortnight, either by email, a virtual setting (including Microsoft Teams and Zoom), or face-to-face to discuss progress.

6.3.2. The Client and Consultant agree to a maximum of 10 working days to respond to emails.

6.3.3. An exception where prior notice is provided and agreed by both parties to lengthen this period.

7. PAYMENT

7.1. The Consultant will receive a zero-sum payment for the time to complete the Services provided.

7.2. The Client will cover expenses regarding travel and access to relevant materials including necessary research materials (including access to research publications) to facilitate the Services provided by the Consultant.

8. REIMBURSEMENT OF EXPENSES

8.1. The Consultant will be reimbursed for reasonable and necessary expenses incurred by the Consultant in connection with providing the Services. All expenses must be pre-approved by the Client.

8.2. Reimbursement of expenses may occur anytime during the terms of the Agreement and up to 28 days after completion or termination of the Agreement. Expenses will be reimbursed in full within 28 days of submission to the Client.

9. CONFIDENTIALITY

9.1. Confidential information (the "Confidential Information") refers to any data or information relating to the Client, whether business or personal, which would be reasonable considered private or proprietary to the Client and that is not known and where the release of that Confidential Information could reasonably be expected to cause harm to the Client.

9.2. The Consultant agrees that they will not disclose, divulge, reveal, report or use, for any purpose, any Confidential Information, which the Consultant has obtained, except as authorised by the Client or as required by law. The obligations of confidentiality will apply during the Term and will end on the termination of the Agreement, except in the case of any Confidential Information which is a trade secret in which case those obligations will last indefinitely.

10. OWNERSHIP OF INTELLECTUAL PROPERTY

10.1. All intellectual property and related materials (the "Intellectual Property") that is created, developed, or produced during the course of providing the Services, will vest solely in the Consultant, save that the Consultant hereby grants to the Client a non-exclusive, sublicensable, transferable licence of such Intellectual Property for education and or archival purposes only.

11. INDEPENDENT CONTRACTOR

11.1. In providing the Services under the Agreement it is expressly agreed that the Consultant is acting as an independent contractor and not as an employee. The Consultant and the Client acknowledge that this Agreement does not create a partnership or joint venture between them and is exclusively a contract for service.

12. NOTICE

12.1. All notices, requests, demands, or other communications required or permitted by terms of this Agreement will be given in writing and delivered to the Parties via email and acted accordingly within 14 days.

12.2. The addresses and email addresses for service of notices are:

12.2.1. The Client

[redacted]

12.2.2. The Consultant

12.2.2.1. Address: Peter Marriott, Staffordshire University, Leek Road, Stoke-on-Trent, ST4 2DF.

12.2.2.2. Email Address: peter.marriott@research.staffs.ac.uk

13. DATA PROTECTION

13.1. The Consultant consents to the Client holding and processing data relating to the Consultant for legal, personnel, administrative and management purposes in accordance with the General Data Protection Regulation and the Data Protection Act 2018.

13.2. The Consultant will comply with the Client's data protection policy when processing personal data relating to any employee, worker, customer, client, supplier, or agent of the Client.

14. VARIATION OF AGREEMENT

14.1. Any variation made to the Agreement or additional obligation assumed by either Party in connection with this Agreement will only be binding if evidenced in writing, signed by each Party or an authorised representative of each Party.

15. ENTIRE AGREEMENT

15.1. It is agreed that there is no representation, warranty, collateral agreement, or condition affecting this Agreement except as expressly provided in this Agreement.

16. TITLES/HEADINGS

16.1. Headings are inserted for the convenience of the Parties only and are not to be considered when interpreting this Agreement.

17. LIABILITY

17.1. The Consultant does not accept liability for any action taken by those in receipt of the Services outlined in this Agreement.

18. GOVERNING LAW

18.1. This Agreement will be governed by and construed in accordance with the laws of England and Wales.

19. DISPUTE RESOLUTION

19.1. In an event that a dispute arises out of, or in connection with this Agreement, the Parties will attempt to resolve this dispute to the best of their abilities through friendly consultation.

19.2. If the dispute is not resolved within a reasonable period, then any or all outstanding issues may be submitted for consideration to and independent arbitrator, who will pass judgement and mediate a resolution to the dispute.

20. SIGNATURES

20.1. Below both parties duly affix their signatures in acknowledgement and agreement of this contract.

Date: ……

Signature of Client: ……

Signature of Consultant: …… ……

Chapter 4. Teaching and training in Health Psychology

4.2 Teaching and Training Case Study

Introduction

Teaching is the process of understanding an individuals needs, experiences and feelings to engage and learn (Jeffs & Smith, 1990). Learning is the permanent change in behaviour through acquiring and modifying existing knowledge and skills (Holt et al., 2015). The definitions demonstrate learners need meaningful engagement with content and teacher to benefit their learning.

This case study describes how I planned, designed, implemented and assessed five teaching sessions on the theme of smoking cessation. The learners consisted of community healthy lifestyle specialists (CHLS), university students and healthcare professionals (HCP) (see table 1).

Table 1: An overview of each session delivered including learner background and format

Session	Title of session	Numbers of learners	Learners background	Duration	Format
1	*Understanding smoking cessation and the local referral pathway*	8	Respiratory team	1 hour	Lecture
2	*Applying behavioural change techniques and motivational interviewing in a smoking cessation context*	7	Pharmacists	90 minutes	Workshop
3	*Understanding the relationship between Covid-19 and smoking*	10	Mixed*	1 hour	Seminar
4	*The medications available to support a smoker quitting*	6	Mixed*	90 minutes	Seminar
5	*Contemporary issues in health psychology – smoking cessation*	20	Undergraduate psychology students	1 hour	Lecture

*Denotes a mixed group with varying backgrounds including HCP and CHLS

The five sessions were a mixture of delivering within my workplace (sessions 2, 3 & 4), a training request through a local health promotion team (session 1) and an invitation to teach at Staffordshire University (session 5). This case study is broken into four parts to demonstrate my ability to teach in line with the competency.

1. Assessing and identifying training needs
2. Design of session structure and content
3. Selection and creation of teaching materials and delivery
4. Assessing learning outcomes

Assessing and identifying training needs

Performing a needs analysis ensures each session meets the aims of the course and those attending. A difference between current and desired knowledge forms a basis of what teaching should occur, not a repeat of knowledge already obtained as this lacks meaning (Fan et al., 2015). Within a needs assessment, I also considered the length of time for a session and whether the desired aims could be achieved.

While considering a needs assessment of learners, it is important to consider course guidelines and requirements posed by professional bodies such as the British Psychological Society (BPS). As session five was delivered to a BPS accredited course, I was mindful of the requirements posed by the BPS and the university who deliver the course. For sessions two, three and four, I adhered to the National Centre for Smoking Cessation and Training (NCSCT) guidance. Additionally to course requirements, as a trainee health psychologist, I should work within my competencies, being confident to acknowledge when I would be insufficient to deliver the training. Identifying and acting on this is an important part of the reflective process (Lalor et al., 2015).

To assess training needs for each session, I adopted different methods. These included contacting the gatekeepers for the sessions, learning and adhering to professional body guidelines, reading module handbooks and undertaking secondary research. Below outlines how I undertook this for each sessions.

Session one *was delivered to a new health promotion team within an NHS trust. Knowledge levels of smoking cessation vary amongst HCP (Meijer et al., 2019). I consulted with the primary contact to understand their teams perceived knowledge of smoking cessation. The contact identified smoke free policies and challenging smokers on hospital grounds as important. Furthermore, I asked for staff to complete a short questionnaire to enable me to better understand their knowledge of the referral pathway.*

Session 2: *Smoking cessation relies on community pharmacists (Agomo, 2012). Research identified many pharmacists lack understanding of theories of behaviour change and motivational interviewing (MI) (Caponnetto et al., 2017). MI is key within smoking cessation (Lindson-Hawley et al., 2015) with Rai et al., (2020) suggesting MI training should be given to pharmacists. I proposed a focus on MI with two key pharmacist contacts who agreed this would be useful to pharmacists professional practice. These 2 pharmacists proposed including a short part on theories of behaviour change would also be useful to widen understanding.*

Session 3 and 4: *Each session was designed with no prior knowledge taking feedback from colleagues and the training team within the organisation. Both sessions led with a discussion to generate understanding of prior knowledge to allow me to change my delivery, but not content.*

Session 5: *I was asked to deliver a session for an undergraduate psychology module exploring different disciplines with psychology. Prior to the session, I spoke with two lecturers to understand what content is expected, to access the module handbook and the aims of the unit. They requested an introduction to health psychology using my work within smoking cessation as a case study.*

Hattie (2012) identified a clear needs analysis allows for targeted lessons leading to retention of knowledge within a timeframe. A needs analysis allows for accurate learning outcomes to be written to generate meaningful content allowing increased engagement from learners (Farrell et al., 2019).

Design of session structure and content

Aims and learning objectives are present in almost all training with subtle differences between both. Learning objectives are statements showing what can be gained on completing training. Aims state a goal or purpose of teaching. Both aims and learning objectives provide an understanding of expectations for a session. Producing aims and learning objectives for my training, I considered:

- **Learning objectives**
  - *Represent specific goals which are clearly understood*
  - *Is indicative of performance expected*
  - *Should be matched to levels of learning*
- **Aims**
  - *What is the learning trying to achieve?*
  - *What benefits will this session provide?*
  - *As a teacher, what is the piece of learning for?*

Proitz (2010) highlights learning objectives may be ambiguous and difficult to assess, aligning with an emerging trend of the relevance of learning objectives in teaching today. Learning objectives can seem both ambiguous and limiting. They can form a pretence to focus exclusively on the content with little discussion which could widen the learning experience.

Learning objectives provide frameworks to structure sessions while setting expectations for learners. Within my sessions, where possible I tried to include discussion to incorporate learners own experiences to increase engagement (Petillion & McNeil, 2020). Within my learning objectives I also aimed to ensure these were clear while allowing for learners to ask questions before, during and after a session if they felt I had not met the learning objectives or their own needs. Learning can fall within a bigger picture and by having clear, unambiguous learning objectives, learners will work within each session towards an overall goal (Hattie, 2012). By not having clear objectives and engaging content, learners may become disengaged and fail to benefit from a session.

Additionally to learning objectives, theories of learning are important for frameworks and terminology within levels of learning. Levels of learning is an intellectual ability required to complete, comprehend and understand content (Fiol & Lyles, 1985). Collins (2006) highlights learning occurs at all levels from recall to higher comprehension tasks. The dominant theory used within my teaching is Bloom's Taxonomy (Bloom, Engelhart, Furst, Hill & Krathwohl, 1956) and later revised (Bloom, 1994). Bloom's taxonomy divides learning into six areas progressing through levels of learning. Figure 1 outlines the different levels within Bloom's taxonomy.

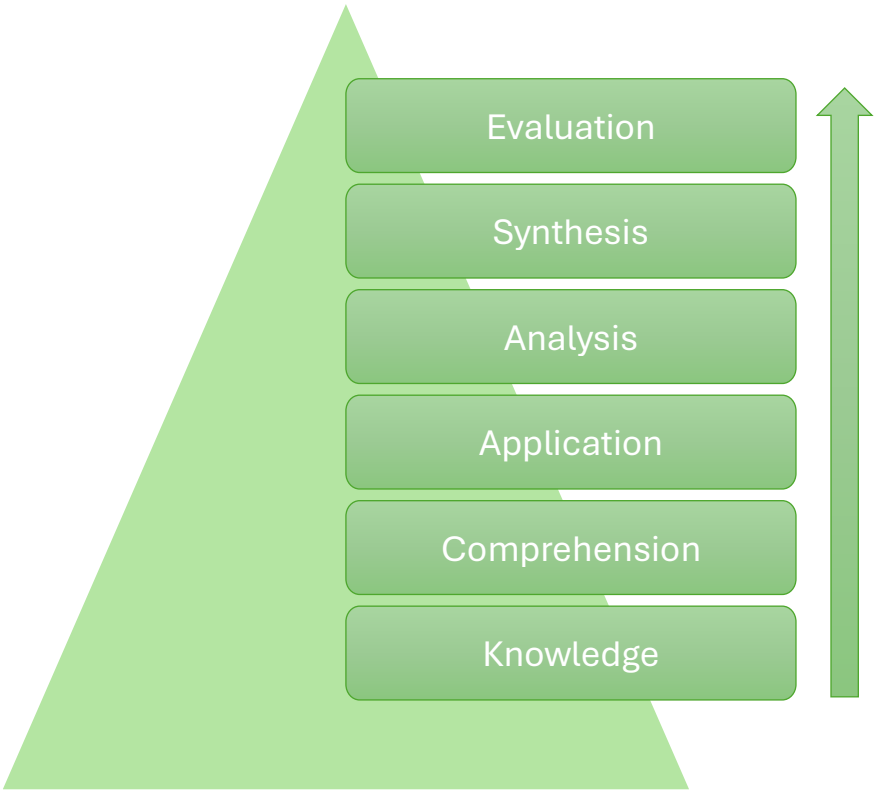

Figure 1: *Bloom's Taxonomy of learning and the levels within this (Model adapted Bloom (1994)*

Using Bloom's taxonomy allowed me to understand and plan for different levels of learning. I focused on two levels of learning: Active/Deep and Passive/Surface learning.

- **Active learning:** *Engage learners in materials through tasks prompting critical thinking. Opposite to passive learning.*
    - **Passive learning:** *Receiving information from a teacher and internalising this*
- **Deep learning:** *Utilise higher order cognitive skills such as synthesis, evaluation and problem solving generating longer term understanding and retention. Opposite to surface learning*
    - **Surface learning:** *Information memorised in an isolated and unlinked way causing superficial retention.*

Focusing on active/deep learning improves knowledge retention and assessment performance (Powner & Allendoerfer, 2008). Deep/Active learning is particularly effective for smaller groups such as workshops and seminars (Cavanagh, 2011). Deep/Active learning allows learners of all styles to feel included prompting collaboration and interaction with fellow learners (Wolf et al., 2015) and those with low motivation (Fritz, 2002). This style also focuses on teacher/learner engagement receiving frequent and immediate feedback.

It is important to consider drawbacks of deep/active learning particularly within large groups. Surface/passive learning can be beneficial within large groups. Passive/Surface learning within lectures allows for quick dissemination of information

allowing students to undertake deep/active learning at a later time (Sheridan & Smith, 2020). Each learner is likely to favour one style over another and remembering this is important. Utilising both active/deep and passive/surface where necessary will increase knowledge and the experience (MacDonald & Frank, 2016).

Biggs and Moore (1993) identify four areas of importance for deep/active learning to occur:

1. Well-structured knowledge base
2. Interaction with others
3. Learner activity
4. Motivational context

I identified learner motivation as most important in my teaching. Higher motivation is important within an online setting (Mandernach et al., 2006). Learner motivation relates to intention to participate in the learning process underlining the goals learners set themselves (Lumsden, 1994). I identified several strategies to pique learner interest as this is important in priming intrinsic interest and motivation (Serin, 2018). This included using examples from the learners, ensuring I was engaging with my content and the activities and following up with questions and answers raised in discussions.

Ensuring a variety of teaching methods and styles is important for learner motivation and engagement. I started each session at surface/passive learning before progressing into active/deep learning. Within the lecture, I identified this was difficult to do and instead would break to check for understanding. Figure 2 and table 2 shows how I planned each session to progress from surface/passive learning to deep/active learning and what was expected at each stage to match onto learning objectives.

Kennedy (2006) identified two to four learning objectives is ideal. Learning objectives would progress individuals from surface/passive to deep/active learning through matching these to levels of learning. It is important to ensure learners progress through levels of learning to benefit their learning.

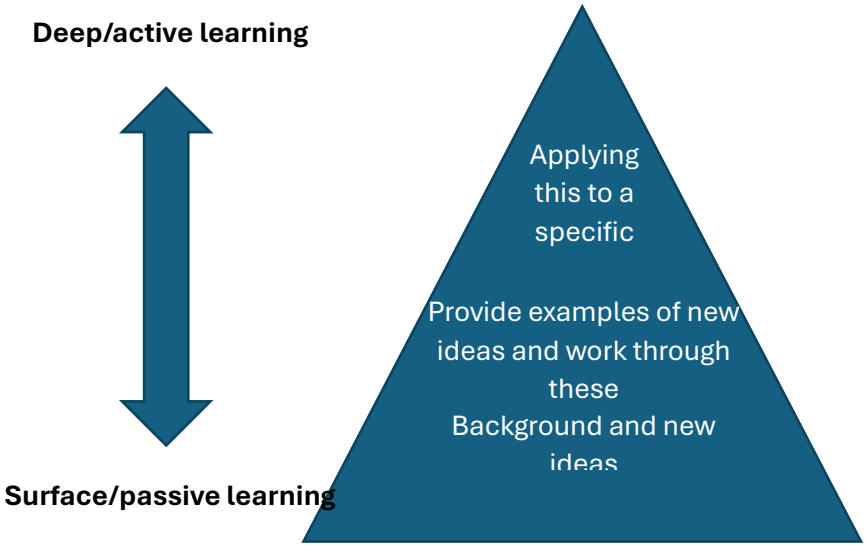

FIGURE 2: *The different skills required across a spectrum of deep and surface learning. Used to help with learning objective.*

Title of session	**Session 1** *Understanding smoking cessation and the local referral pathway*	**Session 2** *Applying behavioural change techniques and motivational interviewing in a smoking cessation context*	**Session 3** *Understanding the relationship between Covid-19 and smoking*	**Session 4** *The medications available to support a smoker quitting*	**Session 5** *Contemporary issues in health psychology – smoking cessation*
Session format	*Lecture*	*Workshop*	*Seminar*	*Seminar*	*Lecture*
Level of learning objective					
Background and new ideas	To develop an understanding how a stop smoking service works	To understand how motivational interviewing is helpful in facilitating behaviour change	Understand a basic relationship between smoking and Covid-19	To develop an understanding of pharmacotherapy	What is health psychology and why is it important
Provide examples of new ideas and work through these	To understand how to discuss with a patient what the stop smoking team does	Be able to break down a scenario and identify where different techniques are being used	To identify the difference within the competing theories and understand the limitations of both	To understand side effects of each and how to overcome these	How does health psychology impact on smoking cessation

Applying this to a specific context	To be able to make a successful referral to the smoking team	In a role-play setting, discuss behaviour change focusing on the skills learnt in the session	Be confident in talking to individuals about the relationship between Covid-19 and smoking	To be able to discuss with a patient the different medications and be confident in prescribing these	Could health psychology change the way smoking cessation is delivered

Table 2: *Learning objectives for each session and how these progress from surface/passive to active/deep learning as displayed in figure 2*

Selecting and creating teaching material and delivery

Designing content relevant to learners aids engagement (Bundick et al., 2014). My content was identified from three areas; needs analysis, learning outcomes and where applicable, module guides. I also ensured there was space for discussion if related areas were raised. Ensuring I was dynamic and resourceful within my delivery and adapting where necessary to the learners aided their learning. Each session started at surface/passive learning before progressing to active/deep learning. I adopted this approach as it allowed me to explain concepts before progressing to application of knowledge. Some critics highlight surface/passive learning is less effective (Rogaten et al., 2013), however, it allows for disseminating information, providing a knowledge base which will allow deep/active learning to occur later (Phillips, 2005) within time limited sessions as mine were.

Due to the Covid-19 pandemic, sessions one to four were changed at short notice from face-to-face to online. Although the content remained similar, adaptions were made to better suit online delivery. Session five was always planned as online. Within online teaching, it is more difficult to maintain learner engagement which I aimed to overcome. It was important I understood the different activities being used to maintain learner engagement (Revell & Wainwright, 2009) but also the time constraints of each. I regularly factored this in when designing each session.

Social engagement is an important construct within active/deep learning (Revell & Wainwright) and was planned within these sessions. Ensuring learners are comfortable online is a challenge. Wut and Xu (2021) identified a social presence between learner to learner and learner to teacher is difficult to build and maintain, notably in short sessions. Using breakout rooms within Zoom allows for smaller group discussions allowing me to move between groups checking understanding. Across session one to four, I adopted different activities within the second half of my session as part of deep/active learning. I choose these as they required no pre work for learners. These are adapted from Barkley and Major (2018).

1. **Small group discussion:** *A teacher gives a case study, problem solving or open ended questions*
    a. **Example:** *Patient A does not speak English and the family is translating. They are interested in vaping but unsure of there safety. The patient is interested in why these are "safe".*
2. **Think-pair-share:** *Similar to the above, however time is given to complete the following*
    a. **Think** through example
    b. **Pair** with a partner to discuss
    c. **Share** with everyone
        i. **Example:** *Mr Khan is trying to quit for a second time and his previous time he lacked motivation. How would you use MI to help behaviour change?*
3. **Polling:** *Is quick and easy to check understanding. It allows deep learning through two similar answers with one being correct. It is anonymous which is positive in checking understanding but negative for individual understanding. Allows for comfort in anonymity.*

4. **"Minute paper":** *A short questions related to content covered and asked to answer in short through an online platform (Padlett was used).*
    a. **Example:** *What is your understanding of the referral process?*

Freeman et al., (2014) highlights activities work through encouragement of students to engage with content instead of being passive, emphasising higher order thinking. For those who are less comfortable vocally engaging with the session, the chat function allows for these to engage. Dumford and Miller (2018) highlight online learning benefits those who can remain engaged with surface/passive learning and undertake additional tasks required to transition to deep/active learning.

My content and delivery was influenced by the needs analysis, learning objectives and module/course guides. I asked colleagues, lecturers, and healthcare professionals to review different sessions to ensure content was relevant and beneficial. I was also conscious of prior knowledge and ensuring the content was designed for each group accurately which will aid learner motivation through intellectual stimulation. I was conscious of my own ability to do this and my reflections highlight how the input of others improved my weaknesses. Producing content which can be evaluated against learning objectives is important to understand limitations within teaching.

Assessing learning outcomes

Understanding if learning outcomes have been met can be undertaken through assessments. These were not formal assessments, but rather activities to gauge learner understanding of the content. Table 3 outlines a selection of activities used to assess understanding within different sessions across the competency.

Table 3: *Different assessments styles adopted across the competency, what sessions they were used within and how well it worked*

Assessment style or type	Positive of style	Negative of style	Used in session (s)	How well did it work
Role play: *Using a mock scenario of 'difficult questions' to encourage knowledge recall from a session. This is based on lived examples from the team I work within Example: 'You've never smoked, how would you know', 'I fear*	Allows for interaction between learners to see and understand different ways of answering these questions but also to recall information and solve the problem facing them	Some individuals find role play awkward and will be less likely to engage	2, 4	As these were sent to breakout rooms without knowing who would be there, they only knew if they were observer, advisor or patient. It worked well once initial nerves were overcame. Many had performed role play before so understood the

being addicted to this long term'.				benefits. Allowed me to drop in unannounced to give me a direct picture of what is going on
Direct verbal assessment: *Use open ended questions to encourage learners to talk through their acquired knowledge while allowing for prompts. Prompts allow for engagement with their knowledge*	Allows for direct understanding and it does not require precise information like a written assignment would	Some find writing answers easier as they can feel under less pressure when being questioned aloud	1	This felt a little confrontational as a style as my prompts were not helpful and the other learners did not support each other. Not used after this session
Drag and drop activities: *Allowed learners to test their knowledge with prompts. Encourages higher order thinking through having two similarly worded answers*	Allows for anonymity and provides a selection of answers to choose from.	As it is anonymous, it is aimed at group understandin g. If one individual is unsure, it is hard to ascertain who is struggling and offer further support	2, 4	Worked well, however, there was regularly one wrong answer, I did not know if this was the same or a different person.
Game type activities: *Encourages light competition appearing to not directly assess knowledge. Can be team or individual*	A subtle form of assessment where learners may be less aware of an assessment taking place. Can encourage a competitive side	Some people may not like a competitive part and may be less likely to take part	3, 4	Although most were engaging, some did not so I was unable to understand their knowledge with this style
Pre and post session discussion and questions: *Allows for an understanding of*	When a group is new with a vague needs analysis, it can be useful to gauge group	If a large group, some individuals can hide within this. As it is	1, 5	As it was more discussion, learners were able to engage with what was previously said to

where the learner was before and after a session	understanding. As a group it can show whether the wider objectives have been met	discussion, it can be awkward for an assessor to single someone out in this instance		act as a prompt. Within the lecture, it was more difficult and resulted in a chat function
Problem solving case studies: *Small group work to work through difficult case studies and identify ways to overcome these scenarios*	Encourages group work to overcome difficult scenarios. Can produce a different way to assess knowledge	As it is a group, it can be harder to obtain who has undertaken the work or if it is an even split.	1, 3	Within a group, I felt all engaged equally with the content and were able to learn from each other aiding their respective knowledge

Matching learning objectives to appropriate assessment styles allows a teacher to understand the effectiveness of their teaching. To identify which assessment to use, I sought to pick a question which best answered a learning outcome and designed the assessment activity based on what I had asked. Below is an example from session four.

- **Session four:** *To be able to discuss with a patient the different medications and be confident in prescribing these*
    - **Question I asked myself to determine an assessment for this learning objective:** *What factors would I need to consider before giving something such as the interactions with other medication but also how they obtain this*
    - **Assessment type:** *Role play*
        - *This allowed for me to design specific situations with different medical conditions to consider, different medications and explaining the process of obtaining this.*

Performing this activity for each learning objective allowed me to align learning outcomes, teaching and assessments with one another to produce meaningful teaching. Figure 3 demonstrates these relationships. Furthermore, I was able to match my assessments to Bloom's taxonomy to ensure I was undertaking an assessment at the correct level for the learning objective (Table 4).

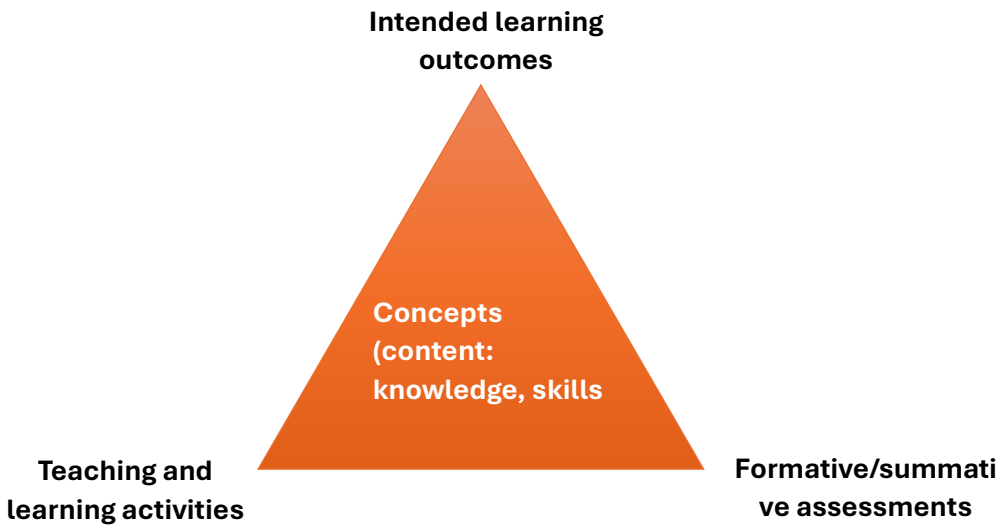

Figure 3: *Adapted from Ellis (2007), alignment of assessment, teaching methods and learning objectives.*

Table 4: *Level of Bloom's taxonomy, how this impacts assessment and how to assess at each level*

Level of Blooms taxonomy	**What this means for assessments**	**Assessment method**
Knowledge	Written factual knowledge	List, label, reproduce
Comprehension	Understanding the meaning of information	Describe, explain, summarise, identify, select
Application	Using information to solve new problems or respond to situations which have a single or best answer	Apply, use, solve, demonstrate, problem solving
Analysis	Breaking materials down into their component parts so they can be understood and examined	Analyse, compare, distinguish, examine
Synthesis	Using new and creative applications of prior knowledge or skills	Develop, plan, prepare, propose, construct, design, formulate, create, assemble
Evaluation	Judging the value of materials based on personal values/opinions or definite criteria, evaluating material to determine if it fulfils a given purpose	Evaluate, argue, assess, defend, judge, predict, rate, support

By understanding which level each assessment is designed for, it allowed me to remain dynamic and flexible with my assessments. By using different methods, I could understand what does and does not work within different settings aiding my professional development. Understanding how assessment methods vary in

effectiveness allowed me to gauge learner knowledge to identify if learning outcomes were met. Using a mixture of direct and non-direct assessments allowed for a clearer picture of whether the content was accurately understood.

An area of assessment I sought clarity on each time was '*How is the assessment built into an overall course'*. For sessions 2, 3 and 4 these were part of a level 2 smoking cessation practitioner course. This required a summative assessment at a later time, I still opted to use both direct and non-direct assessment styles. Session 5 formed part of a larger assessment within a undergraduate psychology unit. I matched the learning objective to a future assessment through encouragement of further reading. Session 1 focused on referrals within HCP. This formed a basis for an assessment to understand whether those attending could produce an onward referral. The overall effectiveness of this teaching is being shown now as there are above expectation referrals to the smoking service.

Across sessions 2,3 and 4, I was confident the learners met the learning objectives through positive engagement with the session content, taking part in the assessment activities meaningfully. Furthermore, they are also required as part of the level 2 smoking cessation practitioner course to complete a formal assessment at a later date and all passed. However, there are only limited questions relating to each session within the wider formal assessment. Within session 5, I was less able to ascertain whether the learning objectives had been met due to the lecture format and only a select group of students were engaging within the chat function. Those who were engaging were able to produce answers to questions related to each learning objective. For session 1, I am confident learners assessments aligned with the learning objective despite my initial use of '*direct verbal assessment'* which failed to provide me with an understanding of their respective knowledge. However, remaining dynamic in my first session allowed me to use different assessments which permitted me to understand the learners knowledge against the learning objectives.

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4.2 Teaching and Training Reflective Commentary

Background

Evaluating teaching through reflection is an important ongoing process. Reflection is multifaceted encompassing the continual observation by oneself, students, and peers, but also through evaluation and actions (Cuesta et al., 2016). As I had limited formal teaching experience prior to this competency, reflecting allowed me to understand what does and does not work as well as my own strengths and weaknesses. Understanding these through feedback and reflections will allow me to improve my teaching while aiding my professional development. I used Hounsell's (2009) evaluation cycle (Figure 1) as part of my reflective practice.

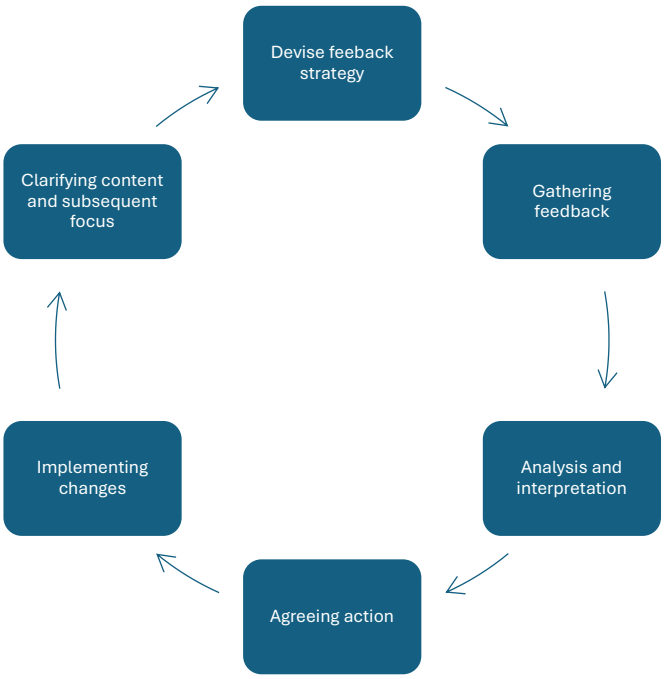

Figure 1: *Adapted from Hounsell (2009) to demonstrate an evaluation cycle*

Feedback from learners

Gaining feedback from learners allows a teacher to gain insight into how their teaching has been received. It can highlight areas where miscommunication occurred or a lack of understanding allowing a teacher to alter sessions to improve learners experience (Hattie, 2009). Gibbs (1998) stated feedback allows us to understand where we can improve.

To maximise collecting meaningful feedback to allow me to develop, I created a feedback tool (see appendix a) consisting of likert scales. It also consisted of open text questions focusing on content and delivery of session as well as covering any thoughts specific to the session from a learners perspective. I sought impetus from Day (1995) for designing a feedback tool for learners as well as the training team within my organisation.

My feedback tool encompassed three sections, "the teacher", "the content" and "as a student" to understand different areas of my sessions. The tool allowed for meaningful

feedback which enabled me to develop my sessions. After each session I used this (session 1 – 4) I reviewed the feedback and where necessary, amended the tool. I opted against using the tool for the 5th session because I was unfamiliar with the technology and was unsure I could keep students responses anonymous. Table 1 outlines some feedback obtained through the tool across each session.

Table 1: *Feedback obtained from the feedback tool and a selection of comments for each part*

	Session one	**Session two**	**Session three**	**Session four**
The content	General response: *Disagree*	General response: *Agree*	General response: *Neutral*	General response: *Strongly agree*
Comments	*I understand the content but I don't know how I can relate this to my work fully*	*Content was good but lacked a logical flow*	*Challenging topic area and the content left some areas untouched*	*Content and handouts will help me talk to smokers clearly about everything*
The teacher	General response: *Neutral*	General response: *Neutral*	General response: *Agree*	General response: *Agree*
Comment	*The trainer needs to be more natural*	*Tried hard to engage but missed out on context sometimes*	*Helped me to overcome some of the difficulties with the content*	*I knew what was expected from me when we started and help align my expectations*
As a student	General response: *Agree*	General response: *Agree*	General response: *Strongly agree*	General response: *Agree*
Comments	*I think I am in a better position to challenge a smoker now*	*More confident to help out in store*	*I can now discuss a topic with those around me to support them*	*Struggled with this session but know where I can make a difference now*

I was able to act on the feedback to improve my sessions and there is a positive improvement in feedback obtained from learners across each session. I was happy I was able to engage students meaningfully and be able to provide ways for these to take this back into their practice. I carried on finding ways to relate the content to each group of learners to ensure they remained engaged and found a meaning for each session. With the content, I reviewed each subsequent sessions feedback to make changes to ensure there was a logical flow by asking a colleague to review the content.

As a teacher, I rehearsed sessions less as it felt robotic in delivery which I felt impacted on my delivery and did not allow me to feel natural. This had a positive impact as I was able to spend more time on the content and less time worrying how I would be perceived.

Peer observations

As I had limited delivery of teaching prior to this competency, I felt it was important to obtain peer feedback where possible. Three of my sessions were observed (see appendices B, C & D for peer observation feedback) (A colleague, a qualified teacher and a senior lecturer) as this can produce effective and objective feedback alongside areas to improve.

My peer observations feedback produced similar results to that of the learners. In sessions 1 and 3 my content was good although it did not seem to have a natural flow. Instead, I opted to use summaries and these helped to aide a structure to a session. My observers also highlighted a lack of natural delivery within an online setting, however the learners did not appear to want to engage and I made an effort to do this. My choice of activities and assessments suited the content to allow for a progression from passive/surface to active/deep learning.

I found the feedback received constructive and being peer observed has provided me with a better understanding of my own teaching. It has also shown ways to improve through changes which I will be able to take into future sessions.

Self-reflections

I completed self-reflections after each session. These were completed at the first opportunity after the session. I completed these independent of the feedback from peer observations and the learners. Self-reflection was an important tool as I was able to show progress across each session, I was also reflecting and answering questions within this as ways to overcome what happened in a session. I enjoyed undertaking self-reflections as I was able to learn about myself and my ability to influence teaching through modifying my delivery styles. Gibbs (1988) suggests making changes based on reflections will lead to improved delivery and I found with each session I was able to do this based on my own self-reflections.

Using the information from the student feedback, peer observations and my own self-reflections, I have been able to identify strengths, challenges and areas I plan to work on further in my teaching practice.

Strengths

Using my self-reflection and the feedback obtained from peer observers and learners, I identified Four key strengths:

Facilitating group learning activities: A healthy level of interaction between learner and teacher is an important facilitator of deep learning (Hagenauer & Volet, 2014). I was happy with my interactions within group learning, ensuring individuals felt comfortable. Learners felt able to express themselves with their answers to a range

of questions I set. However, in some groups it took encouragement from myself to facilitate discussion where it was not naturally occurring. Aiding one group with this limited my ability to help with other groups. I did drop into other groups regularly to help, check and support the activities. Some sessions had natural groups which I used as this encouraged group dynamics (AlReshidi, 2017) which would facilitate discussion. Students who were more active in group discussions were initially paired with less active learners however, this had an opposite effect. The more active would dominate and the less active would be less likely to show their respective knowledge. Instead, I put active with active and passive with passive in session 3 and 4 and this produced more fruitful activities with support from myself. Overall, this showed me how managing group dynamics is difficult within interactive activities.

Offering real world examples: Although I brought my own real world examples, I was able to encourage students to use their own experiences. This was apparent in session 2 with the pharmacists.

Instead of using pre-prepared examples, I picked a particular health condition related to smoking. For instance, a medication review of someone whose medication is inhibited by their smoking. Although I was not in a position to know if what the learners we discussing was accurate, they were able to practice motivational interviewing skills (something I have expertise in). Learners were able to discuss a health condition from a perspective which is meaningful to them while practicing what was taught in a session. I found this useful as it allowed me to observe the different skills learnt in a context the learners preferred.

Flexibility in delivery: Due to the Covid-19 pandemic, at short notice, sessions 1-4 were delivered online. My lack of experience of teaching combined with lack of experience of online delivery meant I was nervous. I feel I handled this well and made changes to my content to make it friendly to the online setting. I also changed some of the content and planned learning outcome assessments so they would work within an online setting.

By my fifth session, I felt more comfortable with this form of delivery as this online style of communication had become normal (Daniel, 2020).

Overcoming silence in a productive way: Initially when I delivered sessions 1 and 2 I found I would ask a question, pause for an answer but fill this pause with something, being uncomfortable with the silence. I felt this hindered on the learners ability to formulate an answer to my question. Within session three I identified this theme and was conscious to allow a pause although I found this difficult. I found moving away from the camera helped as I was unable to interrupt the learners in any way. As I was lacking visual cues, I was guessing when to bring a session back to move on, opting to set a time to answer for the learners. Becoming more comfortable with the silence has translated into my professional practice. I notice I am more comfortable with silence and better at allowing a client to talk without me interrupting leading to improved practitioner-patient relationships.

Challenges

It was apparent, although I had some relative strengths, I experienced some challenges impacting on the delivery of sessions.

Lack of visual contact with trainees in online teaching: I struggled to remain fully engaged in delivery of content within sessions 1 and 2. I found my mind wandering while delivering. It was important I identified this and overcame this as it negatively impacted teaching. I identified this in my self-reflections but also from learner feedback. I realised this occurred as I lacked the visual cues I would traditionally have with face-to-face as I was sharing the content through screen share. Lacking visual contact with learners is a challenge if learners turn their cameras off (Yates et al., 2020). One solution was to deliver standing up as if I was face-to-face. I also found looking into the camera to gain virtual eye contact allowed me to remain engaged.

Needs assessment and content: When performing my needs analysis for sessions 1-4, I completed this in isolation from my team. I realise I should have utilised my teams experiences as they will also engage with the learners when they are working within the community or primary care. After sessions 1 and 2, I realised not including my team was an error and sought their help to identify what should be included in a needs analysis for those attending. Although the team were passionate to help, I found their help misguided as their comments were often general and not specific to the cohort attending. I further found I was being asked to include certain parts by the service manager which interrupted the flow of a session. As my experience was limited, I found I had rehearsed for the content I planned and asking my team for help, although useful in places, impacted negatively on the overall session. In later session, I found I was able to include and exclude different parts of my teams feedback and I was able to integrate this into my session through amending content. I found I will not ask anyone for feedback, I now identify individuals whose feedback will be valuable to me such as in session five. I was able to utilise the experiences of senior lecturers to ensure my content and needs analysis was accurate to meet the needs of the learners.

Answering questions from learners: I found answering some questions asked difficult, particularly regarding areas with conflicting evidence such as Covid-19 (van Zyl-smith et al., 2020). Within this session, I was aware of media reports referencing data from France suggesting smoking was a protective characteristic (Changeux et al., 2020). Although this data was in pre-publication it gained media interest leading to potential misinformation (van Westen-Lagerweij et al., 2021). Although I dismissed the evidence, some learners had not which created an uneasy discussion across all learners. Although healthy debate can be a useful tool in teaching, it is important this is managed and views which some disagree with are listened to regardless of their own viewpoint as it can be good for learning (Gunn et al., 2021). In hindsight I realise I should have stopped a discussion, focusing instead on how they fact checked stories they read as an opportunity to explore how we decide if it is trustworthy as some learners disengaged from the activity.

I also found I felt inadequate with healthcare professionals as some questions were outside my competency and knowledge. Although I felt confident in saying this, I

experienced imposter syndrome and worried whether the learners would view me as fit to deliver. This negativity plagued me across a session in turn distracting me from noting the question and finding out the answer. Looking back, I now acknowledge there will always be learners who will know more, instead I should look to learn from these in a reciprocal way.

Gaining confidence: Although I imagined what a good teacher was, it felt hard to achieve this standard. I felt this as I did not feel confident in myself as I had not delivered enough previously. Although a normal fear (Fottland, 2004), gaining experience is the only way to overcome this. After each session I noted this confidence grow as I became more familiar with the content, my style of delivery, the technology being used and how to engage with learners. I made improvements and felt my sessions had a clear structure which matched the learning objectives.

Areas to improve

Across my teaching, I identified several areas for improvement based on learner and peer feedback, but also through self-reflection.

Checking student understanding: I found it easier to check for understanding within a small teaching group opposed to the larger group where students may not feel comfortable to speak up if they do not understand (Schafer, 2012). Adding small summaries throughout can aid learner comprehension (Kline & Ishil, 2008). Adding these in both small and large sessions is beneficial. Within large sessions, there is still an unknown of whether learners have comprehended the content fully.

Time management: I struggled with my time management across sessions 1-4 despite rehearsing these. I became focused on the surface/passive content while not progressing to active/deep learning soon enough. Poor time management from a teacher can inhibit the learning experience (Fokkens-Bruinsma, 2015). I felt I rushed through some key points of discussion to finish on time. Between each session I reflected and noted this occurring, I planned my content more to reflect the need for discussion and activities. After session 4, I realised I should focus on streamlining content providing learners with the opportunity to undertake background reading at their own leisure and focus instead on the content needed to meet all learning outcomes.

Better embedding assessment in teaching: When first discussing teaching, I became obsessed with assessing learners in a formative way. However, I realised assessments referred to 'have the learning outcomes been met', but my original thought stayed and I felt myself being dragged to formal assessments when I need not have. This inhibited my teaching and delivery and as I planned the sessions, I realised this was not a constructive way for learners to learn. I realised utilising activities as a form of assessment aided both learning and comprehension. I had to adjust some activities to an online format such as the polling activity. This was previously a PowerPoint slide with different answers and learners would raise their hand to the correct answer. I realise now, performing this online allowed for anonymity and not a group effect to occur where somebody picks an answer based on the answer of those around them.

In all, my assessments by my later sessions allowed me to understand if the learners had met the objectives, but to also reflect how my earlier sessions were dominated by an emphasis on a thought of formal assessments. Instead, I was able to use assessment activities to help structure a session, however, I need to widen my scope of assessments to better demonstrate my own abilities within teaching.

Summary

Overall, I found the teaching experience enjoyable. I found being given a specific focus within the workplace to tackle an area I have expressed interest in pleasing. Importantly, I was able to repay faith put in me by delivering sessions to a standard above that set by the service manager. I found the reflective process cathartic after some sessions and importantly, I was able to learn from these reflections to aid my teaching. This was apparent particularly between sessions 4 and 5 where a three month gap occurred. Subsequently I was able to adapt my teaching to reflect what I had learnt about myself. I also found identifying my own weaknesses a positive experience as this allowed me time to develop strategies to overcome these. Although I initially found criticism hard to take, with some time and reflections it has aided my improvement. I have also found teaching has opened new opportunities and has allowed me to develop working relationships with staff who I would previously not encounter.

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Chapter 5: Psychological Interventions

5.1 Psychological Interventions Individual Case Study

Introduction

Smoking can cause poor physical and mental health (Plurphanswat et al., 2017), driving health inequalities across population groups (Smith et al., 2021). Gilbody et al., (2019) identified quitting smoking improves physical and mental health with Shahbab (2015) identifying supporting smokers to quit is cost effective for the National Health Service (NHS). Since 2001, the NHS has supported smokers to quit (Song et al., 2020). Training and treatment were standardised in 2008 following a review of best practice (Brose et al., 2013). Standard treatment is 12 weeks of behavioural and pharmacological support designed by the National Centre for Smoking Cessation and Treatment (NCSCT) (NCSCT, 2019) (Appendix F).

For this intervention, I recruited my participant through my workplace in a stop smoking service (SSS). I was granted consent by the service manager to offer an adapted version of support. This allowed me to undertake the necessary steps to complete this competency, evidencing assessment, formulation, implementation, and evaluation of a one-to-one psychological intervention.

Within this report, I present my work with Jackie (pseudonym) who has been smoking for 40 years. Jackie was prompted to quit following a Chronic Obstructive Pulmonary Disorder (COPD) diagnosis.

Assessment of individual prior to intervention

Completing an assessment allows for the individual context of a behaviour to be understood, which is important in developing effective interventions (Toomey et al., 2020). I used an ecological approach (Derezotes, 2012) to Jackie's assessment as this obtains information through a systematic framework (Salmon et al., 2020) gaining a holistic understanding of an individual. This allowed a complete investigation of interrelated factors associated with Jackie's smoking. This approach is not used within smoking cessation with no set assessment style proposed. I used this method after viewing this approach from other healthcare professionals to effectively understand a whole behaviour within an individual. The ecological approach uses three areas of questioning to gain a detailed understanding of Jackie:

1. **Personal or individual:** *Beliefs, knowledge, attitudes, personal motivations, and skills*
2. **Social:** *Integration with others*
3. **Environment:** *Places an individual uses*

These areas guided me in developing questions based on mine and my colleagues previous experience of supporting smokers. Table 1 outlines the semi-structured interview used within Jackie's assessment.

Table 1: Semi-structured interview guide used during Jackie's assessment

Area of question	Questions asked
Personal or individual	• *Why is now a good time to quit smoking for you?* • *Can you tell me about some past quit attempts you have made?* • *How did you feel when you were smoke free?* • *How do you feel this time is different compared to previous attempts? – 'prompts – support'* • *Knowing you tried to quit by yourself, what is different now for you to seek formal support?* • *What positive are you looking forward to seeing in yourself as a result of quitting smoking?*
Social	• *How will your family, friends and colleagues see you once you quit smoking?* • *Do you think smoking will impact positively or negatively on the relationship? How do you anticipate these to change?* • *What support network do you have in place to help your quit attempt?*
Environment	• *Where and when you traditionally smoke?* • *How/if possible, will you change the house to encourage you to be smoke free?* • *How will you adapt your environment to suit you? 'prompt – workplace breaks'*

Jackie was hesitant throughout the assessment despite an intention to change her behaviour. I used motivational interviewing (MI) as this focuses on behaviour change in a non-confrontational way (Rollnick & Miller, 1995). This helped overcome Jackie's hesitation through creating cognitive dissonance and ambivalence to commit to

behaviour change through exploring various areas of her smoking (Johnston et al., 2021).

Psychological measures were used to track progress (See Table 2 below for scores at assessment, rationale of each, and what the scores mean). Certain measures were used as stipulated by our public health commissioners to measure intervention effectiveness across different areas. I used these as these measured areas which are important to understand for smoking and performing more measures then necessary would frustrate Jackie. I used measures to allow for breaks, pauses and summaries before changing subject without this feeling abrupt. Summaries are important in developing rapport and practitioner patient relationships (Lim & Ha, 2019). Jackie discovered links she previously had not identified using these measures within a discussion.

Table 2: Measures used in Jackie's assessment, why each was used, how these are scored, what was Jackie's score and what this means to Jackie

Measure name	**Rationale of measure and use**	**How is this scored**	**What were Jackie's scores**
***Fagerstrom test for nicotine/cigarette dependence (Heatherton et al., 1991)**	*Measures the intensity of physical addiction to nicotine. Questions focus on time to first cigarette, how many cigarettes are smoking daily, ability to reframe from smoking, smoking when ill and smoking in bed.*	*Questions are scored as 0-1 or 0-3 and this provides an overall score of 10. The higher the number, the more addicted to nicotine an individual is.*	*Jackie scored 7 out of 10 identifying her as highly dependent on nicotine.* *Jackie's time to first cigarette was scored 3 out of 3 indicating a high dependence to nicotine (Baker et al., 2007)*
***Alcohol Use Disorder Identification Test (AUDIT) (Department of Health and Social Care, 2017)**	*AUDIT questionnaire is used to identify drinking levels which may be harmful to an individual. Predominantly used within primary care settings. For some, the relationship between alcohol and smoking is intertwined (Weinberger et al., 2017)*	*AUDIT questionnaire is score from 0-40.* *0-7 indicates low risk and limited harm* *8-15 indicates increasing risk to health and dependence on alcohol*	*Jackie scored 8 out of 40 inferring her alcohol consumption puts Jackie at an increasing risk to health consequences and dependence on alcohol*

		16-19 indicates higher risk to health consequences and dependence on alcohol *20+ indicates likely dependence on alcohol with implications for health*	
***Short version Warwick-Edinburgh Mental Wellbeing Scale (SWEMWBS) (NHS Scotland, 2008)**	*This measure monitors general wellbeing, although not meant for individual use, this is identified as being able to see individual changes in wellbeing (Collins et al., 2012). Individuals who smoke report higher levels of poor wellbeing compared to non and ex smokers (Churchill & Farrell, 2017)*	*Uses 7 statements about thoughts and feelings which relate more to functioning than feelings offering a different perspective on mental wellbeing.* *Scored 1-5 on each statement giving a range of scores of 7-35. The higher the score the better an individuals mental wellbeing*	*Jackie scored 19 out of 35. This implies Jackie has below average wellbeing compared to the UK adult population of 26 (Fat et al., 2017)*
Physical and emotional scores (1-10: how do you rate your physical or emotional health)	*A simplified approach to ask Jackie how her physical and emotional health are from 1-10*	*1 suggests poor physical or mental health and 10 implies excellent physical or mental health*	*Physical health: 4 out of 10 perceiving her physical health to be poor*

			Mental health: 7 out of 10 perceiving her mental health as good
Smoking motives questionnaire (NCSCT, 2012)	*Identified what an indiviudal will miss about smoking. When used, it can allow plans to address any lapse triggers which may occur through identifying what an individual is likely to miss. Identifying these decreases the chance of lapsing (Heckman et al., 2017)*	*Questionnaire measures 7 areas from 0-3, the higher indicating more likely to struggle.*	*Jackie scored highly in 4 of the 7 areas suggesting certain situations may limit her ability to successfully quit smoking:* • *Coping with stress* • *Something to do when bored* • *Staying alert and concentrating* • *Feeling uncomfortable when you do not smoke*

*Indicates these were included as part of the service requirements stipulated by the public health commissioners at time of intervention.

Assessment interview findings

Client history: Jackie is 56, married to Steve with a daughter (both non-smokers) and a dog. Jackie works as an administrator and smoked since she was 16. Jackie has a recent diagnosis of COPD, asthma, an overactive thyroid alongside anxiety and depression. Jackie has never accessed a SSS before and was hesitant of how this could help.

Why does Jackie want to quit: Jackie cited three reasons for quitting smoking:

1. Declining physical health – *Recent COPD diagnosis alongside worsening asthma*
2. Self-perceived family guilt and shame – *Feels she is letting her family down*
3. Jackie's brother-in-law recently died – *He was a heavy smoker with COPD*

Understanding previous quits: Jackie quit during her pregnancy remaining smoke free for 8 years before lapsing after an alcoholic drink. Jackie tried to quit smoking on multiple occasions without long term success. Jackie is concerned with replacing one habit (smoking) for another. Jackie identifies not being able to remove her addiction to nicotine as being key in previous attempts. Jackie also highlighted alcohol could negatively impact her remaining smoke free.

Context of Jackie's smoking: Jackie smokes 20 cigarettes a day, identifying this is mostly routine based using smoking as an escape during stressful periods. Jackie identifies changing routines in the past has been difficult. Jackie would like an alcoholic drink with family and friends yet finds this a trigger to smoke. Jackie imposed a 'no smoking in the house' rule helping during the winter, yet during warmer periods, Jackie will sit outside where she can smoke freely. Jackie walks her dog twice a day, smoking while away from her family. Jackie acknowledges her family are supportive, yet this can sometimes make Jackie feel failure is not an option negatively impacting her ability to remain smoke free.

Jackie states she needs to quit for herself, not her family and has decided not to tell them until later in the intervention.

Fears and concerns: Jackie lacks confidence and self-belief, particularly how an SSS can help. After previous unsuccessful attempts, Jackie is open to new approaches, however, is fearful of losing a social element of her life through quitting smoking. Jackie is concerned with her declining health, her brother in laws death and letting her family down.

Key challenges of intervention: Jackie spoke about her challenges of quitting. The measures used demonstrate her reliance on nicotine with harmful levels of drinking (table 2). Jackie needs to readdress her relationship with both, helping to reduce her own perceived guilt from her family.

The assessment obtained relevant information facilitating the creation of a personalised intervention (Susta et al., 2019) through a detailed formulation to support Jackie becoming smoke free (Greaves et al., 2019).

Formulation

Formulation is the process of taking information gathered during an assessment and understanding key issues to explore and identify how to address these (Selzer & Ellen, 2014). Jackie and I collaboratively identified the key issues empowering Jackie as she remained in control of her quit attempt. Successful quit attempts can be achieved through empowering an individual (Coppo et al., 2020), using patient experiences (James et al., 2019) and collaborating with a patient (Tubb et al., 2019). Jackie and I identified several experiences such as her previous lapses and alcohol as a trigger alongside others to focus on, splitting these into three sections:

- Cognitive: *Thinking, reasoning, remembering*
    - Jackie's family support both hinders and helps
- Emotional: *How we feel impacts behaviour*

    - Fearful of long-term abstinence
    - Hesitation towards SSS
- Behavioural: *Activities and actions performed*
    - Previous nicotine replacement left her unable to reduce nicotine dependence
    - Alcohol as a precursor to smoking

Jackie's assessment led me to identify COM-B (Michie et al., 2014) as a suitable model to map this intervention too. COM-B (see appendix G) identifies how an individuals capability, opportunity, and motivation may influence behaviour (Michie et al., 2014). COM-B uses a behaviour change taxonomy, a series of 93 behaviour change techniques (BCT) grouped within 16 clusters (Michie et al., 2013), to address areas identified within the assessment for the intervention. The three areas identified within the assessment; cognitive, emotional, and behavioural readily map onto COM-B. Other theories such as stages of change (Prochaska & DiClemente, 1983) fail to address all these areas (Coulson et al., 2016).

Based upon the assessment, formulation and collaboration with Jackie, I designed an 18-week intervention using COM-B to support Jackie becoming smoke free. Eighteen weeks allows time for 'buy-in' from Jackie overcoming hesitation prior to her quit attempt. Eighteen weeks also allows flexibility to accommodate any changes in Jackie's circumstances aiding compliance and success within an intervention (Rollins & Terrion, 2010).

Intervention design

A successful smoking cessation intervention should be matched to a behaviour change model (Smith et al., 2019), with COM-B successfully applied within smoking cessation (Mersha et al., 2020) and therefore appropriate for Jackie's intervention. Addressing an individuals capability, opportunity or motivation alone is insufficient to sustain behaviour change (Minian et al., 2020). Using a behaviour change taxonomy provides further levels of understanding of behaviour change, therefore increasing Jackie's chances of achieving success through the intervention.

Behavioural change techniques within smoking cessation are complex (Michie et al., 2011). It is important the BCT's selected overlap to support an integrated intervention to not feel disjointed which can result in an ineffective intervention (Roberts et al.,

2013). An example of two BCT's used in combination are pharmacological support and habit formation. Pharmacological support will provide Jackie with the nicotine replacement therapy (NRT) while remembering to use NRT will need to become part of her routine. It is important when selecting BCT's for this intervention these are relevant to Jackie based on the assessment and formulation. It is also important to limit how many are in each session as providing too many may dilute the effectiveness of a session (Alizaga et al., 2020).

Figure one highlight how COM-B is used based on Jackie's assessment and formulation. This includes the different levels within the intervention based on the behaviour change wheel (Michie et al., 2011) (appendix G) and which BCT's are adopted. Sixteen BCT's are used which table 3 outlines the rationale for each.

Alongside COM-B, I adopted MI (Rollnick & Miller 1995) as this allows for behaviour change to be discussed in a non-confrontational way. Jackie's hesitation led me to identify MI as a suitable approach allowing us to discuss the necessary information without Jackie feeling judged. I also used the health trainer manual (Michie et al., 2008) using goal setting, action planning, and activity diaries. I choose these as this would allow different areas of the formulation to be considered.

- Action planning: *Discussing smoking around Jackie's family and how she would respond*
- Activity diaries: *Identify cues which are causing Jackie to think about smoking*
- *Goal setting: To have small goals (1 day without a cigarette) to allow Jackie to gain confidence*

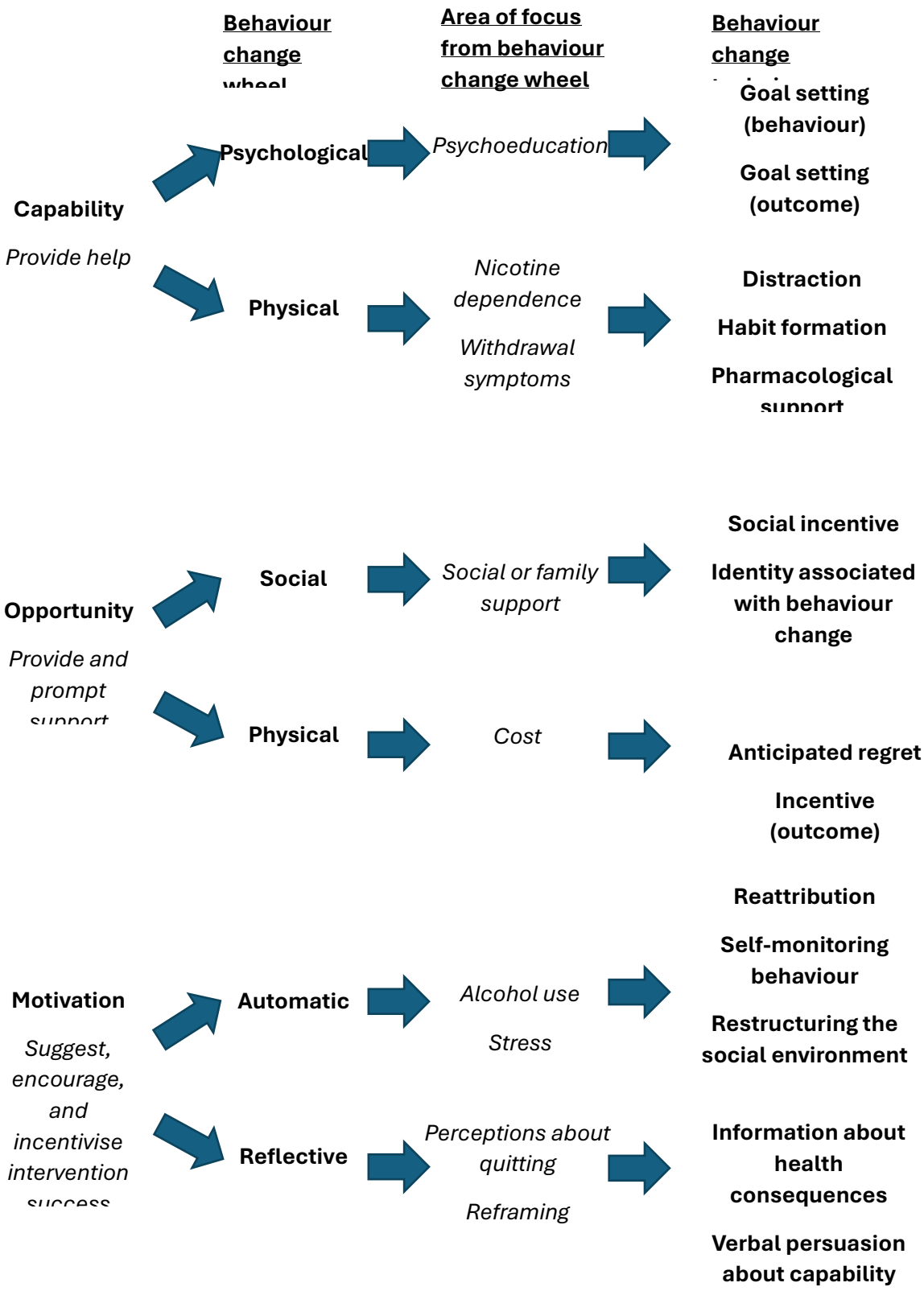

Figure 1: COM-B and the phases of the behaviour change wheel matched to the behaviour change techniques used within Jackie's intervention

Table 3: Applying behaviour change techniques and why these were used based on the formulation

Focus from COM-B	Behaviour change techniques	Rationale of how this applied to the assessment and formulation
Psychoeducation	Goal setting (Behaviour)	Used to address Jackie's aims to become smoke free by setting and achieving specific behaviours such as buying a pack of cigarettes every other day to begin with
	Goal setting (outcome)	Used in stages throughout the cut down to quit. Cut to 10 cigarettes and then 0 cigarettes
	Social comparison	Jackie is to find examples within her social circles of those who have previously quit using a stop smoking service and she will be able to match their respective quit attempts with certain lengths of times achieved
Nicotine dependence and withdrawal symptoms	Distraction	During Jackie's stressful work day, she would routinely use smoking as an escape. Jackie is to use an alternative such as a game on her phone alongside her nicotine replacement to avoid smoking
	Habit formation	Jackie is to place the nicotine replacement in the same place as her cigarettes were
	Pharmacological support	Nicotine replacement is an effective tool in supporting someone to quit smoking (Pacek et al., 2019). For Jackie it is important this is discussed as a tool to become smoke free before reducing her nicotine dependence.

Social or family support	Social incentives	Jackie feels her family is ashamed of her smoking while she also carries the guilt of this. By quitting, Jackie will be rewarded by her family.
	Identity associated with behaviour change	When Jackie quit smoking previously this was due to pregnancy and this formed part of her identity. Jackie will need to form a new part of her identity to overcome her anticipated challenges
Cost	Anticipated regret	Jackie's family are supportive and by not quitting, Jackie feels she will be letting down her family. Reminding Jackie of this could lead to regret to encourage her quitting.
	Incentive (outcome)	Jackie is to save a certain amount each week she would have previously spent on cigarettes and to reward herself or family when she reaches 12 weeks.
Alcohol use and stress	Reattribution	Jackie needs to change her relationship with alcohol alongside smoking to promote her positive behaviour change.
	Self-monitoring behaviour	Jackie is to identify challenges and stressors faced while being smoke free in an activity diary. This will allow Jackie to understand what is causing her cravings and subsequently and perform action planning to come up with solutions to these
	Restructuring the social environment	Changing the social environment around Jackie, for instance, taking her family with her when she walks the dog or having a conversation with a colleague during a stressful period of her workday.

Perceptions about quitting and reframing	Information about health consequences	To explain to Jackie why she is advised to complete a full 12 weeks of nicotine replacement as this reduces long term nicotine addiction once an individual has quit smoking
	Verbal persuasion about capability	As the practitioner, it is important I remind Jackie of what she is doing, and she is control of her quit attempt. This will also build Jackie's own self-efficacy promoting her ability to quit.

The intervention was designed for 18-weeks opposed to standard treatment of 12 weeks. I used 18 weeks as this allowed for the intervention to be split into two periods; 'pre quit' and 'post quit' (McEwan 2014). 'Pre quit' was longer than standard treatment. A longer period involving a cut down to quit method is effective in those likely to struggle (Lindson et al., 2019). Jackie herself identified she was unlikely to achieve success, coupled with her hesitation of SSS suggested a cut down to quit may achieve success. A longer 'pre quit' allows more time to learn strategies to cope with her cravings, allowing her to understand how NRT will help her, and identify challenges and approaches to overcome these.

The 'post quit' aims to develop the skills learnt and adopted during 'pre quit' to promote behaviour change, while also reducing nicotine dependence to achieve long term cessation (Zwar, 2020). Clear definitions of each phase allowed for an understanding of what was trying to be achieved and how this met the formulation. This allowed Jackie to understand the intervention, keep her in control, and increase her compliance to succeeding (Pacek et al., 2018). 'Pre quit' and 'post quit' focus on different areas identified as important to address, to increase intervention success.

- **Pre quit**
    - **Capability:** *Psychoeducation/information – provide Jackie with the ability to understand what she is doing*
        - Include using pharmacotherapy effectively and discussing links between alcohol and smoking
    - **Opportunity:** *Communication skills*

        - To provide Jackie with the skills to have conversations with family and friends about the challenges when quitting
    - **Motivation:**
        - To build self-confidence and her own motivation
- **Post quit**
    - **Opportunity:** *Becoming smoke free (3-5 weeks)*
        - Include action planning, activity diaries, habit formation/routine changes and building motivation
    - **Motivation:** *Becoming nicotine free (7-9 weeks)*
        - Include communication skills, complete abstinence, goal setting, and understanding time, money, and health.

Certain parts of standard treatment are used during the programme as these are parts of the intervention which match Jackie's needs. These include showing how to use NRT, checking NRT use, assessing readiness to change, discussing importance of complete abstinence, and checking she understands the benefits of quitting to herself including time, money, and health. Table 4 shows Jackie's 18-week intervention, including a checklist for each session, which BCT's are adopted and what if they lapse. It is important to plan for a lapse in smoking to address the cause and decide whether there is enough commitment or if the intervention should be ceased (Koçak et al., 2019).

Table 4: The 10-session intervention to support Jackie to become and remain smoke free

Session	**Checklist for session**	**BCT**	**What if they lapse**
1 (Pre quit) ***10 days prior to quit date*** *Session time: 40 minutes* *Video call*	Assess readiness and ability to commit Show how to use NRT* Confidence and motivation building Tackle skepticism towards programme Set 1 goal – cut down to quit	Pharmacological support Identity associated with behaviour change	

2 (Pre quit – Quit date plan) ***3 days prior to quit date*** *Session time: 30 minutes* *Video call*	Assess readiness and ability to change* Addressing alcohol and habit formation Check on NRT use* Goal setting – quit date confirmed **Session 2 also includes a short motivation building call the day before their planned quit date as well as a text on the 2nd day to remind of habit formation**	Information about health consequences Goal setting (behaviour) Identity associated with behaviour change	
3 *(1 week post quit)* *Session time: 30 minutes* *Video call*	Discussing importance of complete abstinence* Working with action planning Communication Motivation and building self-efficacy Considering nicotine dependence	Verbal persuasion about capability Reattribution Goal setting (outcome) Habit change	
4 *(2 weeks post quit)* *Session time: 25 minutes* *Video call*	Discuss the previous 2 weeks of being smoke free and how it feels * Nicotine dependence – Using NRT Benefits of quitting to herself * Understanding the routine changes they have made and	Pharmacological support Identity associated with behaviour change Anticipated regret	Assess commitment to programme Check NRT effectiveness Discuss reasons for lapse Ensure 12 weeks from now

	discussing if these are temporary or permanent		
5 *(3 weeks post quit)* *Session time: 15 minutes Phone call*	Working on delay and distract Discuss communication and alcohol – If needed provide more psychoeducation	Goal setting (behaviour) Self-monitoring of behaviour Distraction	Assess commitment to programme Check NRT effectiveness Discuss reasons for lapse Ensure 12 weeks from now
6 *(4 weeks post quit)* *Session time: 20 minutes Phone call*	A look at the individuals money saved and planning what they can do with this Making sense of the time gained back* Using diaries to help identify nicotine dependence levels Work through a cigarette refusal scenario	Incentive (outcome) Restructuring the physical environment Social persuasion	Identify reasons for lapse Discuss commitment to programme Ensure 12 weeks from now
7 *(6 weeks post quit)* *Session time: 10 minutes Video call*	Checking for complete abstinence * Assessing the individuals nicotine dependence Adjusting medication strengths * Checking on delay and distract – how are these going Discussing with the family what smoke free means	Pharmacological support Distraction Habit change Self-monitoring of behaviour Social incentive	Understand has caused relapse Plan for setback and adjust medication course if necessary Ensure 12 weeks from now

8 *(9 weeks post quit)* *Session time: 10 minutes Phone call*	Assessing nicotine dependence * Discussing ending the programme so clear end date * Understanding the positive changes they are making and what it means for them Adjusting medication where needed to ensure programme is maintained Checking on effectiveness of cigarette refusal	Restructuring physical environment	Discover issues with programme and commitment
9 *(12 weeks post quit – Ending the programme)* *Session time: 15 minutes Video call*	Discuss 12 weeks and what it has done for them* Discussing relapsing and what to do Measure nicotine dependence *	Identity associated with behaviour change Reattribution Pharmacological support	Identify reasons for lapse Plan a new course Identify if further support needed
10 *(6 weeks follow up)* *Session time: 10 minutes Phone call*	Check in on abstinence* Identify levels of nicotine dependence Prompt commitment to ensure continued success Discuss a relapse and the next steps	Self-monitoring of behaviour Anticipated regret Verbal persuasion about capability	

Intervention implementation

Due to the Covid-19 pandemic, Jackie and I agreed to use remote support including video calls, phone calls and text messaging. This intervention would have been all face-to-face if not for the pandemic, however, the option was there if this would help.

Jackson et al., (2019) identified remote support within smoking cessation is equally as effective as face-to-face support.

"Pre-quit"

With Jackie's hesitation towards SSS, I focused on addressing this within sessions 1 and 2. Jackie was sent the intervention once it was designed. Sending this to Jackie allowed her to see how it aimed to address her concerns and how we collaborated to make this individualised. Collaborative decision-making increases individuals knowledge and improves self-efficacy. This increases adherence to an intervention and ability to independently apply knowledge and skills learned (Treichler & Spaulding, 2017). Jackie could make suggestions and changes allowing her to remain in control of her quit, which is important for lasting behaviour change (Barley & Lawson, 2016).

Jackie achieved a cut down to quit through setting small goals. Setting and achieving smaller goals helps boost motivation, which is important in achieving larger goals (Gwaltney et al., 2009). This helped Jackie as she was not receiving support from family, deciding not to approach this subject until she was confident in her ability to remain smoke free. Jackie also began to understand her relationship with alcohol and how this impacted her smoking and also her health. It was important for both Jackie and I to see this as proof of intervention effectiveness. Jackie was slowly becoming more confident in her ability and progressed to her intended quit date and into 'post quit'.

"Post quit"

Jackie successfully achieved her quit date progressing into 'post quit'. Across the following 10 sessions, there were minor changes based on situations which arose within different sessions.

Alcohol was identified early in the assessment as important however, I had placed these sessions later within the intervention. I identified my original place had been insufficient to support Jackie's needs. It was important I highlighted to Jackie my own error in designing the intervention. Admitting error allows patients to progress instead of harbouring misgivings towards a practitioner (Tigard, 2019). Jackie and I agreed to bring these parts of the sessions forward allowing Jackie to sufficiently understand her relationship between alcohol and smoking and how to positively change.

Throughout the initial parts of 'post quit' it was important Jackie was moving towards identifying as an ex-smoker. Activity diaries using a mobile based app can be used within behaviour change (Stedman-Falls & Dallery, 2017). Activity diaries were used by Jackie to understand where cravings arose to develop a plan to overcome these within the following session. However, recalling the cravings proved more difficult, as Jackie found recalling these increased her desire to smoke. I withdrew this from the intervention as this was ineffective.

Jackie did not receive support from her family for her first 6 weeks being smoke free, relying on her own internal motivation and our sessions. I identified with Jackie, text messages could be useful for short motivational messages and to reinforce skills learnt in previous sessions (Whittaker et al., 2019). Although initially planned for a short period, Jackie found these useful in confirming her behaviour change so these were used more across the intervention.

A six-week gap was planned between sessions nine and ten. Initially planned within this period were two short motivational texts however these were not sent. Jackie showed ownership of her goal towards being smoke free and identified as an ex-smoker. She importantly did not seek validation through the intervention as her family were now providing support. Jackie asked not to have these as proof to herself she was able to remain smoke free independent of the intervention.

Evaluation

Evaluations are important to highlight an interventions effectiveness (Burgess et al., 2020). With personalised, one-to-one interventions, Kneale et al., (2019) identified the importance of anecdotal evidence due to lacking sufficient data for analysis. Jackie allowed us to record conversations so I could show progress made (Table 5).

Table 5: two conversations Jackie and I had which I recorded to show her the progress she was making

Jackie 3 days before quit date	Jackie at 12 weeks smoke free
"I can see how this is different to what is normally offered. I am disappointed I couldn't do it myself, but this is unique to me. What's the worst that can happen? Fingers crossed I am able to quit and stat off these poxy cigarettes"	*"I didn't know what to expect, I know I didn't like the idea of a smoking service, this was the reason I didn't come sooner. I am happy to admit I am wrong which my husband would laugh at hearing. It was designed for me and when something didn't work you changed it and worked with me. The lessons learned have made me re-evaluate my relationship with alcohol for the better and I've lost weight. I feel healthier! I don't know if I need to say fingers crossed as I feel really confident this time."*

Jackie demonstrated improved wellbeing on the SWEMWBS. Her own perceived physical health improved, similar to other smokers (Sarna et al., 2008). Jackie's AUDIT scores decreased highlighting her relationship with alcohol continued to improve. Jackie's own perceived emotional health did decline before returning to baseline at 18 weeks. This is common in smokers as they shift their identity away from being a smoker (Taylor et al., 2021). The Fagerstrom nicotine dependence questionnaire and the smoking motives questionnaire were not used after assessment as these are used for smokers. Not using these demonstrates the effectiveness of the intervention as Jackie was smoke free. Table 6 shows changes in Jackie's scores across each measure used.

Table 6: Jackie's scores for each measure used across the intervention and what the scores shows

	Assessment	6 weeks	12 weeks	18 weeks	What does this mean
SWEMWBS	19	20	22	24	Jackie's mental wellbeing increased across the intervention
AUDIT	8	9	8	5	Jackie decreased her risk to harmful drinking and becoming dependent on alcohol
Self assessed physical health	4	4	6	8	Jackie improved on her own perceived physical health
Self-assessed emotional health	7	5	6	7	Jackie's emotional health returned to baseline at the intervention ended although this initially decreased

It is important both anecdotal evidence and the measures used align with one another showing Jackie's progress across 18 weeks being smoke free. During a 6-month follow up, Jackie reported still being smoke free and her own perceived emotional health was now higher, while her relationship with alcohol had further improved.

Conclusion

It was rewarding to see the interventions effectiveness as Jackie was and remains smoke free despite her hesitations towards SSS. Importantly, the measures aligned

with Jackie's anecdotal evidence highlighting the steps taken and processes involved in completing an assessment and formulation provided with an intervention to be smoke free.

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5.2 Psychological Interventions Individual Case Study Reflective Commentary

Introduction

Throughout this competence, I used Gibbs (1988) reflective cycle to learn from my experiences as part of a continual learning process. Gibbs (1988) cycle incorporates the following stages for reflection: description, feelings, evaluation, analysis, conclusion, and action plan. Across different stages of my intervention, I identified strengths, weaknesses, and areas to improve from my reflections and feedback from observations and Jackie.

Prior to starting the intervention

Before this intervention, I was rigid in supporting patients using standard treatment (National Centre for Smoking Cessation and Training [NCSCT], 2019). This was an opportunity to implement some new techniques and ideas of support from other services and research. Standard treatment is insufficient for some individuals (Li et al., 2020), including Jackie. Standard treatment does not address 'social smoking', alternative forms of communication, and providing education about nicotine addiction. It was important I selected new ideas relevant to Jackie, not those I wanted to trial.

An initial referral to the stop smoking service (SSS) for Jackie resulted in a brief conversation where she declined, highlighting she was not convinced what an SSS could do for her. Several months later during a routine follow up call, Jackie was unsuccessful in quitting although she appeared ambivalent between her need to quit and her ability to do so. Jackie still remained hesitant of generic treatment options offered by a SSS. I offered Jackie an individualised programme through my professional doctorate. This piqued Jackie's interest reducing her hesitationof conventional treatment allowing me to progress to the assessment stage as she agreed to take part in the intervention.

Assessment and formulation

Assessment styles and listening: I adopted an ecological approach (Derezotes, 2012) to facilitate Jackie's assessment, to gain an understanding of her smoking. An ecological approach is based on the premise a behaviour can be understood when the environment is in context (Brooks-Gunn et al., 1993). This approach allowed for

breaks and transitions within the assessment, naturally shifting between areas. Breaks and transitions allowed for summaries which check for understanding (Roter, 2000).

Across the assessment, I found I was engaging with active listening far more than previously. I was conscious to ensure I fully understood what was said, and to understand important aspects to Jackie. I would perform active listening in my role with other patients, however this intervention has shown me the importance of being able to pick up on particular nuances to help an individual where something could sound trivial but is important to them.

Understanding measures and their meaning: I used several measures throughout the assessment. Some were mandatory for reporting within the service I work in. These are often completed during the booking process, something which I do not regularly undertake within my role. I was unsure on using the Alcohol Use Identification Test (AUDIT) (Department of Health and Social Care [DHSC], 2017) as this was often completed before I first spoke with a patient and was unsure on what the results would mean. I have previously found discussing alcohol difficult despite their being an established link (Niaura et al., 2018) and the AUDIT allowed a clear discussion regarding alcohol. This aligns with some existing research of practitioners struggling to discuss other topics outside their area of knowledge (Minian et al., 2020). I realised quickly I had not done enough research to understand the ADUIT and had not anticipated the depth of Jackie's questions. This forced me to think quickly and inform Jackie I would provide the answers during the next session. I sought advice from a substance misuse specialist, and I felt confident to address Jackie's questions in the next session. This was important for me to understand my own limitations and where I made mistakes. It also shows how I was able to handle a situation arising from my own error to provide an outcome the patient was happy with. I was also able to develop a professional relationship with another organisation which has helped with other patients subsequently.

When Jackie asked questions I did not know the answer to, I would give these in the following session. This allowed me to recap a previous session to reinforce what was covered (Parahoo et al., 2017). This method has been incorporated into my daily practice to remind patients of areas previously discussed which they have forgotten to reinforce their behaviour change.

Intervention design and delivery

Aligning with the competency: The current treatment plan (NCSCT, 2019) is sufficient in supporting many to become smoke free (Li et al., 2020). While working with Jackie, I found myself inadvertently referring to this instead of Jackie's intervention. This irony did not fail me similar to a smoker reverting to old habits, I would refer to what I knew. To overcome this, I found myself asking 'how does this meet the formulation', forcing me to focus on Jackie's needs, taking time to read notes and review sessions to ensure I achieved her aims. Focusing on each individual, reading notes and reflecting, opposed to a one size fits all approach, even while adopting usual treatment (NCSCT, 2019) with other patients has allowed me to improve the support I offer smokers wishing to quit.

New ideas: An area I identified based on Jackie's assessment was alternative forms of communication such as text messaging for checking in and providing encouragement (Hartmann-Boyce et al., 2019). I identified this as Jackie finds her workplace stressful and her hesitation towards SSS. Using texts allowed Jackie to remain in control of when she wanted to respond alongside our usual fixed appointment times. As this was also new for me, I felt unsure what is motivational to Jackie. Getting the correct tone is important as it can be easy to misinterpret what is said, subsequently damaging the therapeutic relationship and intervention effectiveness. I asked Jackie for guidance and she provided some. This highlighted our practitioner-patient relationship was effective (Azevedo & Dall'Agnol, 2020). Collaborating with Jackie was useful across the whole intervention as she felt in control and the formal nature of the intervention was diminished in her eyes. Collaborating with patients has been shown to be effective when adopting behaviour change interventions (Treichler & Spaulding, 2017).

It is important my own learnings from these new ideas are shared with my colleagues so we are able to benefit the population groups we work with. However, due to the funding requirements of the service, it is crucial these are operated as extras, not detracting from our usual offering which works for many. By providing an evidence base for my colleagues, they can make an informed choice on what will work for their patients within their own caseloads.

Therapy styles: I had found across my time supporting Jackie, motivational interviewing (MI) (Rollnick & Miller, 1995) was useful as it allowed me to tackle difficult behaviours in a non-confrontational way. This is despite my own challenges of being able to discuss alcohol with Jackie prior to seeking the support of a substance misuse professional. I did find on several occasions Jackie would not respond to MI and I was unable to draw upon another technique to progress the sessions. This highlights I should be looking to learn alternative therapy styles which may help in future practice. Therapy styles such as cognitive behavioural therapy or acceptance and commitment therapy would allow me to be a more rounded professional. Across my team, this is a noticeable challenge and I have sought some external support to upskill my colleagues and myself with different therapy skills to help with challenging situations.

Evaluation

Addressing a clear end point to an intervention: Many interventions which fail to address the end point can result in poor outcomes once the intervention has ceased. With Jackie, she felt she was progressing through quicker than planned and wanted to end this sooner. This was positive as Jackie was becoming less reliant on support and was taking control of her situation resulting in no support during the final 6 weeks where this was planned. It showed planning in a clear end point and being clear allowed Jackie to understand why the intervention was done this way and empowered her to take charge. An individual in control of their behaviour change will have a lasting impact beyond an intervention (Pacek et al., 2020).

Conclusion

Within a SSS I felt constrained, however this intervention allowed me to perform alternative methods of support with a positive outcome. It is important to share these with my colleagues to encourage exploring of alternative ways of supporting patients where time allows. Subsequently my colleagues have been able to respond positively to the varenicline shortage which has impacted SSS (DHSC, 2021) because we were flexible and adaptive in our approach to encouraging others to try alternative methods.

I have room to grow as a professional, but my reflections have shown me my progression over this intervention with a successful outcome. I am also confident in

developing alternative ways of working when there is an evidence base for this and putting this forward to decision makers to benefit patients.

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5.3 Psychological Interventions Group Intervention Case Study

Introduction

An unpaid carer is someone who goes beyond usual expectations of a friend or family in providing support (Carers UK, 2014). For this report, an unpaid carer will be termed 'carer'. Carers provide tangible savings to health and social care system (Carers UK, 2019) through offering support where these do not, however, for many this comes at a cost. Carers generally report poorer physical and mental health (Spiers et al., 2021), prioritising their cared for over themselves. Common barriers for carers to improve their health include time, energy and absence of support for cared for (Horne et al., 2021). Physical activity (PA) can improve carers physical and mental health (Lindsay et al., 2022) and is the focus of this intervention.

Within this report, I present my work with seven carers, delivering a PA intervention, documenting all stages of the process: assessment, formulation, implementation, and evaluation.

Assessment

I recruited participants through my workplace supporting carers. A survey asked what would benefit carers wellbeing and PA was highly suggested. Twelve thousand carers were offered the intervention and 7 came forward. Size of group was limited to 10 as this is a manageable size and allows for dropouts without impacting the competency.

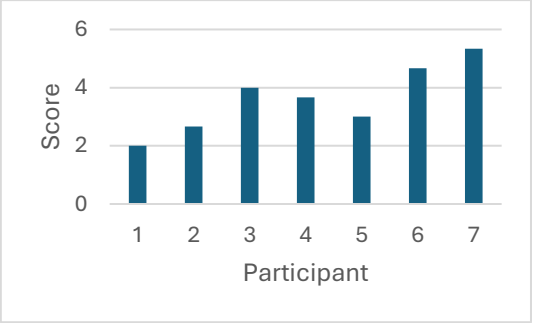
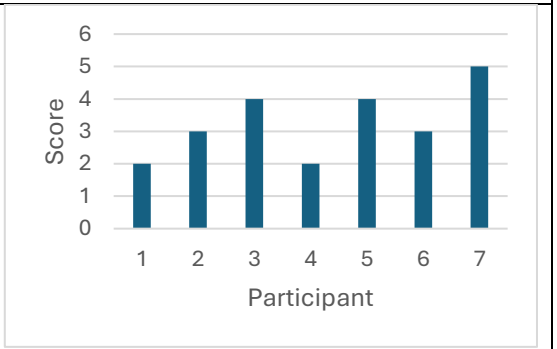
Assessments allow an intervention to be refined to those attending allowing a meaningful and specific intervention to occur (O'Connor et al., 2021). I interviewed each participant individually at a convenient time for them. Individual assessments provide greater depth of understanding and allowed me to begin developing rapport. Rapport is important in the patient-practitioner relationship and may increase intervention effectiveness (Washington et al., 2012).

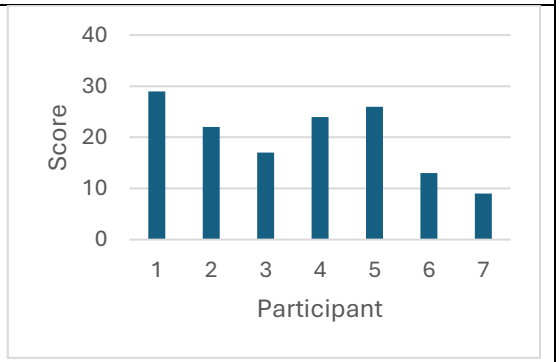
Each assessment was guided by a semi-structured interview guide (table 1). My interview guide used open questions related to PA and previous experience. By understanding what participants enjoy and dislike, an intervention can be tailored increasing positive outcomes (Sheridan et al., 2019). Measures (table 2) were also used allowing progress to be tracked. Importantly, these measures are explained to participants during the assessment, so these understand what is being measured and why. Each measure was chosen to assess different components of intention towards PA including self-determination (Hagger & Armitage, 2004), happiness (Solanes, 2021), and self-esteem (Biddle et al., 2019).

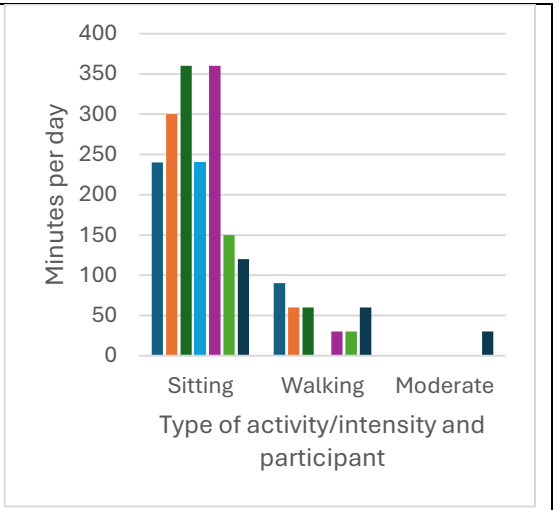
Table 1: Questions asked during the assessment and some responses given

Question asked	Sample response given
How physically active are you currently?	"It can vary, some days I can walk to the gym, do a class and walk home, other days, you know, with my mum, I am too tired to do anything" "Up and down, I know I should do more but I don't always enjoy it"
What do you think of when I say exercise?	"Pain, discomfort, enjoyment" "Makes me feel good about myself"
Have you previously had an exercise routine?	"Before, I use to be so active, you know, er, I would go for a walk on my break, do the gym, cycle, and then it came crashing down with me needing to be a carer" "It could vary…some years I would be so happy with myself, happy to challenge myself, and then others, er, I wouldn't put my mind to anything and I would slump"
What types of activities do you/have you enjoyed	"Oh, a bit of everything, skiing was my main sport, I'm a qualified instructor" "Yoga, it's so good for the mind and soul"
Is there anything preventing you from performing exercise now?	"I struggle to find time for myself with work, me caring, it can be too much sometimes" "I am scared of hurting myself a little, its why a group sounds more appealing then by myself"
Looking to the future, what would you hope to achieve from these sessions?	"To feel better in myself" "I want to show I am more then just a carer"
Are there any types of activities you have not enjoyed doing?	"I do not like running that is for sure" "I never liked going near the weights in the gym"

Table 2: measures used, their rationale, how it is scored and the participant scores

Measure name	Rationale of each measure	How is this scored	What were the participant scores
Locus of causality for exercise scale (Markland & Hardy, 1997)	A short measure to determine the how an individual's self-determination will impact exercise (Biddle et al., 2019). Self-determination impacts on a carers ability to perform exercise (Barrado-Martin et al., 2021). ***Measured at assessment and follow up***	Scored from 1-7, a higher score indicates a higher level of perceived locus of causality (greater self-determination)	
Oxford happiness questionnaire (Hills & Argyle, 2002)	A measure of subjective wellbeing by understanding the personality variables known to be associated with wellbeing (Michalos, 2017). Carers have poorer wellbeing compared to the general population (Spiers et al., 2021) and exercise has been shown to improve markers of wellbeing in carers (Vseteckova et al., 2020). ***Measured at assessment and follow up only***	Scored from 1-6: 1-2: Not happy, possibly seeing yourself and your situation worse then it is 2-3: Somewhat unhappy, this maybe impacting on your ability to perform activities 3-4: Not happy or unhappy. 4: Somewhat happy or moderately happy. This is the average for most people 4-5: Rather happy 5-6: Very happy – positive correlation with health benefits and attaining goals 6: too happy – being this has been shown to lower levels of	

		achievement compared to being very happy	
Rosenberg Self-esteem scale (Rosenberg, 1979)	Used to measure self-esteem and self-worth. Both are important determinants of performing exercise on a regular basis (Opdenacker et al., 2009). Furthermore, carers have been shown to have lower scores for both compared to the general population (Henderson et al., 2021) ***Measured at assessment and follow up only***	Scored from 4-40. A lower score suggests a higher level of self-esteem and self-worth. A higher score shows a lower level of self-esteem and self-worth. Within this measure, instead of using a Guttman scoring which can be complicated, I used the alternative method which is valid and reliable or adding scores. This made it easier for my participants to see their own scores.	

International physical activity questionnaire – short form (IPAQ-SF) (Craig et al., 2003)	Measures exercise on a 7-day recall for various intensities. Important in tracking weekly activity and the different intensities of physical activity. Different intensities of physical activity place the body under different levels of stress which will benefit the individual (Delisle et al., 2010). Varying the intensity of exercise is important as it can allow for variety in exercises allowing individuals to vary what activities they perform to boost their own motivations (Sylvester et al., 2018) ***Measured at assessment and follow up***	On a given day within the previous 7 days, how many minutes of each activity had an individual performed. Within this, I asked for a typical day within their week.	

Each interview identified motivations and intentions towards PA, allowing me to formulate an intervention based on common themes. Creating a common theme also acknowledged it is not possible to meet the goals of all those attending. Common themes were developed based on similar scoring patterns within measures, related topics from the interviews and comparable goals. By understanding common themes helped to create a detailed formulation for a group intervention to facilitate participants in becoming more active.

Participant summary

Overview of participants: Participant ranged from 62-84 years old with 6 females and 1 male. Participants had varying health conditions such as asthma, depression, anxiety, high blood pressure, and arthritis among others. The length of caring role varied between 9 months to 22 years while time spent caring each week varied between 4-45 hours.

Summary of assessments: Participants identified many benefits to being active. Reasons included being happier and healthier, wanting to see grandchildren grow up, having 'my time', and be known as something beyond a carer.

Participants described barriers including time, pain/discomfort, lacking knowledge, access and who will support cared for in absence.

Scores from measures varied, with two already performing some level of PA alongside high levels of happiness, self-esteem and self-determination. However, self-esteem had the greatest room for improvement.

Summarising participants common themes

Participants wished to find time for themselves: *Most found they would identify as someone's carer and found making time for themselves difficult. Having time for themselves would improve their wellbeing.*

Participants wanted to know their cared for was supported: *Participants were uncomfortable leaving their cared for alone and if they did, they would worry and find engaging difficult*

Participants wanted to know what they would gain from taking part: *Although participants knew the benefits of PA, they wanted to know about the intervention in advance to know if it was worth taking part. They placed an emphasis on short term goals over long-term improvement.*

Participants wanted a sense of enjoyment from being active which they could carry on after the intervention: *Participants wanted to know what they could do after the intervention if they enjoyed it. A general theme focused on something for themselves they could enjoy without worrying about being a carer through engaging with others away from their caring role.*

Formulation

Formulation takes information gathered during the assessment, understands key information and identifies how to overcome these to support behaviour change (Selzer & Ellen, 2014). A formulation should consider the cognitive, emotional and

behavioural factors relevant to participant behaviour change and be guided by evidence.

From the assessment, participants goals were to increase ways and amount of PA. I noted from the measures and questions, participants were motivated, but struggled to act on motivation. Participants faced barriers to meeting their goal including their caring commitments, tiredness, struggle to build a routine, medical conditions and wanting a 'safety net'.

I formulated, they lack strategies or solutions to achieve PA long term. Participants are motivated, but struggle to apply motivation meaningfully although being sociable could support behaviour change through enjoyment. Varying medical conditions were a concern providing a lack of knowledge of appropriate and safe activities, therefore selecting activities all could participate in was important. Participants need the capability and opportunity to commit to lasting behaviour change. Motivation was not a concern.

The formulation led me to identify COM-B (Michie et al., 2014) (Appendix 1) as suitable to map the intervention to. COM-B identified how an individual's capability, opportunity and motivation influence behaviour. Participants demonstrated they lacked capability (e.g. knowledge of appropriate activities) and/or opportunity (e.g. time for self), but they were motivated. Based upon the assessment and formulation, I designed an intervention, guided by COM-B to increase participants capability and opportunity to support participants in becoming physically active.

Intervention design

Successful interventions are grounded in theory (Smith et al., 2019). I used COM-B, the behaviour change wheel (BCW) (See Appendix 1) (Michie et al., 2011) and behaviour change techniques (BCTs) (Michie et al., 2011). BCW determine an intervention function, the something to focus on, while the BCTs provide specific techniques. An example, within capability, 'modelling' is selected from the BCW as this provides an example people can imitate. The BCT is 'demonstration of behaviour' allowing participants to be guided through each activity safely. Table 2 shows how COM-B, BCW and BCTs relate within this intervention.

Table 3: Outlines how COM-B, the behaviour change wheel and behaviour change techniques are used within the intervention

Part of COM-B	Element of behaviour change wheel	Focus from behaviour change wheel	Behaviour change technique
Capability	Psychological	Training	Habit formation
			Action planning
	Physical	Modelling	Demonstration of behaviour
			Graded tasks
Opportunity	Social	Environmental restructuring	Social support (unspecified)
			Self-reward
	Physical	Enablement	Self-monitoring of behaviour
			Instructions on how to perform behaviour

When choosing BCTs, importance is placed on aligning these with the intervention and formulation. Participants cited they struggled to form a routine. An example, the BCT 'habit formation' was selected as this shows participants how a routine can be developed within their caring role allowing for regular PA.

Table 4: BCT's used, their rationale and ways to include within the intervention

BCT	Rationale for use	Way to include in intervention
Habit formation	Making something part of a routine is key within behaviour change (Gardner & Lally, 2018). With carers, their routine can vary based on the needs of their cared for (Horne et al., 2021). By showing ways to build a routine around competing demands will lead to an increased likelihood of sustained behaviour change (Hagger, 2019).	Developing a regular routine
Action planning	To couple with habit formation, to prompt planning of an activity which will include either the frequency, duration or intensity. These are terms participants will be familiar with from performing the IPAQ-SF. Instead of trying to focus on a whole plan, focusing instead on a smaller plan is more achievable to form an early part of a routine (Gillison et al., 2019) which can lead to lasting behaviour change.	Identifying ways within day to increase physical activity when there is 'spare time'. For instance, boiling a kettle can provide 5 minutes to perform light chair based exercises, or activities using the kitchen counter for balance
Demonstration of behaviour	Participants spoke of a lack of confidence in knowing how to perform activities, by me demonstrating activities, participants will be able to perform these comfortably in their own time having seen and acted each with supervision.	Chair based exercises will be demonstrated in each session before being completed by participants
Graded tasks	Participants all had varying levels of physical activity and by allowing each to set their own task, it allows each to be personalised instead of a set achievement (30 minutes of running) which may not be attainable for everyone, thereby discouraging those in attendance (Buhler et al., 2019). By starting with 'easier' activities, this will allow participants to feel a sense of achievement before slowly increasing the difficulty and further creating achievement.	Completing a set of exercises over several weeks but gradually increasing the difficulty or length of time
Social support (unspecified)	Carers are known to be more likely to suffer from isolation compared to general population (Chatters et al., 2018). During the assessment, this was mentioned by some. Social forms	Identifying a local group/class they would like to join

	of physical activity can ensure individuals retain their ability to be active.	
Self-reward	By prompting self-praise when something has been achieved will release positive endorphins creating a sense of feeling good based on their achievement (Sran et al., 2021). Feeling good will encourage participants to continue (Debska et al., 2019) and endorphins can increase happiness	Building time into each session to ensure participants are able to praise themselves based on what they have completed
Self-monitoring of behaviour	Although participants are recording for data collection, this is included as this can allow participants to see progress as part of their behaviour change (Hudson et al., 2019). Seeing progress is important within behaviour change (Sebire et al., 2018).	Completing the IPAQ-SF each week to monitor how much different levels of intensity a participant is completing
Instructions on how to perform behaviour	Participants are unsure on how to be physically active independently. Providing a resource which can instruct on how to achieve this has been shown to increase physical activity in carers (Howlett et al., 2019)	Providing an exercise workbook outlining different activities individuals can complete in their own time

Chair-based exercises were selected due to a lower risk of adverse consequences within many health conditions (Klempel et al., 2022). I included PA within the intervention based on the formulation: to allow for participants to begin developing a routine and provide activities participants can perform safely on their own. Additionally, adherence to PA increases when this is performed at a set time and day each week helping create a new habit (Sanders et al., 2021). Participants were also provided a booklet (appendix D) with chair based activities they could perform outside the intervention. Carers were supported by the charity to offer support for their cared for, if necessary, to take part in the intervention and to seek further support once the intervention had ceased.

Homework was adopted from the health trainer manual (Michie et al., 2008) allowing shorter sessions as time can be a limiting factor in carers taking part (Horne et al., 2021). Homework also empowered participant to take charge of their behaviour change through individual action and commitment (Masheder et al., 2020). One homework was to identify a local class/group which could provide PA and social benefits.

The intervention lasted 4 weeks as carers are less likely to commit to longer length interventions (Horne et al., 2021). However, 4 weeks is unlikely to create a new habit. Table 5 provides an overview of the intervention week-by-week, each sessions specific focus, the BCTs and homework activities based on the formulation.

Table 5: intervention designed based on formulation including the BCTs and homework activities within each session

Session number	Session overview	BCT's used
1 35 minutes of chair-based exercises 5 minutes to understand intervention 20 minutes teaching	**Theme:** *How to start a new habit* Perform some chair-based activities so participants have some physical activity. Discussion on how the intervention will work across the four sessions • Asked to identify what they would hope to get from the intervention How are habits formed and how can we build these into a routine • Short activity planning a 'typical day'. Identifying what is a habit in this day, how these formed and where there is space to include something new • Measure what type of physical activity participants are doing *Homework activity: To identify what physical activity means to you – Same question asked during assessment, however, asking this again allows participant to focus on the intervention*	Demonstration of behaviour Habit formation Self-reward Self-monitoring of behaviour
2 40 minutes of chair-based exercise 5 minutes recap previous session 5 minute on homework 10 minutes group activity 5 minutes teaching 5 Minutes discussion	**Theme:** *Bringing in a social element* Perform some chair-based activities Discuss previous homework activity (allow me to check formulation and intervention design is accurate to the needs) Group activity – Listen to a partner/three and provide suggestions on ways to increase physical activity in their day • Partner to identify actionable ways based on suggestions Discussion: is physical activity sociable Identifying different levels of activity and what does this mean to health *Homework activity: To identify activities you enjoy and where these could be built into their week. Find a local activity you enjoy*	Social support Demonstration of behaviour Habit formation Self-monitoring of behaviour Action planning

3 35 minutes chair-based exercise 5 minute homework recap 5 minute previous session recap 15 minutes of teaching	**Theme:** *Making PA more difficult safely* Perform chair-based activities Discuss previous session, answer questions and homework • To find out how participants found local activities. If unable, refer to social prescription. Identifying ways to make activities more difficult by changing intensities. How to do this within each persons own physical ability/limitation. Workbook: an activity booklet displaying activities which can be performed in the home *Homework activity: To set a goal of where you are now and where you want to get to and how this can be achieved through gradually increasing the difficulty*	Demonstration of behaviour Habit formation Self-monitoring of behaviour Graded tasks Instructions on how to perform behaviour
4 35 minutes physical activity 5 minute homework recap 5 minute previous session recap 15 minute of teaching 15 minutes of planning	**Theme:** *How to keep going when it becomes difficult* Perform chair based activities Discuss previous session, questions and homework What does a reward mean to me • Small group discussion on what this means Planning for difficult periods – how to be active in different situations How to progress their activities • Only for those who want to consider this *Homework activity: Keep a note of what intensity of exercise is being performed each week*	Demonstration of behaviour Habit formation Self-monitoring of behaviour Self-reward Action planning

Intervention implementation

An intervention requires flexibility to accommodate changes in participants circumstances or else the intervention maybe less effective (Rollins & Terrion, 2010). The intervention did change from table 5. Initially I planned PA first but quickly realised this was inappropriate and moved teaching/discussions first.

Overview of sessions

Session 1: I initially planned PA first followed by teaching, however, in this session, participants struggled to concentrate, I felt rushed in the teaching and I could not check for understanding. Although PA is important for routine, the teaching enables other areas to be addressed creating skills for lasting behaviour change.

Session 2-3: Teaching was first allowing greater focus on learning. It allowed me to answer questions, check for understanding. As the sessions progressed, participants would discuss strategies with one another, providing solutions based on their experiences and providing social support, an important part of the formulation. Furthermore, within session 2, a participant asked about breathing techniques, another participant who was a yoga instructor offered to take a part if there was time. I accepted and was happy to shorten the PA part as participants were likely to benefit from this activity.

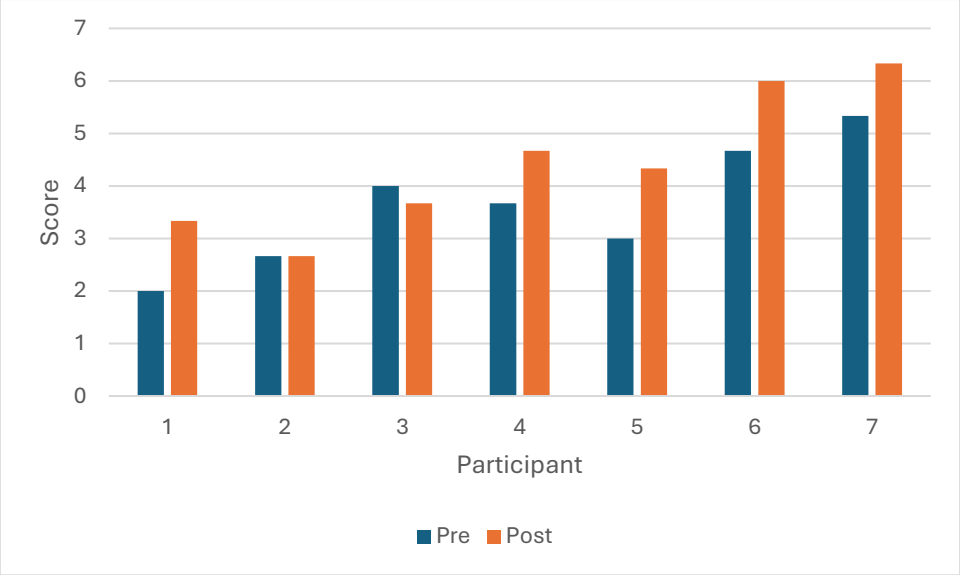
Session 4: I dropped the homework activity from session four. I realised they would answer this within the follow up measures and instead used the time I would have explaining to lengthen 1 part of the session allowing for greater depth of understanding.

Evaluation

Measuring intervention effectiveness is important allowing for opportunities for improvement and highlighting success (Burgess et al., 2020). Each measure used is shown below with pre and post intervention scores. I choose not to complete weekly as participants could lose interest. My follow up was only 3 weeks due to changing workplace, although a longer follow up was originally planned.

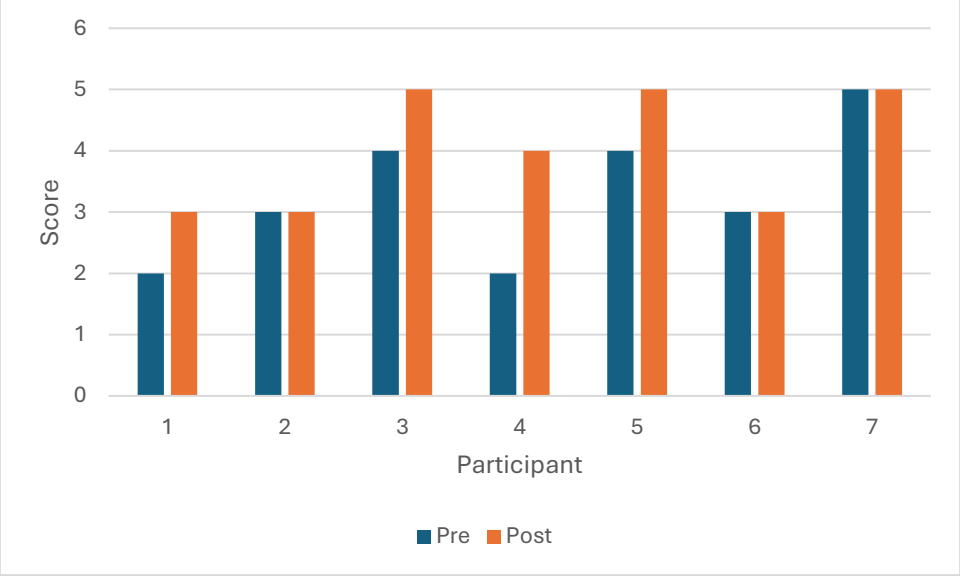
Locus of causality for exercise scale

Pre-intervention, participants had varying levels of self-determination. Five participants increased self-determination, one remained similar and one decreased. Higher levels of self-determination correlate with lasting behaviour change (Hanly et al., 2016).



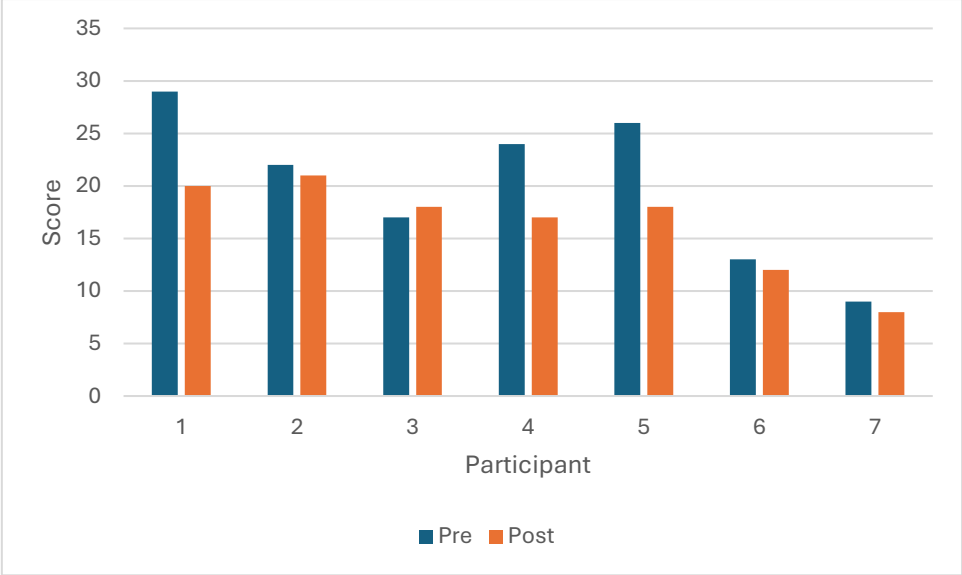
Oxford happiness questionnaire

Carers have lower levels of happiness compared to most (Tecson et al., 2019) Four participants increased with three remaining similar. Happiness through PA can be associated to released endorphins which create a positive experience associated with PA (Sran et al., 2021).



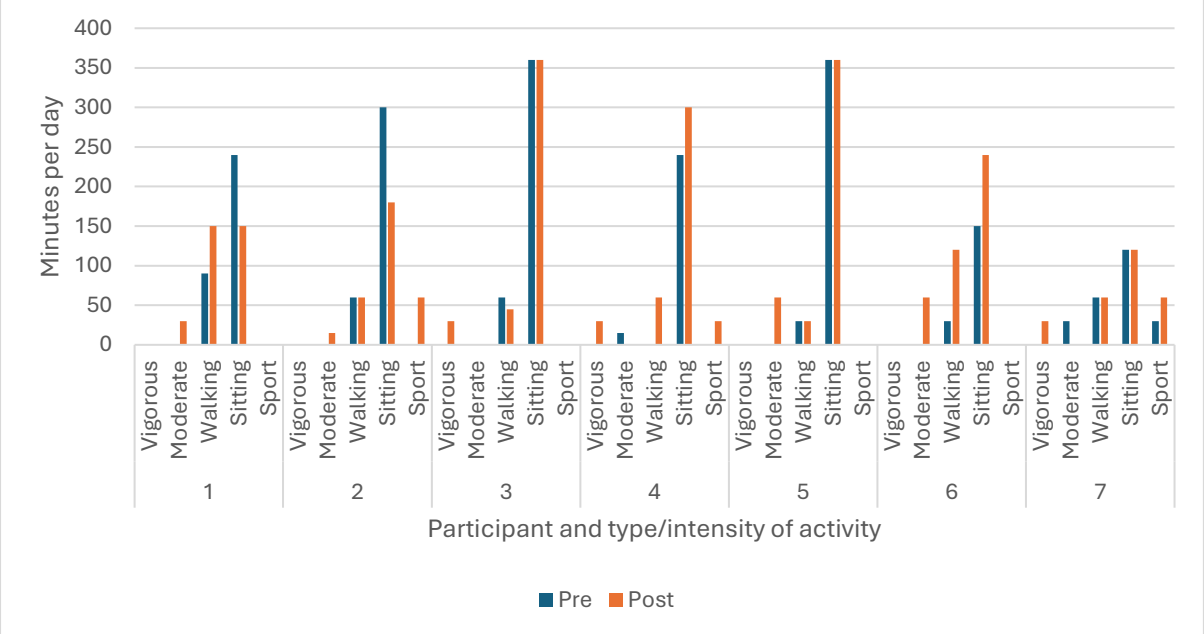
Rosenberg's self-esteem scale

Each participant decreased their overall score inferring increased self-esteem and self-worth, both correlate with lasting behaviour change (Biddle et al., 2019).



International physical activity questionnaire – short form

This measure shows PA increased, and importantly intensity increased. For some sitting increased or remained the same, however, this could be due to performing chair-based activities, incorrectly recalling, or as other forms of PA have increased, these resting more.



Obtaining other forms of feedback

Measures may not always provide appropriate feedback and instead qualitative outcomes can do this. During my follow ups I also asked questions of how participants had increased their physical activity and how being more active have helped their wellbeing. Some reported the intervention had made a huge change for these as they did not previously understand what being physically active meant. For two, they cited

it was a subtle nudge to commit to something they already intended to. Most participants provided some feedback on my delivery. Some found I was understanding of the challenges carers faced and adapted to this, others found I was able to facilitate social support without it feeling forced. Receiving feedback enables me to learn and develop as a professional.

Conclusion

Participants increased their PA across the intervention and most improved in the measures, happiness, self-worth, self-esteem, and self-determination. These suggest behaviour change maybe longer term. Although I would have liked to measure this for longer, it was not possible due to changing workplace. Participants also provided me with useful feedback on how I can develop as a professional alongside my own reflections and learning from this intervention.

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5.4 Psychological Interventions Group Case Study Reflective Commentary

Introduction

Throughout this intervention, I challenged myself to ensure self-development while benefitting participants. I used Jasper's (2013) Experience, Reflection and Action (ERA) cycle. This cyclical model works through an experience, reflects on this and subsequent actions to be taken.

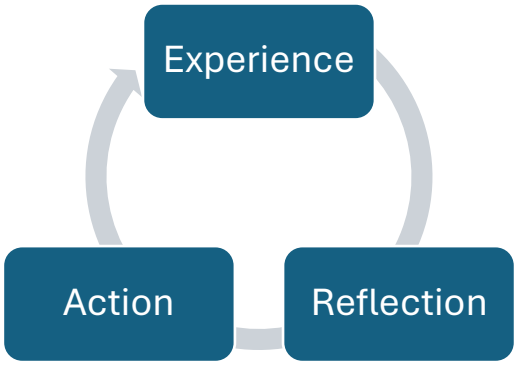

Figure 1: The ERA cycle (Jasper, 2013)

Initial thoughts and recruitment

I had never performed a group intervention and I was apprehensive and unsure how to work with groups. Although I had led exercise groups with carers receiving positive feedback which gave me some confidence, this was a different experience as it was people looking to change behaviour long-term. I looked forward to this and the skills I could learn and develop.

Recruiting participants: In October 2021, 500 carers responded to a survey as what activities would benefit their wellbeing. Physical activity (PA) was second. Carers have many barriers to PA including support to access sessions (Horne et al., 2021). These barriers experienced by carers, coinciding with their intention to commit behaviour change provided me with an opportunity to complete this competency.

Recruitment started 5 weeks before the intervention. A longer recruitment allowed me to introduce myself, answer any questions they had and begin developing rapport. The initial introductions overcame my initial apprehension as participants were welcoming as PA sessions had been asked for within the charity, but often nothing would arise. I am glad I had initial conversations before the assessment but if I had time constraints on me, I do not think this would be possible. It has taught me the value of a quick introductory email which takes little time.

Assessment and formulation

Assessment interviews: Recruitment was initially slow, with four participants in the first four weeks, during week five, five participants signed up. I decided to conduct individual interviews and the first four were conducted without time constraints, however, five within one week caused me a challenge. I choose individual interviews as this allows each participant to be heard, but also carers have unpredictable

schedules and arranging across nine carers would be difficult. I also opted against the first session being an assessment as a longer intervention can lower participant uptake (Pirotta et al., 2019). However, group interviews allow a larger number of assessments in a shorter time, something important in my development as a practitioner. I also had not conducted group interviews, only individual within smoking cessation, I did not feel confident to manage nine participant. I would have struggled to generate the relevant information for the formulation. In future I will observe group assessments by experienced practitioners before undertaking this with smaller groups to build my confidence. I would also look to extend my recruitment window to ensure time for assessments. After conducting all the interviews, two dropped out after session 1.

I opted to have an ongoing evolving formulation with each assessment instead of waiting till all interviews were conducted. I choose to do this as my first four assessments were similar, providing me with a reasonably straight forward formulation. I also had not anticipated the late surge in participants joining. Instead, the next five assessments challenged this repeatedly with me making several revisions along the way. This was beneficial to my development as I have learnt to gain all information before creating a group formulation. I also tried to make the intervention fit everyone, on reflection, it is important to note it will not be for everyone. By keeping detailed notes and being ready to change, I overcame this challenge but also learnt lessons.

Applying the correct amount of Behaviour change techniques (BCT's) (Michie et al., 2011): Within my individual intervention, I selected 16 BCT's, and I found myself getting confused with the intervention at times. I felt this impacted on my delivery and I wanted to avoid this. Within this intervention, I selected 8 BCT's. Within a group intervention, selecting a large amount of BCT's may result in an intervention being overloaded and applying BCT's for an individual, not the group formulation. Each BCT applied to the group formulation and I also understood exactly what I was doing and this, I felt, improved my delivery compared to the individual intervention.

Intervention design and delivery

Limitations of technology: As this was delivered online, technical issues can occur which frustrate both practitioners and patient. I planned for this by explaining and demonstrating multiple activities in advance so if something did happen, participants could carry on until the issue was resolved. When I did lose connection, seeing my participants continue with the activities showed commitment to their behaviour change. In future, I would look to carry on demonstrations in advance where necessary as this is quick and effective in overcoming potential disruption.

Learning from participants: In session two, a participant asked about breathing techniques and uses for relaxation. Another participant, a trained yoga instructor, spoke of how this helps in her caring role and offered this within the session. Noting how other participants appeared to engage with the discussion, I agreed, and there was a deviation from the session to include structured breathing. It was not possible to complete the full session, but the merits this brought to the participants I felt outweighed what the session missed. It was possible to include the content in a later session.

I sought advice from the yoga instructor on this part. She highlighted the need to soften the way I spoke, being mindful of demonstrations and to guide individuals through instead of taking part. Prior to this doctorate I may have taken feedback as criticism of myself and not looking for the deeper learning. This feedback was particularly pertinent as I tried to deliver breathing activities after and saw how it was not natural, participants were not as engaged. I identified I needed to improve to benefit my participants. I feel confident now in asking for feedback as an opportunity to develop, but also in giving constructive feedback. Previously I may have been overtly polite and failing to give meaningful feedback, but through reflections and subsequent actions I am learning from each experience.

Limitations of myself: Being mindful to know limitations is important as it means I am unlikely to place myself or my participant in a position they should not be in. Bereavement arose across numerous sessions, something I struggled to discuss and was not expecting to arise, particularly around bereavement by suicide. I had not realised how uncomfortable I was with this topic. Noting how out of my depth I felt, I shadowed the bereavement team to familiarise myself with the topic and the language, attended multiple bereavement and suicide courses and attended a suicide prevention strategy group. The later forced me to speak with those bereaved by suicide and for me, something I may not have done had this topic not arose in this intervention and it is something I am more comfortable discussing.

Evaluation

What is success: Measures can show progress, but two participants highlighted they felt no progress had been made. I tried to explore why but these could not explain why either which left me more puzzled and unsure of what success meant. It does show participants scores may not reflect how they feel, something important for a practitioner to understand and one this intervention has highlighted to me. Instead, it is important for me to ask probing questions to understand what success means to an individual. As it was a short intervention and behaviour change is an ongoing process, it may take a while for participants to become accustomed to the change.

This intervention has also shown me it is not always possible to meet the goals of all individuals. What does success look like will now be part of my assessments in setting expectations of what can be achieved to ensure expectations and reality align. If there is, it is important I signpost and refer to help an individual to achieve their aims.

Practitioner feedback: Feedback from participants will offer a different perspective from colleagues and oneself. Alongside measures, I asked participants for feedback on the sessions. Participants gave feedback about the sessions but also me as a professional. Feedback highlighted I lacked confidence in discussing 'sensitive' topics. Another said sessions would change from one week to the other. Although I did this to improve the overall flow of the session, I should have said why, I knew why, but the participants may have seen this as disorganised. Overall, my feedback was generally positive suggesting participants benefitted from me delivering.

Conclusion

Reflections allowed me to understand where I am but also where I want to go and the steps needed to get there. This intervention challenged me in several ways. For instance, the time constraints forced on me by my own choice to do individual assessments as I was not confident to do a group but how I can develop a plan to overcome this. Importantly, reflecting has shown me areas to improve, but also where I am already succeeding, often it is easy to focus on our deficiencies instead of being positive and highlighting when we do things well.

References

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