Building a research ready workforce in a Community NHS Trust

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Submitted to the University of Hertfordshire in partial fulfilment of the

requirement of the degree of Master of Science by Research

March 2024

Abstract

Introduction: The Department of Health and Social Care sets out a vision to create a research positive culture across the NHS where all staff feel empowered and supported to participate in clinical research delivery. Community NHS services offer a unique setting in which there are diverse opportunities and growing potential for research, however limited evidence on staff perceptions of engaging in research. An exploration was carried out of perceptions of engaging in research at a Community NHS Trust to inform research capacity-building.

Method: Sequential mixed methods design. Phase 1) Trust-wide survey inclusive of all professional groups, explored self-reported research engagement and experience, and barriers and enablers to engaging in research. Research and Development Culture Index was used to assess the strength of the organisation's research and development culture and was compared between professional groups and services. Phase 2) Semi-structured interviews with eight participants purposively selected from phase one to further explore the themes raised.

Results: Allied health professionals and nurses and midwives indicated the highest research and development culture across the professional groups. Across the sample, protected time was the most reported enabler, and lack of protected time was the most reported barrier to research engagement. The themes explored barriers and enablers to research engagement across individual, team, management, and organisation levels. It was also found that the COVID-19 pandemic has an ongoing impact on research engagement in professional practice.

Discussion: The Trust staff experienced similar barriers and enablers to engaging in research than those previously identified in the literature. Recommendations for practice include research skills training, peer support forums, research bulletins, resources to support staff to deliver their own research and embedding research into job descriptions. The findings from this research will directly inform initiatives to build research readiness at the organisation and can also be considered more widely.

Acknowledgements

I would firstly like to acknowledge Cambridgeshire Community Services NHS Trust for funding my undertaking of this Masters by Research. I am extremely grateful and fortunate to have been given the opportunity to conduct this valuable research, whilst developing my academic skills. I am thankful to my colleagues, participants and all those who championed this research, I am proud to be part of such a supportive NHS Trust. My thanks go more specifically to the research team, and to Paula Waddingham for initially encouraging me to embark on this journey. This appreciation extends to my line managers, Jyothika Kumar and Samantha Nunn, and my wider team who have shared many kind words of support and wisdom over the two years.

I would like to sincerely thank my supervisors Dr Louca-Mai Brady and Dr Rosemary Godbold, whose expertise have been invaluable. They encouraged me to engage within the Universities postgraduate research community and provided opportunities which have been instrumental to my growth, both academically and personally. The unwavering encouragement and guidance of my supervisors made completing this thesis possible.

Finally, I must express special thanks to my family and friends who have kept me motivated in my dedication to this work. It was reassuring to know I have a positive, loving, and supportive network around me.

Thank you to all those who have contributed to my journey in reaching this achievement.

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Glossary & Acronyms

AHP	Allied Health Professionals
CCS	Cambridgeshire Community Services
CRN	Clinical Research Network
CYPS	Children and Young Peoples Services
DHSC	Department of Health and Social Care
EoE	East of England
HRA	Health Research Authority
ICA	Inductive Content Analysis
iCaSH	Integrated Contraception and Sexual Health
LCRN	Local Clinical Research Network
MMAT	Mixed Methods Appraisal Tool
NHS	National Health Service
NIHR	National Institute of Health Research
NMAHP	Nurses, midwives, and allied health professionals
NVivo	Software program used for qualitative and mixed-methods research
PRISMA-ScR	Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews
R&D	Research and Development
R&DCI	Research and Development Culture Index
RCB	Research Capacity Building
RCC	Research Culture and Capacity
SPSS	Statistical Package for the Social Sciences
THIS	The Healthcare Improvement Studies
The Trust	Cambridgeshire Community Services NHS Trust

Content Summary

Chapter 1: Introduction (p3 – 8). In this chapter I provide the context to developing a research ready workforce, in the wake of national and local directives to increase NHS staff engagement in research. I outline the rationale for the exploration research at the community NHS Trust which supported it and present the aims and objectives.

Chapter 2: Literature Review (p9 - 30). This chapter presents the scoping review I carried out to review the literature and locate my research within the relevant academic and grey literature. The findings from the literature and the quality assessments of methods previously employed are discussed. I outline how the selected papers from the review informed my research.

Chapter 3: Methodology (p31 – 49). In this chapter I outline, justify and define the research approach and tools employed for this research. The rationale for the methods used for data collection and analysis are presented, within the context of wider methods.

Chapter 4: Phase One Findings (p50 - 65). This chapter presents the findings from the analysis of phase one of the study: a survey of clinical, managerial, administrative and support staff.

Chapter 5: Phase Two Findings (p66 - 89). This chapter presents the findings from the analysis of phase two of the study: semi-structured interviews with eight survey participants.

Chapter 6: Discussion (p90 – 101). In this chapter I synthesise, compare, and discuss the findings of this research in relation to the existing literature and context. I include a discussion of insider research and reflexivity. I explore the implications of my research at the Trust and also make recommendations for practice which could be considered more widely.

Chapter 1: Introduction

1.1 Background

Clinical research delivery is the single most important way to improve healthcare. It is beneficial for staff, patients and to the wider health and care system (Department of Health and Social Care [DHSC], 2021). Within health services a positive association has been reported between research activity and organisational performance (Harding et al., 2016) including lower patient mortality rates (Ozdemir et al., 2015), more positive patient feedback (Jonker et al., 2020), improved staff satisfaction (Fitzpatrick et al., 2020), staff retention (Rees & Bracewell, 2019) and overall improvements in health care performance (Boaz et al., 2015). Recognising the value of research delivery in the National Health Service (NHS) is demonstrated through several recent UK published research strategies to transform research culture and evidence-based practice including for nurses (NHS England, 2021), midwives (Royal College of Midwives, 2020) and allied health professionals (AHPs) (Health Education England [HEE], 2022). In 2021 the government set out a vision for a research positive culture across the UK NHS and health and care settings, “where all staff feel empowered and supported to participate in clinical research delivery as part of their job” (DHSC, 2021, p.13). Engaging in research can range from designing studies, actively recruiting patients to trials, and delivering studies, to training for a research degree or leading a research study (NIHR, n.d., para 7; Hanney et al., 2013).

1.11 The national picture

Embedding research delivery in the day-to-day activities of NHS staff continues to be challenging (DHSC, 2021). Health care professionals experience various barriers to engaging in research including a lack of time, knowledge, funding or support from leadership (Harrison, 2005; Borkowski et al., 2016; Landeen et al., 2017). There may be the view that research is “someone else’s business”, reserved only for clinical academics and specialist research teams (DHSC, 2021, p.13). Some may lack interest or motivation to engage in research (Chinn et al., 2023). Conversely, health professionals who are research interested report concerns of a lack of career pathways available (Golenko et al., 2012; Luckson et al., 2018), or support from the organisation they work in (Chinn et al., 2023).

Despite the challenges, NHS England report that 100% of acute, mental health and specialist trusts take part in research and an increasing number of research studies are being undertaken in community and primary care (NHS England, n.d., para 4). It is important to consider the factors which enable engagement, delivery and ultimately integration of research into practice. A rapid review was carried out by The Healthcare Improvement Studies (THIS) Institute to explore the evidence base of engaging NHS staff in healthcare research (Marjanovic et al., 2019). Marjanovic et al (2019) identified various enablers for staff, including a personal interest in the research or evaluation topic, positive prior experience with research and prospects for career development. A belief that research evidence can improve the quality and safety of healthcare, and cultural expectations about research being part of the job also aided involvement in research (Marjanovic et al., 2019). The review identified organisational

factors which facilitate staff engagement in research including supportive leadership and strategic direction (Mitchell et al., 2015; Cooke et al., 2015; Moore et al., 2012), collaboration and team involvement (Bullock et al., 2012; Andrew et al., 2013), and providing research skills training (Roberts et al., 2015; Moore et al., 2012; Harrison, 2005; Bacigalupo et al., 2006). Different professional staffing groups receive varied levels of exposure to research activities and opportunities to engage with research (Gill et al., 2019). Motivations may also differ for professional groups (Marjanovic et al., 2019), such as recognition (Evans et al., 2013) or financial incentives (McNicholl et al., 2008). The review helped to inform THIS Institute's strategies for engaging staff across the NHS with research activities (Dimova et al., 2018; Marjanovic et al., 2019).

1.12 East of England

Local directives in the East of England (EoE) have mirrored national strategies to embed research across NHS services. Local Clinical Research Networks (LCRN) across the UK support NHS Trusts and partner organisations in the region to deliver research through the provision of funding, facilities, equipment, and support services. The site for this research, Cambridgeshire Community Services NHS Trust, hereafter referred to as 'the Trust', is supported by the EoE LCRN. The Trust engages with the EoE LCRN to consider the best way to enhance resources to develop research engagement and opportunities for staff across the organisation, including various available funding schemes. This can include short-term internships, fellowships, and training and development opportunities to build an ad hoc 'research ready' bank staff workforce (see Appendix 1 for summary). The Trust engages in the Clinical Research Network's (CRN) high level objectives for research delivery in the NHS (National

Institute of Health Research [NIHR], 2023) and sets out local objectives to increase research capability and capacity in the Trust Quality Strategy 2023-2026 (Sections 3.22, 3.8, 4.11).

1.13 Community NHS services

Ongoing reforms have focused on the transformation of health care service provision from hospital to community settings (Department of Health, 2009; NHS Long Term Plan, 2019). There are many differences between acute and community health care provision, such as in nursing (Borneo et al., 2017) which has highlighted the need to develop enhanced education and resources for nursing students in community settings (Arnold et al., 2021). Community NHS services also offer a unique setting with which there are diverse opportunities for conducting research (NIHR, n.d., para 1). The close links with health and social care providers and services helps to widen participation in community-based research. NHS England encourages strategies to expand research in out of hospital settings and recognises the growth of research in community care (NHS England, n.d., para 3). There is also an increasing focus on the development of research capacity and culture for nurses, midwives, and allied health professionals (NMAHPs) (Palmer et al., 2023; NIHR, 2022). Although the role of NMAHPs in research has transformed over the past decade, more needs to be done to maximise the potential for research of these groups (Jones & Keenen, 2021). A significant number of NMAHPs are employed within the community Trust being explored here, with these professions comprising almost half of the total workforce.

1.14 Research capacity building

Research Capacity Building (RCB) is defined as 'a process of both individual and institutional development that leads to higher levels of skills and greater ability to perform useful research' (Trostle, 1992, p.1321). Effective RCB requires an integrated strategic and policy-informed approach that targets individual, organisational and system levels (Cooke, 2005). Recommendations for stakeholders across the health and care system have been made to embed research in practice, for example the Royal College of Physicians (RCP) and NIHR position statement (2022) and the DHSC (2021, p.13). RCB strategies can be also localised and context specific (Cordrey et al., 2022). Evaluations of current research capacity and capability of individuals as well as organisational needs have been used to inform improvement plans to increase research engagement (Cordrey et al., 2022; Bench et al., 2019; Gimeno et al., 2021; Luckson et al., 2018). Much of the existing literature exploring this is limited to single professional groups, organisations, or hospital-based settings (e.g., Luckson et al., 2018; Cordrey et al., 2022; Gilbert et al., 2016).

1.2 Aim and Objectives

As a member of the Trust research team, I was in a unique position to undertake this research to explore the Trust workforce views on engaging in research. This is an early-stage improvement project using baseline research to inform quality and service improvement, as further defined in chapter 3.11. The findings of this research will offer important insights into developing local strategies to support staff to engage in research. It will also contribute to the wider academic literature, considering there is currently limited literature exploring the unique setting of a community NHS Trust. As there is

comparatively little evidence on engaging non-clinical NHS staff in research (Marjanovic et al., 2019), inclusion of all roles including non-clinical in the multidisciplinary workforce will be a valuable addition to current understanding on this topic. The large amount of NMAHPs presenting in this community Trust will also be useful given the strategies which focus on these professionals to build research capacity. Recommendations for practice are made which will be considered by the Trust and can also be transferred more widely. I outline the aims and objectives below.

Aim: to explore perceptions of engaging in research of all staff working within a community NHS Trust in the Eastern region.

Objectives:

- Identify perceived barriers and enablers to engaging in research.
- Explore perceptions of skills, experiences and knowledge of research.
- Explore perceptions of personal and organisational research capacity and culture.

1.3 Summary

In this chapter I have explained the background, context and justification for this research. I have outlined the aims and objectives. In the next chapter I present the literature review carried out to locate my research within the wider literature.

Chapter 2: Literature Review

This chapter presents my scoping review of the current literature in relation to my research aims and objectives. I discuss how my research will build on the current literature and address identified gaps in knowledge. My critical appraisal of the literature is presented, and I outline the implications for the methods in my research.

2.1 Review Type

In considering the best approach, I compared the main literature review typologies (Grant & Booth, 2009): namely systematic and scoping reviews. While systematic reviews are widely considered to provide a comprehensive, robust and rigorous overview of relevant literature (Aveyard, 2023), they require particular knowledge and skills, as well as considerable time (Tsertsvadze et al., 2015). Systematic reviews are effective if the review focuses on feasibility, appropriateness, meaningfulness or effectiveness of a certain practice or treatment (Munn et al., 2018; Pearson, 2004). In contrast, a scoping review focuses broadly on the nature, scope and extent of the evidence (Grant & Booth, 2009; Peters et al., 2020). This was more suitable to my exploratory focus and broad review question: ‘what are the perceptions of NHS staff on engaging in research?’. The findings from the literature were identified across three topics relevant to my research question. Although scoping reviews do not typically include formal quality assessments seen in systematic reviews (Grant & Booth, 2009; Tricco et al., 2018) they can be included to enhance the quality and rigour of the review (Aveyard, 2023). I included a critical appraisal for this reason. Additionally, the critical appraisal would allow me to assess the methods and evidence of the papers in more depth which would be useful for informing the methods for my research.

2.2 Methods

The Joanna Briggs Institute (JBI) methodology was employed in the conduct of my scoping review and synthesis (Aromataris & Munn, 2020), and I followed protocols published in JBI Evidence Synthesis (such as Batchelder et al., 2022), as set out below. The review was carried out in accordance with Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) (Tricco et al., 2018) (Figure 1) (see Appendix 2.1 for checklist).

2.21 Inclusion criteria

The inclusion criteria specified the basis upon which sources were considered for inclusion, contingent on the question posed. Population, Concept, Context and Types of sources of evidence are stipulated in the table below (Aromataris & Munn, 2020).

Table 1: *Inclusion criteria (Aromataris & Munn, 2020).*

Population	NHS staff, including all NHS professional roles.
Concept	Exploration or evaluation of perceptions of engaging in research.
Context	UK NHS settings.
Types of sources	Empirical literature and grey literature using quantitative, qualitative, and mixed methods study designs.

Literature exploring or evaluating NHS staff perceptions of engaging in research was included. I was interested in empirical based papers, including qualitative, quantitative and mixed methods research including those which may be unpublished. Opinion articles and letters would not be appropriate or useful to the objectives of this review

were therefore excluded (Aromataris & Munn, 2020). Only UK, NHS settings were included, as my research focused on the unique and specific organisational culture and structure of the NHS, therefore other health care contexts would not be relevant. Literature not available in English was excluded due to resources for translation. I limited my searches to literature published after The Health and Social Care Act 2012 legislation, as this created extensive changes to the organisation, structure and delivery of the NHS (Gadsby et al., 2017). The legislation created a duty on the NHS Secretary of State in Part 1.E as to research a) research on matters relevant to the health service, and (b) the use in the health service of evidence obtained from research (Health and Social Care Act, 2012). As the research relates to a specific topic and population, the inclusion criteria were brief, with the exclusion criteria being any feature other than the inclusion criteria.

2.22 Search strategy

The search strategy aimed to locate published primary studies and grey literature. An initial search was carried out to explore relevant search terms, which were then developed and refined with the NHS Library service and University of Hertfordshire library to ensure a quality search. Search commands such as boolean operators, synonyms, truncation were used to develop combinations of search keywords. The search terms were finalised (see Appendix 2.2) and inputted into relevant specialist databases to cover literature across a multitude of medical professions (PubMed), health and biomedical science (Medline), nursing and allied health (CINAHL) (Appendix 2.3) (UH health evidence database toolkit). Additional records were identified by handsearching, screening references of relevant articles and contacting library experts.

2.23 Screening and selection

There were two stages to the screening process (Higgins & Deeks, 2008). Firstly, I screened the titles and abstracts of the papers to exclude any irrelevant material. The remaining papers were then screened by their full text to examine compliance with my inclusion criteria. At this stage any reasons why the papers were excluded were documented.

2.24 Data extraction

Relevant data was extracted from the selected articles into matrices to enhance organisation, support data analysis and develop themes as per scoping review guidelines (Pollock et al., 2023). The data extracted was determined by the purpose of this review (Pollock et al., 2023) and included aims/purpose, design/methods, context/setting/ sample, findings and implications (Appendix 2.4). This helped me to process the results of the research and clarify my understanding of the papers (Aveyard, 2023).

2.25 Critical appraisal

Critical appraisal involves a careful and systematic assessment of trustworthiness or rigour (Booth et al., 2016). The use of a critical appraisal tool can be a helpful way of considering the quality of papers (Aveyard & Payne, 2016; Aveyard., 2023), and would be useful when considering the methods of my current research. The generic critical appraisal tool by Woolliams et al (2009) and re-developed by Aveyard et al (2011) offers six questions to prompt critical thinking and reflection of the quality of the literature, which are:

- Where did you find the information?
- How has the author/speaker come to their conclusions?
- When was this written/said?
- What is it and what are the key messages or results/findings?
- Who has written/said this?
- Why has this been written/said?

These six questions can be used in conjunction with a more in-depth analysis facilitated through specific tools for the design of the research (Aveyard et al., 2011). I used the mixed methods appraisal tool (MMAT) (Hong et al., 2018) as it allows for the appraisal of various methodologies including qualitative, quantitative, and mixed methods studies which were all included in this review. Criterion for each type of study prompts relevant questions to the design of the paper and facilitates descriptions of the quality (Appendix 2.5). I assigned a traffic light system RAG (red, amber, green) rating to indicate quality (Aveyard, 2023) and inputted this onto the data extraction table (Appendix 2.4).

2.26 Synthesis of results

Scoping reviews are defined as a type of evidence synthesis, as they aim to identify and map the breadth of evidence available on a particular topic (Munn et al., 2018). They can also extend beyond mapping the literature (Triccio et al., 2016) and be used to examine how research is conducted on a certain topic, identify key characteristics related to a topic and identify and analyse knowledge gaps (Munn et al., 2018). From the evidence, I identified three key characteristics which were relevant to my research objectives, which I describe and discuss in a narrative format in chapter

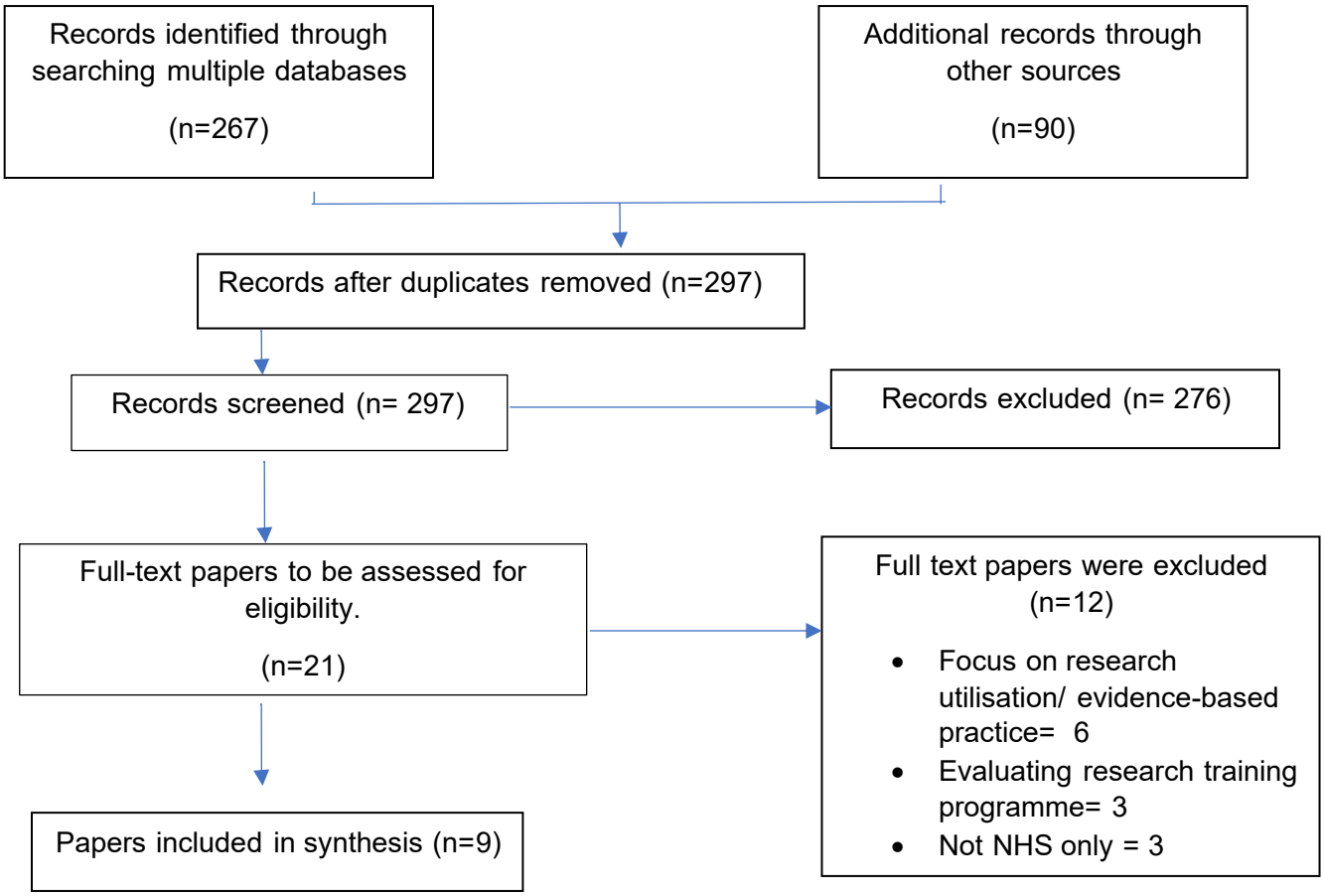
2.34. I then go onto describe how the findings had implications for my methods in chapter 2.4.

2.3 Results

2.31 Search results

PRISMA-ScR guidance recommends a flow diagram to report the process for identification of records and reasons for exclusion (Tricco et al., 2018) (Figure 1). I searched through the databases and identified any additional records, resulting in 296 records after duplicates were removed. Screening by title and abstracts resulted in 20 papers being identified for full text review. After full text articles were excluded, for the reasons outlined, nine papers were included in the synthesis.

Figure 1: *Modified PRISMA-ScR Flow diagram (Tricco et al., 2018)*



2.32 Characteristics of the evidence

The data extracted and characteristics of each source of evidence are provided in the table (see Appendix 2.4), including aims/purpose, design/methods, context/setting/ sample, findings and implications. Three papers used quantitative surveys only (Caldwell et al., 2017; Gimeno et al., 2021; Britton et al., 2023), two used qualitative methods only (Gilbert et al., 2016; Lowrie et al., 2015) and four used mixed methods (Cordey et al., 2022; Luckson et al., 2018; Bench et al., 2019; Comer et al.,

2022). The selected papers included a range of profession groups in the samples: AHPs (Comer et al., 2022; Cordrey et al., 2022; Gimeno et al., 2021; Luckson et al., 2018; Britton et al., 2023), senior managers (Luckson et al., 2018), nurses (Luckson et al., 2018; Bench et al., 2019; Britton et al., 2023), pharmacists (Lowrie et al., 2015), health care professionals (Gilbert et al., 2016) and clinical staff (Caldwell et al., 2017). All further characteristics and key findings are summarised in the table (see Appendix 2.4).

2.33 Critical appraisal

Through carrying out the critical appraisal process described in chapter 2.25, I assigned a traffic light system RAG (red, amber, green) rating to the papers and presented these in data extraction table (Appendix 2.4). This indicates the quality of the selected papers (Aveyard, 2023). Green papers indicate high quality, for example Comer et al (2022) was green as I allocated 'Yes' to most questions of good quality. Using the MMAT I made further descriptions of rating decisions (Appendix 2.4 and 2.5). All selected papers were rated green or amber. The critical appraisal process aided me to evaluate and compare the methods and assess the quality of evidence (Booth et al., 2016; Aveyard & Payne, 2016), which would inform my research methods.

2.34 Synthesis of review findings

The findings are synthesised and discussed in more detail in this chapter, including my critical analysis of the papers. In the next chapter I outline the implications of the results for the methods in my research. Across the nine selected papers included in this review I identified three key themes as significant in terms of the research question.

These were identified by additional commentary and summaries I added to the data extraction and analysis of each paper, highlighting these topics as key:

1. Research culture and capacity
2. Barriers and enablers
3. Informing strategies

Topic 1: Research culture and capacity

Measuring tools have been employed to explore NHS staff perceptions of engaging in research. The Research Capacity and Culture questionnaire tool (RCC) was used in four of the nine selected papers (Gimeno et al., 2021; Comer et al., 2022; Cordrey et al., 2022; Luckson et al., 2018). The RCC is a validated self-reported rating scale of success and skills in research across a range of individual, team and organisation-level research domains which includes questions on perceived barriers and motivators to undertaking research (Golenko et al., 2012; Holden et al., 2012; Gimeno et al., 2021; Comer et al., 2022; Cordrey et al., 2022). Gimeno et al (2021) gave the RCC survey to AHPs at one NHS Trust and found that individuals rated the individual domain of research-related skills and research capacity significantly lower than for the organisation or team. Individuals across four AHP groups were included in the sample (92), excluding the remaining AHP population in the organisation. Due to this, the findings are limited in transferability for understanding the wider population (Polit & Beck, 2017) and limited in the comparisons that can be made to papers exploring the profession inclusive of all AHP groups (e.g., Comer et al., 2022; Cordrey et al.,2022; Luckson et al., 2018). The rationale for this sampling strategy was that these clinical services in the organisation had had recent investments into developing roles to increase research

capacity, therefore there were areas of focus for the local level exploration (Gimeno et al., 2021). Local level exploration papers have been carried out by other papers included in this review, with the aim of informing local research capacity building strategies (Cordrey., 2022; Gilbert et al., 2016; Bench et al., 2019).

Comer et al (2022) also used the RCC survey with AHPs, with a UK-wide cross-sectional survey distributed via NIHR, CRN, health services research networks, health boards and AHP professional and research bodies. Unlike Gimeno et al (2021), Comer et al (2022) found that AHPs rated their research capacity and culture higher at the individual level or organisation level than at team level. This suggests that they felt less supported by their teams and team leaders to engage in research (Comer et al., 2022), rather than perceiving themselves limited by their individual skills as in Gimeno et al (2021). The large sample (3145) with representation across all 14 AHP professions across a range of healthcare organisations gives this study a much stronger representation of this professional group than Gimeno et al (2021). However, this is still just a small proportion of all AHPs in the NHS UK, of which there are approximately 170,000 (Dougall & Buck., 2021).

Cordrey et al (2022) also used the RCC with AHPs, as part of a mixed-methods design, following the survey with focus groups of 60 staff. Their paper outlines how the topic guide for the focus group was constructed using themes that emerged from the RCC questionnaire results, particularly the barriers and motivators to research engagement. The use of the five-step framework for this shows methodological robustness for the sequential mixed methods approach (Creswell & Plano Clark, 2018). Cordrey et al (2022) integrated the quantitative and qualitative findings by aligning the themes to the

domains of the RCC survey (individual, team and organisation levels). All the qualitative themes aligned to the team and organisation domains, however only three themes aligned to the individual domain (Cordrey et al., 2022). Gimeno et al's (2021) findings that individuals feel significantly limited by their individual skills suggest that there would be more expression of barriers at the individual level, such as low self-perception of research skills. The lack of representation of individual level barriers may be due to the use of focus groups where the data tends to conform to a group agreement with less individual representation (Wibeck, 2014). Luckson et al (2018) conducted a study using the RCC survey in combination with both focus groups and interviews which may have overcome the limitations of using only one qualitative method, as interviews and focus groups both have strengths and weaknesses (Ritchie et al., 2014; Lambert & Loiselle, 2008). In the study they also mapped the framework for the qualitative analysis to the RCC results, again showing robustness to the mixed methods approach and results (Luckson et al., 2018; Creswell & Plano Clark, 2018).

The papers which used the RCC tool demonstrate how exploration of research perceptions and research culture can be carried out using a validated measure (Luckson et al., 2018; Gimeno et al., 2021; Comer et al., 2022; Cordrey et al., 2022). As all these papers focus on AHPs they provide a benchmark for this professional group (Luckson et al., 2018; Gimeno et al., 2021; Comer et al., 2022; Cordrey et al., 2022). This is useful for my research as AHPs present a large proportion of the population in the Trust. However, the RCC tool being largely being validated in AHPs (Golenko et al., 2012; Holden et al., 2012; Gimeno et al., 2021) is a limitation. The papers which employed mixed methods approaches by combining the validated tool with qualitative

methods (Cordrey et al., 2022; Luckson et al., 2018) have stronger credibility as qualitative data collection allows for more in-depth detail to be collected about views and a deeper exploration of themes (Creswell, 2014).

Topic 2: Barriers and enablers

In the papers included in this scoping review, exploration of staff perceptions of engaging in research has focused on barriers and enablers (Gilbert et al., 2016; Bench et al., 2019; Caldwell et al., 2017; Britton et al., 2023).

Barriers

Various barriers were identified in the selected literature, including lack of time and prioritisation of research (Comer et al., 2022; Lowrie et al., 2015; Britton et al., 2023), lacking the required knowledge, skills and training (Caldwell et al., 2017; Britton et al., 2023) and lack of support at middle management level (Luckson et al., 2018; Lowrie et al., 2015). As there are many different barriers highlighted in the literature it is essential to consider the methods employed in identifying these.

Comer et al (2022) used the RCC survey and multiple-choice as well as optional free text questions to address barriers and facilitators to research engagement. Quantitative data showed the most reported barrier was ‘other work roles take priority’ (83% of respondents). Qualitative content analysis of the free text responses for challenges identified the following subcategories: opportunities, system, emotions and priority. The ‘priority’ barrier was highlighted in both the quantitative and qualitative analysis. This demonstrated the perception of research as having a lower priority in the wider provision of health care, therefore given less allocated time support, finance and

expertise (Comer at al., 2022). Britton et al (2023) and Lowrie et al (2015) also identified lack of priority as a key barrier, with immediate patient care demands taking precedence over research. Britton et al's (2023) survey of 160 cardiothoracic nurses and AHPs identified that 79% of the respondents felt that their employer 'allowed' them to conduct research, as long as it was outside of normal working hours, and 92% felt clinical commitments 'come first'. This highlights a significant lack of priority for research and thus lack of protected time preventing research engagement. Lowrie et al's (2015) sample also found lack of priority to be a key issue for NHS employee pharmacists (54), in GP practices and hospitals. This sample differs from much of the selected literature, which focuses on AHPs (Golenko et al., 2012; Gimeno et al., 2021; Comer et al., 2022; Cordrey et al., 2022; Britton et al., 2023) and in hospital settings only (Luckson et al., 2018; Cordrey et al., 2022; Bench et al., 2019; Gilbert et al., 2016; Gimeno et al., 2021; Britton et al., 2023). However, there is a gap in the literature on the views of pharmacists who practice within community services.

Luckson et al's (2018) qualitative research reflected the barriers identified previously in the literature for nurses and AHPs. The authors also highlighted novel barriers, including a lack of research communication at all levels and lack of support specifically at the middle level of management. Focus groups were conducted with research active and research naive groups of nurses and AHPs. Senior managers at the organisation were included in a sample for interviews, which added a new dimension to the analysis. Senior managers reinforced the finding that managers' support to research can be varied and sometimes lacking (Luckson et al., 2018), reflecting the wider literature of nurses and AHPs by Britton et al (2023). Luckson et al's (2018) data analysis combined

both focus group and interview data to develop common themes, using framework analysis to sort the data and generate the themes (Spencer et al., 2014). This method of triangulation increases the validity and credibility of the findings (Hussein, 2009). However, in depth detail of the data analysis is lacking which reduces its trustworthiness and dependability (Tobin & Begley, 2004; Shenton, 2004), although it is possible this was provided as an appendix.

Enablers

Gilbert et al (2016) used focus groups with 23 staff members in an NHS hospital therapies department to explore engagement in clinical research. All staff perceived protected time as essential to engaging in research, which reflects the findings of other papers included in this review (Lowrie et al., 2015; Comer et al., 2022). The focus groups were structured according to NHS Agenda for change bandings, ie bands 2 to 4, 5 to 6 and 7 to 8a. In focus groups the group dynamics contribute significantly to the data collected (Barbour et al., 2014a), so the rationale for this may have been to reduce the differences in responsibilities and hierarchy in the interactions (Turley et al., 2013). However, it's possible that use of the focus groups may have led to individual views being overlooked (Barbour et al., 2014a). The study used a small sample from one department which limits its generalisability. Nevertheless, the finding of time as key enabler to engaging research is seen in papers with much larger sample sizes, for example in Comer et al (2022).

Personal motivation is acknowledged as a key enabler to research. Bench et al's (2019) sample of nurses emphasised a view that engagement in research needs to be done by those who are personally motivated and interested, not all nurses. Recognition and

rewards were identified as motivations for engaging in research, although further details specifying these were not discussed (Bench et al., 2019). Other motivations found in the literature include recognising the importance of research for patient care (Britton et al., 2023), to their professional standing (Lowrie et al., 2015), to develop skills, and for job satisfaction (Comer et al., 2022). Bench et al (2019) found there was poor motivation towards research engagement by the nurses in the sample and therefore little evidence of research activity. This should be considered within the context of wider literature where optimising the motivators for research are highlighted as a successful way to enable research (Matus et al., 2019).

The importance of management support for research engagement was highlighted as a key enabler. Bench et al (2019) found embedding research into nurses' role development is dependent on the skills, experience and motivation of those in leadership and management positions. This can be more effective if senior staff have been exposed to research themselves (Bench et al., 2019). The focus groups for the data collection were separated by nurses and managers, which again, would have been beneficial in avoiding any potential power differences affecting the discussion (Turley et al., 2013). Despite this, the analysis from managers and non-managers were not separated in the findings, which would have provided valuable insights as seen in other literature (Luckson et al., 2018). Luckson et al's (2018) study concluded that managers should provide support for research engagement through processes, structures, and systems to advance research culture. In addition to this, several papers highlighted that management or senior positions championing research within services was essential to

enabling and supporting staff to engage in research (Luckson et al., 2018; Gilbert et al., 2016; Bench et al., 2019).

Topic 3: Informing strategies

Seven of the nine papers in this review conducted explorations of current perceptions of research engagement with the aim to inform research capacity and culture building strategies (Cordrey et al., 2022; Gimeno et al., 2021; Luckson 2018; Bench et al., 2019, Comer et al., 2022; Caldwell et al., 2017; Gilbert et al., 2016). Recommendations were made from papers which used the RCC survey, which focused on the findings of the domain levels: individual, team and organisation (Luckson et al., 2018; Cordrey et al., 2022; Gimeno et al., 2021. Cordrey et al (2022) recommended that strategies to build research capacity should address the individual level by ensuring staff feel empowered to engage in research and tailor strategies to the desired levels of research engagement. Gimeno et al (2021) also proposed to address gaps identified at the individual level based on needs-based assessments and created a framework with action plans for bespoke research training for AHPs. Luckson et al (2018) however suggest a whole-level approach in the organisation is needed to improve research culture, ie combination of organisation, team and individual level strategies. They recommend focusing on improving communication about research strategies at all levels and developing senior managerial staff at middle/team level support, to promote research culture (Luckson et al., 2018).

Other papers had a more direct approach to gathering information to inform strategies. Gilbert et al's (2016) focus groups included asking staff specifically what they would like

to see included in an action plan for research engagement. Ideas were discussed such as a mentorship pathway for teaching, communication about research news and opportunities to get involved in research (Gilbert et al., 2016). Other papers made recommendations for action plans for professional groups, such as Bench et al (2019) identified a key strategy for nurses will be to develop effective leaders who can create a positive and supportive research culture (Bench et al., 2019). Caldwell et al (2017) suggested the need for more discipline-specific education and training in clinical research and clinical trials for nurses and AHPs, due to these groups highlighting these factors as barriers. The authors share that findings from their research will inform an action plan which will be communicated to senior managers and proposed to be implemented for 12 months, after which the survey will be redistributed to evaluate any impact (Caldwell et al., 2017). This indicates the planned stages for an improvement project for professionals within an organisation.

The papers included in my review demonstrate how exploring staff views on research engagement has been used inform local action plans within an organisation or professional group. Tailored research strategies based on staff needs in the organisation have been recommended (Cordrey., 2022; Gilbert et al., 2016; Bench et al., 2019; Caldwell et al., 2017). Actions to address research engagement have also been made for clinical staff more generally (Caldwell et al., 2017) and papers suggested areas of focus for strategies to have the greatest impact (Luckson et al., 2018; Cordrey et al., 2022; Gimeno et al., 2021). It would be useful to see further details on how improvement plans were implemented locally and the outcomes of follow up evaluations. However, these were unable to be located.

2.4 Implications for Methods

Carrying out this scoping review and appraisal of the literature highlighted several key implications to consider for the methods of my research. These are outlined in this chapter and expanded on in chapter 3: methodology.

2.41 Definition

Of the authors who labelled their studies, two were identified as service evaluation (Lowrie et al., 2015; Cordrey et al., 2022) and one as audit (Gimeno et al., 2021). Others were described as research projects requiring approval by University and Trust research ethics committees (Luckson et al., 2018; Bench et al., 2019), and Comer et al (2022) as a research project requiring Health Research Authority (HRA) approval. It is noteworthy that in the literature, Gimeno et al (2021) discuss it was highly likely respondents had different interpretations of the term 'research', including activities which may not come under a research definition, for example service evaluation, quality improvement or clinical audit (p.38). In a similar study on this topic, Connolly et al (2018) used the word 'research' broadly to encompass activities related to quantitative and qualitative studies, service evaluations, clinical audit and quality improvements. These examples highlight that the discrepancies are often nuanced in practice. There is a substantial link between robust service improvement methodology and research (Gimeno et al.,2021), which became apparent when I came to defining my own project. The variation in terminology of definitions within the literature on this topic which had similar characteristics, aims and outcomes highlighted a key consideration for the definition of my research, which I detail in chapter 3.11.

2.42 Design

There were various approaches in methods employed to explore NHS staff views on engaging in research. My critical appraisal indicated studies which used quantitative data only rated as 'amber' on my RAG rating (Caldwell et al., 2017; Gimeno et al., 2021; Britton et al., 2023). As although surveys can provide numerical descriptions of the characteristics or attitudes of the sample (Fraenkel et al., 2012; Creswell, 2014), a qualitative approach allows for more in-depth detail to be collected about views and experiences (Creswell, 2014), which was more useful for the research topic being explored. The studies which included a survey with qualitative analysis of free text questions added value and validity to the quantitative data (Rich et al., 2013), such as in Comer et al (2022). This is because free text comments offer important context or reveal issues that cannot be identified by purely quantitative surveys (Riiskjær et al., 2012). This informed the inclusion of free text options in relevant sections of my survey.

The mixed methods studies which conducted qualitative data collection via interviews and/or focus groups in addition to a survey provided even richer data (Creswell & Plano-Clark, 2018). My critical appraisal of the mixed methods studies indicated high originality and rigour of these papers (Cordrey et al., 2022; Luckson et al., 2018; Bench et al., 2019). Survey data collection, including free text qualitative analysis, followed by a qualitative data collection allows for a deeper exploration of the main themes or ideas identified (Creswell, 2014). It could also identify a purposive sample for the qualitative analysis (Patton, 2014). Synthesis of quantitative and qualitative results would be a beneficial method for my research (Edmonds & Kennedy, 2017) and therefore informed the use of sequential mixed methods.

The qualitative data analysis was not always detailed or transparent in the literature, such as in Luckson et al (2018). In my research, the detail of the data analysis management and generation of themes from qualitative analysis will be provided to ensure dependability and increase overall trustworthiness of my findings (Tobin & Begley, 2004; Nowell et al., 2017).

2.43 Sample

Much of the literature focused on populations, or sub-populations, within an NHS organisation which were areas of focus to inform local research capacity building strategies (Gimeno et al., 2021; Cordrey., 2022; Luckson et al., 2018; Gilbert et al., 2016; Bench et al., 2019; Caldwell et al., 2017). Conducting research to inform local strategies was also the aim of my research, however it is possible that the findings could be transferred more generally. The aim of the survey was to include all professional groups across the Trust and will avoid targeting specific groups within professions seen in some literature, for example Gimeno et al (2021) (Martínez-Mesa et al., 2014). The sample for the interviews was then purposive by selecting information rich cases (Patton, 2014) from the survey respondents.

The importance of having managers represented in the sample was highlighted (Luckson et al., 2018; Lowrie et al., 2015). This is particularly important when considering wider literature which outlines managers and leadership as important to embedding research and creating a positive and supportive research culture (NHS, 2017). Line managers were present in the population being explored in this research.

2.44 Validated measuring tool

The Research Capacity and Culture scale is a validated tool which has been widely used in the literature to measure NHS staff perceptions of research engagement. However, the RCC tool has limitations as the validation of the tool is largely limited to AHPs (Golenko et al., 2012; Holden et al., 2012; Gimeno et al., 2021). In the literature out of the scope of this review an alternative tool is presented: the Research and Development culture index (R&DCI) (Watson et al., 2005; Hollis et al., 2019). This consists of 16 self-reported items over three domains of R&D support, R&D skills/aptitude, and R&D intention constructs to reflect perceptions of both personal and organisational research culture. Due to the R&DCI only recently being converted into electronic format to be disseminated across a wide multidisciplinary workforce (Hollis et al., 2019) the papers which have used the validated index were outside of the date restrictions for inclusion in this review (Watson et al., 2005; Abbott & Gunnell, 2005; Whitford et al., 2005; Glynn et al., 2009). The R&DCI tool has been used in a range of settings and professional groups which lends itself to be a more appropriate tool for assessing perceptions of research across an NHS Trust which is comprised of multiple professions, rather than the RCC scale. This informed the methods to include the R&DCI in the survey of my research.

2.5 Discussion

Conducting this scoping review developed my understanding of exploring and measuring research capacity and culture across various NHS professional groups and settings. The findings highlighted that there is a necessity to gain an understanding of

individuals' current views of engaging in research to inform strategies for improving research capacity and engagement. It identified the need to explore the views of staff in the unique setting of a community NHS Trust, as from the knowledge gained from this review there are currently no studies which have conducted a Trust-wide exploration of a community NHS Trust. Including a critical appraisal of the papers had useful implications for informing my methods such as the design, use of the R&DCI measuring tool in the survey, approach to recruitment sampling and analysis. I now go on to detail these in chapter 3: methodology.

Chapter 3: Methodology

This chapter outlines the methods I used in this research, including the design, tool development, sampling, recruitment, and how data was collected and prepared for analysis for both phase one and phase two.

3.1 Overall Methods

3.11 Definition

The challenge in defining this exploratory project was highlighted by the scoping review with a range of labels used in the identified papers exploring this topic. This included service evaluation (Lowrie et al., 2015; Cordrey 2022), audit (Gimeno et al., 2021), local research projects (Luckson et al., 2018; Bench et al., 2019), and research approved by HRA (Comer et al., 2022) (see chapter 2.41).

Initially, I had considered it to be a service evaluation which involves asking ‘what is the current standard of the service?’ (HRA, 2022a), as it aimed to evaluate Trust staff views on research engagement. But as the project evolved, there were discussions with my supervisory team, registration examiners, and the Trust research team regarding whether the project was service evaluation or research, as it has qualities of both. ‘Research’ is defined as a planned and designed project using documented methodology to allow for generalisable or transferable findings (HRA, 2022b). This project aimed to inform local improvements, rather than using the population as a representative sample to make generalisations to a wider population. However, the findings do have relevance, and could be transferred, to other comparable settings. It did not fit the aim of research which is to generate a new hypothesis or test a hypothesis (HRA, 2022b), whereas a service evaluation investigates the effectiveness

or efficiency of a service with the purpose of generating information for local decision making (Healthcare Quality Improvement Partnership, 2011).

Considering all this, I consulted the quality, service improvement and redesign for NHS organisations (AQUA, n.d.). The six-stage project management approach framework states that the first stages of an improvement project are to identify what the opportunity or problem is, then to define and scope what the current situation is using research methods. This was accurate to the design and purpose of the project therefore, this project is defined as an early-stage improvement project, using baseline research to inform quality and service improvement.

3.12 Research design

I used a mixed methods sequential design to draw on the strengths of both quantitative and qualitative research (Tashakkori & Creswell, 2007; Creswell & Plano-Clark, 2018). The design was sequential as the first phase of the study involved an online survey, with quantitative data collection through closed questions along with some qualitative optional 'free text' questions. Phase two qualitative interviews were then used for further exploration and to add more detail or depth to the phase one data (Edmonds & Kennedy, 2017; Ritchie et al., 2014).

3.13 Ethics

Having determined, using the HRA tools (HRA, 2020), that my research did not require NHS research ethics review, I submitted an application to the University of Hertfordshire ethics committee, Protocol number aHSK/PGR/UH/05101(2) (Appendix 3). Permission was granted by the Trust to carry out the project (Appendix 4).

There were minimal risks, disadvantages or side effects to taking part in the survey or the interviews, however as it involved professional colleagues it was important to consider any potential implications. As participants would be sharing views about research which involved personal data and perceptions of their workplace, to adhere to the ethical principle of doing no harm, it was important that the participants felt their data would be managed confidentially. Therefore, this included conveying that the participants data would be anonymous and that personal or identifying details would be anonymised or removed. The consent form included the ethical principles that confirmed the participant information sheet had been read and been given the opportunity to ask any questions and assured they are able to withdraw at any time (see Appendix 6.3)

3.14 Public involvement

No patients or public were involved in this study as it was focused on the views and experiences of NHS staff and did not involve data collection from patients or the public.

3.2 Phase One: Survey

3.21 Development

I chose to use an online survey to enable data collection from a large sample of Trust staff as it was easy to distribute and complete (Nardi, 2018). The survey questions were developed from the findings of the scoping review and input from the research team at the Trust as detailed below (see Appendix 5.1 for content development). Jisc Online Surveys was used as it is supported by the University and provided the functions

needed to create and run this survey. The first page presented a summary of the project and my contact details and participant information sheet available in full as a downloadable copy (see Appendix 5.2 & 5.3). Participants indicated consent by proceeding to the next page of the survey. The survey included four sections:

1) **Participant characteristics** included demographic data, to understand the characteristics of the sample and to ensure representation across the Trust, including age and gender. I collected data for line managerial responsibility, professional staffing group and service group to understand and compare similarities or differences in the professional contexts within the organisation. The participant characteristics guided purposeful sampling for phase two (Creswell & Plano Clark, 2018).

2) **Research experience** included a checklist of current and desired experience in various research activities. The research experience questions were adapted from a recent evaluation of a research development programme project run by the research team at the Trust. Reporting perceived barriers and enablers to engaging in research were multiple choice with free text options to provide any other choices or expand on these further. This section also included a question on how much importance research is given in the participants' service and a question on experience of support from the Trust research team, to understand the current level of awareness and access to research support.

3) **Research and Development Culture Index (R&DCI)** (Hollis et al., 2019) was included as an online validated rating instrument for assessing the strength of

organisational research and development culture (see chapter 2.44) (Hollis et al., 2019; Watson et al., 2005; Abbott & Gunnell, 2005; Whitford et al., 2005; Glynn et al., 2009). The index comprises of 16 self-reported items over three domains measuring R&D support, R&D skills/aptitude, and R&D intention constructs to reflect perceptions of both personal and organisational research culture (Hollis et al., 2019). A direct transfer of the electronic format of the survey was used to ensure validity (Hollis et al., 2019).

4) The final section included two optional free text questions. Participants were asked whether their experience or views about research had changed since the COVID-19 pandemic. The impact of COVID-19 pandemic on professionals in healthcare has been highlighted, for example challenges to resilience for nursing students (Henshall et al., 2023), and has changed the clinical research landscape in the NHS (Park et al., 2021). Local level evaluations have identified that short- and long-term impacts of COVID-19 on health research within NHS organisations must be considered (Wyatt et al., 2021). This question was therefore deemed important to provide an understanding of research in the current context at the organisation. A final question asked for any other comments about the participants' experiences or views about research at the Trust, to give opportunity for participants to share details which had not already been covered in the preceding sections.

At the end of the survey, participants were asked to indicate their interest in participating in the second phase of the study by submitting their email address. To preserve

anonymity, email addresses were only linked to participant characteristics, and separated from the other survey responses before being stored securely on the University One Drive. A pilot was run with five Trust staff responding and providing feedback, in particular, consideration of the order and clarity of the questions, functionality of the multiple choice and free text question and time taken to complete the survey. Modifications were made prior to the survey launch, such as a wording change on the final question to ensure clarity.

3.22 Data collection

The target population for the survey was all staff employed by the Trust (total population n=2693). I adopted a multifaceted approach to participant recruitment to ensure optimal response rates during the period the survey was open from 8th September 2022 to 21st October 2022. Once launched, I sent the survey information and electronic link by emails to service leads, colleagues and internal networks with request to disseminate to teams and contacts (see Appendix 5.41). I sent periodic reminders and targeted emails, for example to service directors, to thank for their support so far and included their services' current response rate, requesting for further encouragement to disseminate the survey in their service (see Appendix 5.42). I also promoted the survey by presenting to leadership and wider executive team forums, with an audience of approximately 250 senior members across the Trust from the wide range of services and professional groups, with request that they cascade the information to staff (see Appendix 5.43). With assistance from the Trust communications team, the survey was promoted across multiple communication streams, including the intranet (internal staff site), newsletter, bulletins, and screensaver

(see Appendix 5.44). To boost recruitment rates, I extended the period the survey was open from four weeks to six. This method elicited 220 survey responses Trust-wide (8.2%). As there was no formal hypothesis testing involved, a sample size calculation was deemed unnecessary (Luckson et al., 2018). The sample size could have been increased by extending the period in which the survey was open for, with continued promotion, however due to time constraints for data collection, this was not possible.

3.23 Analysis

Quantitative analysis

Quantitative data from the survey was analysed using SPSS version 24. Frequencies and descriptive statistics were employed to describe and summarise participants characteristics, research experience, engagement and perceived barriers and enablers to research. R&DCI scores (Hollis et al., 2019) were obtained for each of the domains, by adding the responses rated from strongly disagree to agree (0-3), for R&D support score (items 1-9), Personal R&D skills/aptitude (items 10-13) and Personal R&D intention (items 14-16). A total score was obtained by adding all the 16 item scores (0-3), with a highest possible score of 48. The median and range of the total score was calculated for the population. The medians and ranges were also calculated for each the three index domains for the whole population. The median and ranges of the overall score, and each of the index domains were calculated for each professional group and service, for these to be compared.

Qualitative analysis

I analysed qualitative data from the open and free text survey questions using inductive content analysis. Inductive content analysis (ICA) is well suited for use in health-related research projects and is particularly appropriate when aiming for a practical answer or application of the findings (Vears & Gillam, 2022) (Table 2). The approach involves iterative coding based on data content, to develop labels, revisiting the data, grouping and sub-dividing groups of codes. This process leads to content categories and subcategories, rather than 'themes' as seen in thematic analysis (Vears & Gillam, 2022; Clarke & Braun, 2021). Since the research questions for this analysis did not require theoretical interpretation (Clarke & Braun, 2021) and the codes could be derived from single words or phases, ICA was the most proportionate approach to analyse the four optional open-question data sets from the survey. The iterative process for category development was recorded in my content analysis journal (see Appendix 5.5).

Table 2: *Inductive Content Analysis Steps (Vears & Gillam, 2022).*

Step 1	Read and familiarize
Step 2	First-round coding—identify big-picture meaning units
Step 3	Second-round coding—developing subcategories and fine-grained codes
Step 4	Refining the fine-grained subcategories
Step 5	Synthesis and interpretation

Step 1: Read and familiarise

The data was extracted from the Online Surveys platform onto excel spreadsheets which could be easily read line by line. My initial noticings and thoughts were recorded through re-reading the texts, prior to any coding or labelling taking place.

Step 2: First-round coding—identify big-picture meaning units and Step 3: Second-round coding—developing subcategories and fine-grained codes

Step 2 and 3 can be described in conjunction in this analysis as due to the nature of the data set being in individual sections line by line, the fine-grained codes could be identified with ease in the initial coding. This involved looking for big picture meanings through reading the text and asking 'what is this section about?'. In this way "units of analysis" can be identified, namely, a chunk of text that has a meaning in relation to the research question/s. The label of the code was then used to identify the concept. A second round of coding was carried out by moving line by line through the data set again, identifying codes directly from the data. This allowed for codes to be revised and additions made. This process was firstly carried out on Excel, then on NVivo software to test if any additional codes were identified through use of an alternative tool. Both worked well for the initial stage of coding, however NVivo was more flexible for the steps going forward. It allowed for a movement of grouping and ungrouping, which is important to account for the richness and complexity of the data.

Step 4: Refining the fine-grained subcategories

This stage involved comparing and refining the fine-grained categories from step 2 and 3; including collapsing similar categories into one, separating if categories were too broad, and renaming where labels were vague.

Step 5: Synthesis and interpretation

ICA involves some interpretation to provide a rich and relevant answers to the research question (Vears & Gillam, 2022). My final categories are presented in the results tables in chapters 4.15 and 4.16, with illustrative quotes to demonstrate the narrative of the category for the more complex open-ended questions (Tables 15 & 16) (Vears & Gillam, 2022). These categories informed the phase two qualitative data collection discussed in chapter 3.35.

3.3 Phase Two: Interviews

3.31 Design

In the second phase of the sequential mixed methods design I involved qualitative data collection to further evaluate experiences and views from the phase one survey (Ritchie et al., 2014; Edmonds & Kennedy, 2017). I used one-to-one interviews to understand personal context and to generate in-depth and detailed accounts of views or experiences (Ritche et al., 2013).

76 participants provided their email address indicating they were open to be approached for the phase two interviews, presenting a wide range of characteristics. Focus groups allow for more participants, and thus representation, to be included in the sample than individual interviews. However, scheduling groups from the complex characteristics and a time suitable for eight - 12 busy professionals (Robson, 2002) was not practical for this project. Group interaction data collection may also not be favourable for a workplace population where there are differences in responsibilities and powers as well as issues around hierarchy (Turley et al., 2013). This was particularly key as exploring the different perceptions of managers, team and organisational support

was a topic for further enquiry which I had identified in phase one. Group interactions can lead to a pressure for participants to conform and not share divergent views or individual experiences (Berg & Lune, 2012; Ritchie et al., 2014). Focus groups with peers would also pose challenges to maintaining anonymity and confidentiality (Brett & Wheeler, 2021; Stam & Diaz, 2023). As I was exploring individuals' views within one organisation, interviews were the most suitable option (further described in chapter 3.34).

3.32 Online interviews

I chose online rather than face to face interviews as the sample was scattered geographically, covering seven counties, and this gave me the opportunity to reach dispersed individuals (Irani, 2019). Considering busy timetables of NHS staff, online were also more convenient as no travel time was required or expenses incurred (Khan & MacEachen, 2022). Face to face interviews have value in that body language and nonverbal communication are more obvious, however using a video online platform is a good alternative option when practicalities are considered (Krouwel et al., 2019; Saarijärvi & Bratt, 2021). Microsoft Teams was used to conduct the online video interviews as it is the default software used by the Trust, and therefore would be familiar for staff. The recording function was useful as it can produce a basic transcript capturing largely accurate data, which I then downloaded and edited to be fully accurate, increasing the reliability and trustworthiness of the data (Coleman, 2022).

3.33 Development

The interviews were semi-structured to allow for a flexible approach of questioning to address the topic ideas, whilst being open to exploration around the

topics (Marshall & Rossman, 2016). The topic guide was informed by the literature review and the findings from the survey which identified ‘barriers’ and ‘enablers’ as key topics. The literature review and survey also highlighted it would be important to include questions on managers, team and overall organisational views about research opportunities and culture (see Appendix 6.4 for interview topic guide).

Prompts and open questions were used to ensure participants could expand on the content of their answers (Patton, 2014). I considered the structure when developing the topic guide, to include an opening narrative, introduction and closure (Robson, 2002; Rubin & Rubin, 2012). To assess the usability and efficacy of the topic guide I discussed my initial drafts with colleagues in the Trust research team, as well as piloting with a colleague. This allowed me to refine prompts, clarify and order the questions further which enhanced the credibility (Creswell & Poth, 2018; Polit & Beck, 2017).

3.34 Recruitment

The sample for the interviews was generated to provide diverse and rich representation for the data collection, informed by the findings of phase one (Clarke & Braun, 2013; Patton, 2014). The sample was selected from the 76 participants who left their email address at the end of the phase one survey. A purposive sampling strategy was used to ensure that within the scope and resources available for this research, I included the sub-populations which could provide the richest and most relevant information to the subject matter for the interviews (Clarke & Braun, 2018; Patton, 2014). In the analysis of the phase one data, I identified professional groups and service groups as potential good sources of information in relation to exploring the research questions and further understanding the topics (Becker et al., 2012). To aid the

selection of participants (Patton, 2014) I created an Excel spreadsheet pivot table of the demographics and characteristics of interest for phase one participants who had consented (see Appendix 6.1). I used this to create an 'optimal' sample, who were contacted first, and a 'back up' list of other potential participants. All interviews were carried out between March and May 2023.

All participants who left their email addresses at the end of phase one survey were sent a 'thank you' email (see Appendix 6.1). The selected participants were then sent an invitation email, including the consent form and participant information sheet (see Appendix 6.2) and given the opportunity to ask any questions before returning. Of the original shortlist, 19 did not respond or declined to participate because of capacity or lack of interest, and participants with similar roles and characteristics were then selected from the longlist as replacements.

Information power was considered for the sample size whereby the information level held in the sample influences the number of participants required (Clarke & Braun, 2021). Malterud et al (2016) state "'information power' indicates that the more information the sample holds, relevant for the study, the lower amount of participants is needed" (p.1). Following six initial interviews, I reviewed the information then selected two further interviewees to further explore issues raised and increase the diversity of the sample.

3.35 Data collection

Interviews were conducted and recorded on Teams, lasting between 57 mins- 1 hour 15 mins. At the start of the interview, participants were reminded of the project

purpose and aim of the interview, I rechecked that they had read the participant information sheet and consented to being recorded. Responsive interviewing techniques were used to build rapport using opening questions about the participants at the start of the interview, prior to progressing deeper into the questions on the topic guide (Rubin & Rubin, 2012). Rapport-building was shown through active listening and nodding, personalising the interview and being approachable (Gabbert et al., 2021). I also used interviews skills such as prompts to clarify or stimulate a response and probing to follow up or elicit more information (Ritchie et al., 2014). The interview topic guide was used as a prompt if the conversation veered off topic (Marshall & Rossman, 2016), but largely the interviews were directed by the interviewees focus for discussions, influenced by their background and experiences. The interview was a reciprocal and interactive process, allowing for a natural flow of conversation whilst collecting data relating to the questions (Creswell, 2014). At the end of the interview, I gave participants the opportunity to add anything additional and ask any questions. In addition to thanking the participants for their time, I informed them of the next steps and that they would receive a summary of the results. Time was allowed for debriefing to signal the end of the session and leave the interview on a positive note before resuming back into daily activities (Ritche et al., 2013). After each interview, I set aside some time to listen back to the recording and reflect on what went well or what did not go so well, making notes whilst the conversation was fresh in my mind. This allowed for ongoing revision and development for the next interviews (Barbour, 2014b). For example, when reflecting on the initial interviews I recognised that the conversations veered off on a

tangent to unrelated topics, therefore I practiced redirection back to the topic more readily in the preceding interviews (see Appendix 7).

3.36 Data management - recordings, transcription, and editing

I downloaded, cleaned, checked and edited transcripts for accuracy by reading alongside listening to the corresponding recording. This process allowed familiarisation with the data set, prior to formal analysis (Bird, 2005). Semi-verbatim transcripts were proportional to the analysis needed for this project. During this process the transcripts were anonymised by removing direct identifiers and assessing indirect identifiers and deciding to either modify or remove (Stam & Diaz, 2023). Names were removed, with the researcher referenced as 'Int' and P1-8 identifiers assigned to the participants. The participant details linked to the participant codes were stored on the password protected University OneDrive if required for retrieval and analysis. Ensuring confidentiality was considered in depth, in particular, the potential of indirect identifiers (Brett & Wheeler, 2021). Because this research was being carried out within one organisation and the rich detail given in the data could have the potential to identify individuals, I made the decision to not include any characteristic descriptions with the supportive quotes and use only the participant codes throughout the analysis and presentation of results (Polit & Beck, 2017).

The characteristics of the sample are presented in the phase two findings chapter 5.1, ordered by professional group A-Z. In some cases, removing the identifiers stripped the transcript section of useful context so instead categorisations were used, for example [colleague] or [manager] or [friend]. This approach was also used for references to

[profession] or [service] and for places which needed context for example [university] or [NHS Trust]. The choice to categorise was based on the context and the prevalence other potentially identifying information, as guided by Stam & Diaz (2023). When embedding quotations into the qualitative write up a small amount of editing was used on the transcriptions to provide fluidity, but otherwise they are unedited. Reference to personal sensitive information which was not crucial for the topic were removed from the transcript.

3.37 Analysis

Framework analysis is a method for the management and analysis of qualitative data (Ritchie et al., 2014). It can be considered a form of thematic analysis, which involves discovering and interpreting patterns and themes within data to describe a phenomenon (Spencer et al., 2014). Thematic analysis typically consists of several systematic and iterative stages and a coding process to identify topics (Clarke & Braun, 2021). In framework analysis, an additional data summary and display is included which creates a distinctive feature of a matrix output as a data management instrument (Gale et al., 2013; Ritchie et al., 2014) in which data is summarised by case (the interviewees) and theme. This sorting of the data into a matrix summary allows for clear comparisons by themes, sub themes and by cases (Spencer et al., 2014; Ward et al., 2013). I found the cross-sectional framework approach particularly helpful in my research as it allowed for in-depth within and between-case exploration of essential patterns in the whole data set (Spencer et al., 2014; Erlingsson & Brysiewicz, 2013). The framework approach uses a series of systematic and transparent stages to the analysis, enabling moving back and forth through the data until a coherent account emerges (Gale et al., 2013;

Ritchie et al., 2014) (see Table 3). To enhance the transparency and credibility of the findings (Spencer et al., 2014; Erlingsson & Brysiewicz, 2013), the iterative process was recorded in my framework analysis journal (see Appendix 6.51).

Table 3: *Summary of the framework analysis process (Spencer et al., 2014)*

1. Familiarisation	Immersion in the data to identify key noticings, thoughts or impressions
2. Constructing and testing an initial thematic framework	Identifying recurrent and important themes, and sub themes (deductive and inductively) into a framework
3. Indexing and sorting	Applying the framework to each transcript systematically (NVivo)
4. Reviewing data extracts	Refinements made to the framework
5. Data summary and display	Summaries made by theme and by case generating a matrix

3.38 Framework analysis process steps:

1. Familiarisation

Gaining an overview of the data coverage and becoming familiar with the material (Spencer et al., 2014) was aided by listening to and editing the transcripts myself (Bird, 2005). I wrote down any initial reactions and possible things to note immediately following the interviews in a research journal. The full transcripts were printed out onto paper with margin space either side to write notes or initial noticings and highlight any key phrases or sections. During familiarisation I kept in mind the initial themes from the topics of interest in the topic guide and also created new labels where new key themes, concepts or potential subthemes were identified. In this way the labels were both data and research derived. I found that having these as physical copies helped me to identify and distinguish between the cases more easily, as well as immersing myself in the data, which is the key first step to qualitative analysis (Spencer

et al., 2014). As there were eight interviews, within the time I had scheduled for the analysis this was able to be done for each transcript systematically including revisiting each transcript to check the relevance of the noted themes.

2. Constructing and testing an initial thematic framework

The interview topics were developed from the scoping review and phase one survey which underpinned the main initial themes. A further two initial main themes and sub themes were identified through the familiarisation process outlined above. Due to the exploratory nature I used a relatively defined initial framework with brief descriptions and examples included to aid the next stage (Appendix 6.52).

3. Indexing and sorting

I went through each transcript in Nvivo, coding to the relevant framework themes and sub-themes. The brief descriptions to clarify meaning and how it should be used were referred to continuously from the table of initial thematic framework created (see Appendix 6.52) (Spencer et al., 2014). Sorting was useful as the information discussed in the interview was not typically ordered by topics, therefore being able to bring together the data that have been indexed in the same way could easily show the thematic ‘sets’ (Spencer et al., 2014).

4. Reviewing data extracts

Following the initial application of the framework, I refined it further by looking at the sets of the indexed data under each label to understand the coherence and identify any gaps. Some themes/sub themes were divided, merged and reorganised. The iterative revision process was recorded in my journal (see Appendix 6.51). The final reviewed framework was finalised in discussion with my supervisors and formed the basis of the framework matrices (Appendix 6.53 & 6.54).

5. Data summary and display of framework matrix

The data were summarised in the framework matrices in Nvivo by theme, with the subthemes becoming a horizontal set of column headings, and cases (interviewees) by rows (Appendix 6.54). Interviewees own language and phrasing was used as much as possible, and the summaries were kept brief with links to the original transcript data (Spencer et al., 2014). I checked for any empty cells and referred to the original text to ensure nothing was missed within the cases relating to the theme.

6. Description of developed categories

At this stage I repeatedly read through the framework matrices, case by case and theme by theme to understand the data as a whole again and build a bigger picture. Working with the summaries by each theme I listed the main points arising in each case, which Spencer et al (2014) describe as the 'detecting elements' stage. I then exported these into a Word document to facilitate the identification of similarities and differences between cases. Through identifying these dimensions and connecting back

directly to the raw data, I was able to produce a rich descriptive account of each theme (Ritchie et al., 2014; Spencer et al., 2014).

3.4 Quality

Ensuring quality was a key concern when considering the methodology of my research. There are key criteria for enhancing quality, including applying rigour, trustworthiness and reflexivity (Johnson et al., 2020). Rigour was enhanced by having an audit trail of my decision process, particularly throughout the framework analysis process. In addition, I kept a reflexive journal to reflect on the changes being made throughout the data collection and analysis process to aid transparency (Tobin & Begley, 2004). This included my reflections on being an insider researcher and my efforts to remain unbiased, practicing reflexivity and trustworthiness (Braun & Clarke, 2021; Fleming, 2018). This is discussed further in Chapter 6.5 Insider Research and Reflexivity.

3.5 Summary

Within this chapter, I have explained the two-phase sequential design used to explore the research aims. I describe the methods and analysis used for the phase one survey involving quantitative and qualitative data, and for the phase two qualitative interviews. I critically explored the chosen methods and justified these by locating them within wider methodology. In the following two chapters I report the findings from the analysis of each phase separately.

Chapter 4: Phase One Findings

This chapter presents the findings from the phase one survey, including both the descriptive analysis of the quantitative data (chapter 4.2) and inductive content analysis of the qualitative free text data (chapter 4.3).

4.1 Sample Description - Survey

The overall response rate was 220 out of 2693 total population group (8.2%). Table 4 illustrates the baseline characteristics of study participants. There were eight categories for professional groups taken from the NHS Electronic staff record (ESR) National Workforce Data set (NHS England, 2023b) (see Table 5) with an 'other' option for respondents who did not fit the categories with free text to provide their group. The estates and ancillary group was not included as at the time of data collection there were no staff presenting in this group. Participants who selected 'other' but clearly defined a professional group from the categories provided in their text were coded accordingly, leaving two 'other' respondents. The highest number of responses received from a professional group were from nursing and midwifery (n=81). The highest number of responses from a service was from Cambridgeshire children and young peoples services (n=58) (see Table 6 for service descriptions).

To assess if the sample was representative of the total available population, the total population breakdown for each of the categories are provided in Table 4. The total population was the available substantive workforce as of September 2022, which excluded those on maternity and adoption leave, long term sickness, career break or external secondment. Variance calculation between the survey demographics and the

total available workforce evidenced that the sample was largely representative of the population. 125 (56.8%) respondents had line management responsibilities, 95 (43.2%) did not.

Table 4*: Full demographics of survey respondents and variance to total workforce population*

Demographic Categories	Number of Survey Responses	Percentage of Total Survey Responses (%)	Total available population	Percentage of Total available population (%)	Difference between Total Survey response rate and available population (%)
Age					
65+	3	1.4	60	2.2	-0.8
56-65	47	21.4	607	22.5	-1.1
46-55	84	38.2	758	28.1	10.1
36-45	57	25.9	676	25.1	0.8
26-35	26	11.8	478	17.7	-5.9
18-25	3	1.4	114	4.2	-2.8
Gender					
Prefer not to say	3	1.4	0	0.0	1.4
Male	28	12.7	238	8.8	3.9
Female	188	85.5	2455	91.2	-5.7
Missing	1	0.5			0.5
Line Manager					
Yes	125	56.8			
No	95	43.2			
Professional Staffing Group					
Nursing and Midwifery	81	36.8	835	31	5.8
Medical and Dental	15	6.8	111	4.1	2.7
Healthcare Scientists	1	0.5	4	0.1	0.4
Allied Health Professionals	42	19.1	322	12	7.1
Administrative and Clerical	55	25	694	25.8	-0.8
Additional Clinical Services	15	6.8	662	24.6	-17.8
Additional Professional Scientific and Technical	8	3.6	50	1.9	1.7
Students	1	0.5	15	0.6	-0.1
Other	2	1.4			
Service					

Luton Children & Young People's Services	11	5	226	8.4	-3.4
Large Scale Vaccination Service	7	3.2	271	10.1	-6.9
Corporate Services	42	19.1	190	7.1	12.0
Norfolk & Waveney Children & Young People's Services	11	5	420	15.6	-10.6
Cambridgeshire Children & Young Peoples Services	58	26.4	431	16	10.4
Bedfordshire Children & Young Peoples Services	21	9.5	397	14.7	-5.2
Luton Adult Services	9	4.1	218	8.1	-4.0
Bedfordshire Adult Services	3	1.4	39	1.4	0.0
Dental Services	7	3.2	102	3.8	-0.6
Dynamic Health	7	3.2	121	4.5	-1.3
iCaSH	44	20.0	278	10.3	9.7
Total	**220**	**100**	**2693**	**100**	

Table 5: *NHS Professional Group and role examples, from NHS England (2023b).*

Staff Group	Definition	Example Job Roles
Additional Clinical Services	Staff directly supporting those in clinical roles. Support to nursing, AHPs, Healthcare Scientists and other Scientific staff are included. Have significant patient contact as part of their role	Call Operator, Emergency Care Assistant, Healthcare Assistant, Nursery Nurse
Additional Professional Scientific and Technical	Scientific staff, including registered Pharmacists, Psychologists, Social Workers and other roles such as Technicians and Psychological Therapists	Pharmacist, Chaplain, Social Worker
Administrative and Clerical	Non-clinical staff, including non-clinical managers, administration officers, executive board members who do not have significant patient contact as part of their role	Accountant, Chief Executive, Clerical Worker, Receptionist
Allied Health Professionals	Registered clinical staff providing diagnostic, technical and therapeutic patient care, including Dietitians, Radiographers and Physiotherapists. Includes qualified ambulance staff such as Paramedics	Dietitian, Physiotherapist, Paramedic, Drama therapist
Estates and Ancillary	Non-clinical support and maintenance staff, including gardeners, plumbers, cooks and housekeepers who do not have significant patient contact as part of their role	Electrician, Housekeeper, Telephonies
Healthcare Scientists	Registered qualified and other staff working in a defined Healthcare Scientist role, including Clinical Scientists and Biomedical Scientists and Technicians working in Healthcare Science. Also includes Public Health Scientific Staff.	Healthcare Scientist, Consultant Healthcare Scientist, Healthcare Science Practitioner
Medical and Dental	Registered doctors and dentists	Consultant, Dental Officer, Foundation Year 1, Specialty Doctor
Nursing and Midwifery Registered	Registered nurses and midwives	Staff Nurse, Midwife, Community Nurse, Modem Matron, Nurse Consultant
Students	Directly employed staff undertaking formal education, including student nurses and midwives	Student Midwife, Student Dietitian, Student Orthoptist

Table 6*: Trust service description*

Service	Description
Childrens and young peoples services (CYPS)	Community care for children and young people which are delivered across the areas of Luton, Bedfordshire, Cambridgeshire and Norfolk and Waveney
iCaSH	Integrated contraception and sexual health across all geographies of the Trust
Dynamic health	Physiotherapy, specialist musculoskeletal physiotherapy and pelvic health physiotherapy
Dental services	Specialist dental services
Adult services	Community care for adults in the areas of Luton and Bedfordshire

4.2 Quantitative Findings

4.21 Research activity and research engagement

Table 7 shows the self-reported rate of engagement in research activities. Research activity and experience was reported by 'I have', and desired engagement by 'I would like to' for each activity. The most frequent activity that respondents had been engaged in was 'participated in local or regional audit or service evaluation' n=132 (60%) and 'had an active involvement in research delivery' n=101 (45.9%). The least frequent activities were 'completed a dedicated postgraduate research qualification' n=21 (9.5%), although 41 expressed that they would like to do this (18.6%). Only 25 (11.4%) respondents were an author of a research publication, but 50 (22.7%) would like to be. Alternatively, 95 (43.2%) respondents had been involved in collecting data/completion of outcome assessments/care report forms, but only 25 (11.45%) would

like to do this activity. 38 (17.3%), reported not had any engagement in the research activities listed and 13 (5.9%) expressed would not like to engage.

Table 7: *Self-reported research activity and research engagement*

	I Have n= (%)	Would like to n= (%)
I have attended a research related training course, e.g. Good Clinical Practice Training	73 (33.2)	61 (27.7)
I have participated in local or regional audit or service evaluation	132 (60.0)	26 (11.8)
I have had active involvement in a research delivery, e.g. recruitment, data collection, screening for eligibility, intervention delivery	101 (45.9)	34 (15.5)
I have presented at a conference (poster or spoken presentation)	67 (30.5)	37 (16.8)
Engagement in Patient and Public Involvement initiatives	57 (25.9)	46 (20.9)
I am an author of a research publication	25 (11.4)	50 (22.7)
I have been involved in collecting data/ completion of outcome assessments/care report forms	95 (43.2)	25 (11.4)
I have completed a dedicated postgraduate research qualification, e.g. MRes, PhD	21 (9.5)	41 (18.6)
I have led a research project / been PI (Principal Investigator)	29 (13.2)	34 (15.5)
I have been involved in the development of a research project/been a co-applicant	41 (18.6)	39 (17.7)
None	38 (17.3)	13 (5.9)
Other	5 (2.3)	3 (1.4)

4.22 Research importance and research team support

The most common response to 'how much importance do you feel research is given in your service?' was medium – research is discussed at some meetings, n=99 (46.1%), low was the second most selected – research is hardly discussed unless the research team contact us with n=76 (36%). Only n=36 (17.1%) selected high – research is discussed at most meetings.

Are you aware of the support the Trust research team can provide? 'yes', n=95 (43.8%), 'no', n=122 (56.2%). Have you previously engaged with the research team for support? 'yes', n=57 (26%), 'no', n=162 (74%). Those who answered 'yes' were given the option to rate the usefulness of support received, responses were very useful, n=39 (68.4%), moderately useful, n=12 (21.1%), slightly useful, n=5 (8.6%), not useful at all, n=1 (1.8%).

4.23 R&DCI Scores

213 respondents completed the Research & Development Culture Index measure (R&DCI) (Hollis et al., 2019). The R&DCI 16-item questionnaire scores range from 0 to 48 as a maximum score. The 16 statements of the index and the full responses in this study are shown in Table 8. In the sample (n=213) the total median score of 31 across all the different professional groups indicates a slight positive attitude towards research.

Table 8: *Results of The Research And Development Culture Index (Hollis et al., 2019).*

Questionnaire Item	Strongly Agree n= (%)	Agree n= (%)	Disagree n= (%)	Strongly Disagree n= (%)
1. Practice development is valued as part of my job	83 (37.7)	105 (47.7)	19 (8.6)	6 (2.7)
2.There are people around to help and support me to change/develop practice	73 (33.2)	118 (53.6)	19 (8.6)	3 (1.4)
3.There is strong professional leadership	86 (39.1)	99 (45.0)	25 (11.4)	3 (1.4)
4.There is opportunity to develop practice in my area	63 (28.6)	121 (55.0)	21 (9.5)	8 (3.6)
5.There are regular staff meetings to explore ideas	62 (28.2)	100 (45.5)	48 (21.8)	3 (1.4)
6.I have access to training and development opportunities which give me the skills to question and investigate practice	66 (30.0)	94 (42.7)	49 (22.3)	4 (1.8)
7.There are opportunities to reflect on my practice	61 (27.7)	128 (58.2)	20 (9.1)	4 (1.8)
8.My discipline here works as equal partners with other disciplines in order to change or develop practice	35 (15.9)	105 (47.7)	69 (31.4)	4 (1.8)
9. The development work that I do links with the Directorate's plans	35 (15.9)	99 (45.0)	72 (32.7)	7 (3.2)
10. I understand research terminology	24 (10.9)	102 (46.4)	78 (35.5)	9 (4.1)
11. I feel confident about using research in my practice	25 (11.4)	93 (42.3)	88 (40.0)	7 (3.2)
12. I know how practice is influenced by research	55 (25.0)	124 (56.4)	32 (14.5)	2 (.9)
13. I have the skills to use the library and learning facilities within the Trust	34 (15.5)	84 (38.2)	87 (39.5)	8 (3.6)
14. I would like to learn about research activity during the next 6 months	30 (13.6)	97 (44.1)	78 (35.5)	8 (3.6)
15. I would like more opportunities to share practice development ideas/research/information across the Trust	33 (15.0)	113 (51.4)	63 (28.6)	4 (1.8)
16. I am very keen to use research in practice	57 (25.9)	119 (54.1)	32 (14.5)	5 (2.3)

Table 9 shows the descriptive statistics of the R&DCI overall and domain scores' descriptive statistics and range; broken down into professional groups. The single student indicated the highest overall index score (37). Allied health professionals and nursing and midwifery were the highest scoring professional groups, both scored 32. Administrative and clerical and additional clinical services groups scored the lowest in

the R&D intention domains. Figure 2 displays a boxplot of overall R&DCI score distribution by professional group.

Table 9: *Research and Development Culture index scores, overall and by domain: R&D support score, R&D skills/aptitude and R&D intention by professional group.*

	All (n=213)	Health care scientist (n=1)	Nursing and Midwifery (n=81)	Medical and Dental (n=15)	Allied Health Professionals (n=42)	Administrative and clerical (n=48)	Additional clinical services (n=15)	Additional professional scientific and Technical (n=8)	Student (n=1)	Other (n=2)
Median Overall R&D Index Score (range)	31.0 (9-48)	22.0	32.0 (9-48)	28.0 (12-45)	32.0 (21-48)	29.0 (9-44)	29.0 (20-39)	31.5 (24-44)	37.0	34.0 (33-35)
Median R&D support Score (range)	18.0 (0-27)	11.0	18.0 (2-27)	16.0 (0-26)	19.5 (12-27)	18.0 (9-27)	17.0 (13-22)	16.5 (12-27)	23.0	19.0 (16-22)
Median R&D skills/aptitude score (range)	7.0 (0-12)	4.0	7.0 (3-12)	7.0 (2-10)	7.5 (4-12)	5.5 (0-12)	5.0 (4-12)	8.5 (6-12)	7.0	8.0 (8-8)
Median R&D intention score (range)	6.0 (0-9)	7.0	6.0 (0-9)	6.0 (1-9)	6.0 (3-9)	5.0 (0-9)	5.0 (1-9)	6.0 (3-9)	7.0	7.0 (5-9)

Figure 2: *Total R&D Index score by professional staffing group*

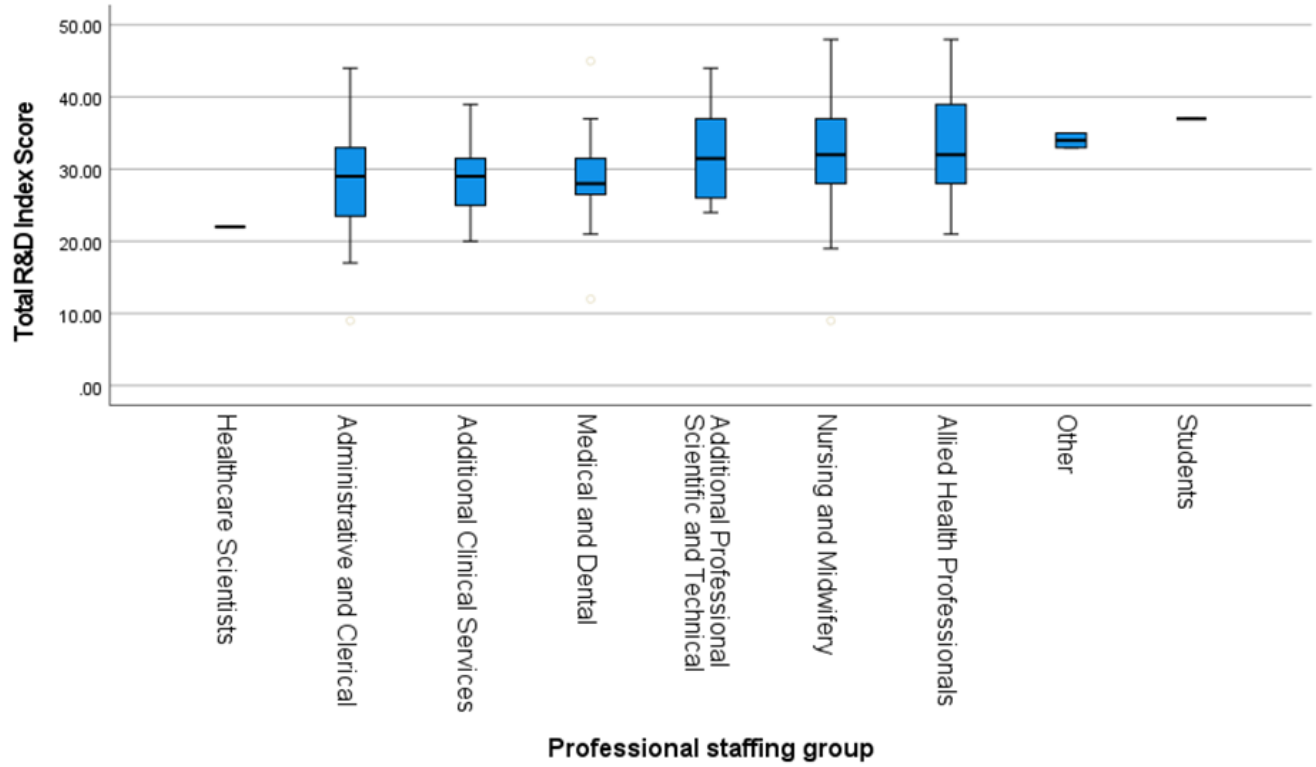
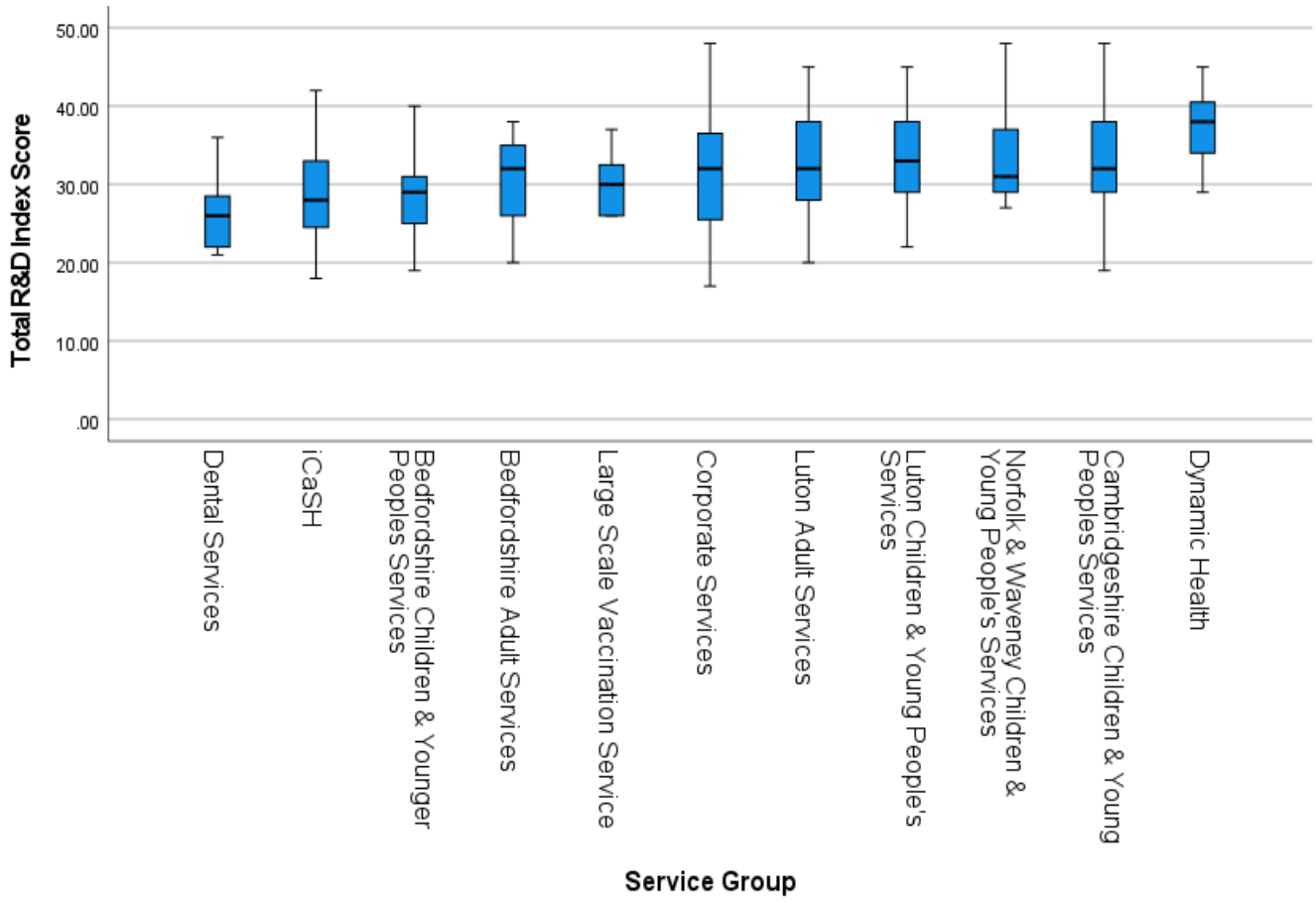


Table 10 shows the descriptive statistics of the R&DCI overall and domain scores' descriptive statistics and range; broken down into service groups (see Table 5). Highest overall index score was in Dynamic health services with 38. The lowest scoring service for overall index was Dental services (26). Dynamic health scored highest in the R&D support score, with Bedfordshire adults services scoring second highest. The R&D intention to do research scores were similar across all services, with Bedfordshire adult services, iCaSH and Dental services scoring slightly lower. Figure 3 displays a boxplot of overall R&DCI score distribution by service group.

Table 10: *Research and Development Culture index scores, by domain: R&D support score, R&D skills/aptitude and R&D intention by service groups*

	Luton CYPS (n=11)	Large Scale Vaccination Service (n= 7)	Corporate Services (n=40)	Norfolk & Waveney CYPS (n=11)	Cambridgeshire CYPS (n=57)	Bedfordshire CYPS (n=21)	Luton Adult Services (n=9)	Bedfordshire Adult Services (n=3)	Dental Services (n=7)	Dynamic Health (n=7)	iCaSH (n=40)
Median R&D Index Score (range)	33.0 (22-45)	30.0 (26-37)	32.0 (17-48)	31.0 (27-48)	32.0 (19-48)	29.0 (19-40)	32.0 (20-45)	32.0 (20-38)	26.0 (12-36)	38.0 (29-45)	28.0 (9-42)
Median R&D support Score (range)	18.0 (11-27)	16.0 (12-22)	19.5 (9-27)	17.0 (12-27)	20.0 (12-27)	16.0 (10 - 27)	18.0 (11-27)	21.0 (13-22)	18.0 (0-24)	22.0 (15-27)	16.5 2-27)
Median R&D skills/aptitude score (range)	8.0 (4-11)	8.0 (4-12)	6.5 (3-12)	8.0 (5-12)	8.0 (4-12)	7.0 (4-10)	8.0 (3-11)	6.0 (4-10)	6.0 (2-7)	9.0 (5-12)	7.0 (0-12)
Median R&D intention score (range)	6.0 (2-9)	6.0 (4-9)	6.0 (0-9)	6.0 (3-9)	6.0 (3-9)	6.0 (3-9)	6.0 (4-7)	5.0 (3-6)	4.0 (1-6)	7.0 (5-9)	5.0 (0-9)

Figure 3: *Total R&D Index score by service group*



Due to the dependent variable not being normally distributed, a Mann-Whitney U test was used to compare total R&DCI scores between line managers and non-managers. From this test it can be concluded that managers total R&DCI scores are significantly higher than non-managers (U = 4618.5, p= .039). Line managers had a median of 32, non-line managers had a median of 30.

4.24 Barriers and enablers

Barriers and enablers to research on an individual level were explored by a multiple-choice question, respondents could select as many options as relevant.

Descriptives of barrier and enabler choice responses are presented in Table 11 and 12. The most chosen barrier was ‘lack of protected time’ (48.2%) and the most common enabler selected was ‘protected time’ (37.7%). Managerial support and research associated to my services strategies/ priorities were both key enablers (35.9%).

Table 11: *Reported barriers to engaging in research*

Barrier	n	%
Lack of protected time	106	48.2
Lack of managerial support	31	14.1
Research is not associated to my services’ strategies/ priorities	45	20.5
Lack of research training and awareness	64	29.1
Lack of personal interest in research	29	13.2
Lack of support from research team	14	6.4
Other	10	4.5

Table 12: *Reported enablers to engaging in research*

Enabler	n	%
Protected time	83	37.7
Managerial support	79	35.9
Research associated to my services strategies/ priorities	79	35.9
Research training and awareness	68	30.9
Personal interest in research	49	22.3
Support from the research team	45	20.5
Other	19	8.6

4.3 Qualitative Findings

4.31 Barriers and enablers

The barriers and enablers multiple choice question also included an 'other' option for respondents to input free text. There were 10 'other' responses to barriers, and 17 for enablers. These responses were analysed by inductive content analysis (Vears & Gillam, 2022) and responses are presented in Table 13 and Table 14. (Appendix 5.5)

Table 13: *'Other' barriers to engaging in research*

Category	**Illustrative quotes**
Staffing	'Major staffing shortage' 'Low staffing levels'
Clinical demand	'Generally unable to even consider this due to service pressures and demands' 'Core service has to be the priority'
Opportunities	'Lack of access to opportunities' 'Never been asked to'
Value	'colleagues got jealous and didn't see the value of the work'
Personal	'Not interested' 'Not that excited about it'

Table 14: *'Other' enablers to engaging in research*

Category	**Illustrative quotes**
Experience	'Previous roles being research positions' 'A research secondment'
Role	'Collecting data, enabling, facilitating parts of research projects will fit into to my everyday role' 'Part of my job role to prove evidence and outcomes'
Motivation	'Completed research within a taught masters as part of my own career development'

	'Personal motivation to achieve a qualification'
External drivers	'Directive from management'

4.32 Free text questions

As described in chapter 2.23, the optional open questions included in the final sections of the survey were analysed using inductive content analysis (Vears & Gillam, 2022), outlined in chapter 3.23, and journal section in Appendix 5.5.

Q13. Has your experience or views about research changed since the COVID-19 Pandemic? There were 102 responses to this question, of this 45 were a simple 'no', 'not changed' or 'not really'. Analysis of the remaining responses identified 3 categories: clinical priority, recognition and opportunities. Table 15 outlines the category label, narrative of what was included in this category, and representative comments from the data allocated to this category label (Spencer et al., 2014).

Table 15: *Categories for question titled: 'Has your experience or views about research changed since the COVID-19 Pandemic?'*

Category	**Narrative**	**Illustrative quote**
Clinical priority	Clinical demands are a priority over research	"We are now so overwhelmed with a backlog of patients caused by the pandemic, that anything which isn't patient facing is simply not possible." "We are not able to provide a good level of care to the children on our waiting lists so there is no time for discussions about research."
Recognition	Importance of research, recognized through the impact of COVID-19 research and vaccination studies.	"It is more important than it ever was to be involved in research. Without research an effective vaccine would not have been developed so quickly." "Research is and always has been incredibly important however COVID may have highlighted this more for others."
Opportunities	There has been a positive effect on opportunities for	"The improved digital technology (eg access to TEAMS) during COVID improved the opportunity for research and collaboration."

	research from COVID-19	"Access to a wider range of participants is often now possible due to virtual working, which makes it easier to take part in research projects."
	There has been a negative effect on opportunities for research from COVID-19	"There are less face to face opportunities that can create a barrier to liaison with other teams." "With COVID I couldn't do the project I had wanted…it put me off conducting my own research at the moment as it was a very isolating and alone experience."

The final open question asked participants for any other comments about their experience or views about research at the Trust. Analysis of the 63 responses to this question resulted in six overall categories: clinical priority, role, resources, lack of research knowledge, motivation and support (see Table 16).

Table 16: *Categories for question titled: 'Please leave any other comments about your experience or views about research at Cambridgeshire Community Services NHS Trust.'*

Category	**Narrative**	**Illustrative quote**
Clinical priority	Clinical demand is the priority over research activity due to limited capacity in clinical teams and services	"There are insufficient staff to meet clinical needs so meaningful research is not a realistic option on top of day-to-day work." "We barely have enough time to carry out the priority clinical work so we just can't prioritise research."
Resources	Lack of resources is a direct limitation to engagement in research including time, funding, capacity	"More people would take part in it if they felt their caseloads wouldn't suffer (left to just build up or be pushed onto current staff without additional back-up)." "I would love to do some research and have a research topic ready to go. I am completely unable to take this forward within this Trust due to lack of protected time and the priority which is given to clinical work."
Lack of knowledge	Limited knowledge and relevance of research in role at Trust	"I certainly have very limited knowledge of what the team do and how their research influences Trust practices and policy." "I have received very little information regarding research from the Trust or my locality."
Motivation	Expressed a motivation for more opportunities to engage in research	"Not yet had much opportunity to get involved with research but would be keen to." "I think we could do more in the service to promote development of ideas and to be more research active"
Support	Support from the research team and supportive board for research	"Great research culture, very supportive Board, lots of opportunities to participate in research and develop new ways of working to improve research delivery." "I feel that the Trust is very supportive of research. The research team are excellent and very supportive."
Professional role	Importance and relevance of research recognised for professional role	"Research is vital in providing the evidence we need to transform services and improve outcomes." "Research based practice is essential."

4.4 Summary

In this chapter I have presented the findings from the phase one survey, after carrying out both quantitative descriptive analysis and qualitative inductive content analysis. The key findings from the survey respondents (n=220) were that there were differences in the type of research activities participants have been involved in and those participants would like to be involved in. Protected time was found to be the most reported barrier for engaging in research, and protected time was also the most reported enabler. The single student, allied health professionals and nursing and midwifery groups indicated the highest R&DCI across professions. Dynamic health indicated the highest R&DCI across the Trust services. These findings allowed me to identify the purposive sample for phase two, as described in chapter 3.34. The various themes identified from the free text responses highlighted the key issues for further exploration in the phase two interviews, which I now go on to describe the findings of.

Chapter 5: Phase Two Findings

Following the analysis and findings from the phase one survey, the phase two interview qualitative data collection was carried out. Interviews were conducted with a purposive sample of eight participants, detailed in chapter 3.34. This chapter presents the findings from my framework analysis of the phase two interview data (see chapter 3.37 & 3.38, and Appendix 6.5). I identified four overarching themes: enablers, barriers, impact of COVID-19 and suggestions for improvement. In both the enablers and barriers themes there were four subthemes which were: individual, team, management and organisational. The suggestions for improvement theme were identified into the subthemes: skill development, peer support, opportunities and awareness. The sample description, themes and representative quotations are presented in this chapter.

5.1 Sample Description – Interviews

Table 17 provides a summary of the characteristics of the purposive sample for the phase two interviews. This includes the professional group, service, and line management responsibilities (indicated by yes or no). The table is ordered A-Z by professional group, not order of participant identifiers, to maintain confidentiality.

Table 17: *Summary of phase two sample*

Professional group	**Service**	**Line management (yes/no)**
Administrative and Clerical	Corporate Services	Yes
Additional Professional Scientific and Technical	iCaSH	No

Allied Health Professionals	Children & Young Peoples Services	Yes
Allied Health Professionals	Dynamic Health	No
Allied Health Professionals	Adult Services	Yes
Medical and Dental	Dental Services	Yes
Medical and Dental	Children & Young Peoples Services	Yes
Nursing and Midwifery	Children & Young Peoples Services	Yes

Theme 1: Enablers

Subtheme 1.1: Individual

Enablers at the individual level were expressed across sub-sub themes of motivation, funding and peer support.

Motivation

Some participants were motivated to engage in research as it was viewed as crucial to fulfilling their role to improve patient care and is *"part of what you do"(P6)*:

> *"Research is fundamental to our patient facing interventions, we've got to keep up with most recent research and we should be researching our own methods and what we do to improve our service."(P8)*

Personal motivations to engage in research included an interest in learning, desire to achieve a qualification for career or professional development, and for job satisfaction:

> *"You feel like you're doing something that makes a difference…we sort of chose our jobs because we want to do something positive."(P6)*

Receiving recognition for contributing to research can also be a motivation:

> *"It shouldn't be all about publications but its little things like that which actually make a difference."(P2)*

Motivations mean participants put in additional time outside of professional paid work hours to engage in research:

> *"I currently do the form filling and bits for that research project on my day off, because I think it's important it's done., so it means that it doesn't necessarily impact on my work responsibilities but…that's the choice I make."(P6)*

There was the view that *"it's very much if you're passionate about it, you can make it happen somehow"(P5).* However, it was also recognised that personal circumstances are an important factor in whether this can happen:

> *"I basically accepted that I wanted to get where I have, I was just gonna have to do stuff in my own time…I could do it at that time, but doing that long term was not sustainable."(P2)*

Funding

Funding was a discussed as an enabling factor to protect time for research training, fellowships, projects and attendance at research conferences. Some participants felt that money should not be the main reason for doing research:

> *"People are often saying we can't do that because it doesn't come with any extra money…but we should find ways of doing it because at the end of the day, it will improve our clinical practice."(P6)*

Peer support

Professional networks with research interested peers and academic universities were discussed as important for individuals to be able to engage in research:

> *"I've got some links with [University], if you get more people with links then that working relationship becomes easier."(P2).*

Subtheme 1.2: Management

Participants shared how research can be enabled from a management level, including research experience and perceived benefits for service.

Managers who have been engaged in research were seen as more encouraging and open to supporting research:

> *"He's just been involved in a research project himself…he understands the relevance of research. He's very keen to do it… so would be absolutely fine about [supporting]."(P7)*

Research has been encouraged by some managers through adding research development training to appraisals so that it was seen as part of the role. Other participants felt that their managers supported research because it was seen a benefit to the wider Trust and did not have funding implications:

> *"They're not losing money on it and it's doing stuff with the Trust so it's win win for them."(P2)*

Whilst managers saw value in research, clinical priorities were the main barrier to being able to support it. Participants indicated that to do research they would need to justify it:

> *"In theory she would think it would be excellent… in practise would be really worried about how I would fit it in… I would have to show her that I'd really thought about it before I presented it to her."(P3)*

However, there was the view that *"when there's an interest from a manager's perspective, they will create that time"(P5),* for example time is given when staff are audited for CPD renewal, to provide research or learning evidence.

Subtheme 1.3: Team

Participants identified factors related to their team which they perceived enabled engagement in research. These include research awareness, relevance to service, admin support, and student placements.

A team research strategy and general awareness of the "*the need to continue to update their knowledge"(P5)* facilitates research engagement:

> *"Our team have got their objectives, and one of those areas is research."(P7)*

> *"It's in our strategy… if they're not working this way, they're not fulfilling the role of the team."(P1)*

Rather than a strategy, a positive and supportive team approach to research allowed both individuals and the team to engage:

> *"As a group we are very proactive in doing research projects. We've engaged with anything that's been amenable to us to do… so I think we are a supportive department when it comes to research."(P6)*

Engagement of the team in a research project can be facilitated when the research is of interest to the service, for example there was "*a lot of interest…amongst my colleagues to find out more about the practice [with research]."(P8).*

Administrators and support co-ordinators in the team were described as having a *"big role" (P8)* in patient engagement in research and facilitating research administration and have been *"really important in moving the Trust forward"(P6)* in research.

Some participants shared *"there are lots of questions for students to answer in terms of research"(P5)* and research is more suitable for the "*younger half of the team" (P5)* as they have been most recently received training in research skills and knowledge:

> *"With the younger, highly specialist role that's being fulfilled there's more chance of research being kept up to date."(P5)*

On the other hand, it was felt that the newly qualified staff or students shouldn't have the pressure of engaging in research, but rather it should be mandatory for more senior positions in their team:

> *"If you're newly qualified, you should just focus on getting into the grips of working full time and seeing patients etc, I don't think it's fair to put on additional pressures, but a Band six or seven there should be that route."(P2)*

Subtheme 1.4: Organisational

Organisational factors which participants shared in relation to enabling research include infrastructure, supportive leadership, available training, and support in research.

Because the Trust is small, research support is more accessible:

> *“The benefit of the Trust is where it's a community trust it is smaller, you can make a much bigger impact… you've not got all these different, massive departments you’re fighting with.”(P2)*

Various ways research is supported by the Trust include Quality Improvement workshop training which *“upskills people”* in research *(P1),* the library service who are *“really supportive, and have a wealth of knowledge and expertise”(P7)* and a *"responsive” (P6)* research and development team.

Participants felt that research was valued and supported at the Trust, which was not necessarily the case in other organisations:

> *“I've worked in other Trusts and never been so well supported as in this one… I do acknowledge that the Trust does see the value in research.”(P7)*

> “*It’s one of the main reasons I ended up moving to this Trust… there is that support there, that sort of encouragement. I quite drastically changed jobs to get the support.”(P2)*

Funded research showcasing events by the organisation with board or executive representation were considered to be important in evidencing the value of research placed by the Trust:

> *“That's where people say ‘we know there's someone who does research at the organisation, we know there is someone who values research’.”(P6)*

In addition to events, communications about research have built a good awareness of research and research culture at the Trust:

> *“When you look at the communications and all the things that are going on, I think there is a big research culture.”(P3)*

Theme 2: Barriers

Subtheme 2.1: Individual

At the individual level there were barriers to enabling research engagement, covering professional factors of clinical pressures and time, and personal factors such as not having enough research skills, confidence or motivation.

Professional

The main professional barrier was that clinical workload is so demanding or draining that to consider anything on top of that is not wanted or possible:

> *"Our patients are very high need emotionally it's very physically draining. I don't want to take on anything additional or new on top of that because it's already really difficult work."(P4)*

> *"I don't even know if I've got the mental space, because this job is quite draining at times."(P3)*

It can be a challenge to engage in research when it is not a requirement of the professional role:

> *"There is no requirement for anything on top of [clinical], and anything else you do on top of that is fairly much self-directed."(P4)*

Due to stretched capacity and clinical demands, some staff worried about the impact of research engagement on colleagues' workloads:

> *"There's that guilt that the rest of the team are suffering because I'm taking this time out for research someone else has to pick up what you're not able to do… that's the pressure really."(P7)*

Protecting time for research was more difficult when the impact of doing so was not immediate:

> *"I have a lot of [patients] that am clinically responsible for, so having that time out to do any project where the impact isn't immediate or might be delayed is hard."(P5)*

It can be a barrier when academic researchers and the clinical role are felt to be *"two different worlds"(P7),* and the research is not always relevant to the clinical setting:

> *"[Academic's] research is invaluable, but at the same time they're set apart from your typical clinician who has got a caseload to manage…so sometimes it doesn't quite carry over into the general day-to-day life as a clinician."(P7)*

Personal

Personal barriers that prevented engagement in research included a lack of skills or knowledge, a feeling of "*I'm not the right person"(P5)*, previous negative experience with research or a lack of confidence to seek research support:

> *"I wouldn't have a clue where or how to start, or how to go about approaching people for funding. I wouldn't have the confidence to approach anyone."(P3)*

> *"It's imposter syndrome for a lot of people, like 'well how am I going to do that? Am I just going to randomly e-mail this lecturer here?'"(P2)*

Being older can affect confidence to start engaging in research:

> *"There is a general lack of confidence that comes with being older, feeling like not having done this or that, I just look at everyone else who's younger and cleverer than me and think let them do it."(P3)*

Participants felt research is carried out more easily by people in dedicated research roles, as "*it's their job, they are a clinical academic researcher."(P7)*

There was also a concern about ethical tensions in providing an intervention as part of research to selected patients:

> *"If you selected a group to do the research project and in that group you then had increased input compared to normal, then others heard about it, obviously you have to be able to equitably provide the same."(P5)*

Other individual-level barriers included a lack of financial incentives or career progression in relation to the time and efforts taken to complete research projects:

> *"There would be no advantage to me career wise…you hit the top quite quickly and engaging in research, innovation, quality improvement is of no benefit to you in your career, therefore, people don't do it."(P4)*

> *"I could do all this but still be earning the same money… it shouldn't necessarily be the case, but with everything else going on financially I think people have got to think about that."(P2)*

Subtheme 2.2: Management

Management level barriers shared by participants included a perceived lack of understanding and lack of value for research by managers, as well as managers prioritising clinical demands.

Participants felt their managers' priority was to deliver on clinical objectives including waiting times and patient numbers. When research is seen to have a negative impact on these clinical delivery objectives, it isn't supported by managers:

> *"It is literally get the patients in, get them seen and get them out, anything that is not that is just seen as dirty, unwanted and unwelcome, that's both by staff and management."(P4)*

> *“Managers are like, ‘what's that going to do to our waiting times?’ there’s so many of those additional pressures that they feel like it's a luxury that we can't afford is how they potentially view it.”(P2)*

It can be more difficult for managers to dedicate staff time to research when it doesn’t seem to have an immediate benefit or help the clinical demands:

> *“What do they get out of it? It's fair and good if we do this piece of research that is going to help [health care staff] in 10 years’ time but doesn't really help now.”(P1)*

When participants had protected time for research it has been questioned or not approved by managers:

> *“If I blocked out slots in my diary, managers would ask why then decide whether it’s worth it or not… it becomes very bureaucratic, when it comes to the clinics.”(P4)*

> *“It wouldn't have been seen as being interesting by line managers or managers, 'will this help us get more patients through?’ no, it will take you away from seeing patients, so why bother?’”(P2)*

Management and clinical were viewed as two distinct pathways with *“very different psyche”(P6)* with managers not always understanding the value of clinical research delivery:

> *“There is an element of disconnect between the clinical team and management…do I think the senior management in the Trust really understand it? Probably not, but then they're not clinicians.”(P6)*

Furthermore, engaging in research was not recognised or valued for individual developments in appraisals:

“There isn't that one to one or career progression idea of what have you achieved or would like to achieve or what are your learning needs.”(P4)

Subtheme 2.3: Team

Perceived team level barriers include team members not seeing value of research, a lack of interest or skills in research, and capacity.

Some felt their team members do not see research as part of their role therefore do not engage:

“My colleagues would probably say…my job isn't to do research, that's not what I signed up for. I'm here to see the patients and go home.”(P4)

Participants who were interested in research felt they were on a *“lonely venture”(P5)* in being the “*only one in your service who flies the flag”(P5)* for research, and have been seen as different by others in their team:

“Being that slightly different person who was interested…I was seen pretty much as a freak within the service.” (P4)

This could be due to team members lacking confidence, recognition or awareness of research:

“I talk to clinicians and they just go wow, that sounds nice, they just don't know what it is or like what goes on behind the scenes, I think there's probably that lack of recognition.”(P2)

Further to this it was felt that engaging in research was something which was particularly not supported by their team:

> *"I've achieved all this…but coming back into work it was almost a sense of don't mention it, don't acknowledge it, almost a sense of being embarrassed that I was doing something of interest that was not part of the culture of what we do, almost having to hide this under your hat at work."(P4)*

Clinical pressures were a main team barrier. Participants said they wouldn't feel comfortable in asking their team to engage research as "*it would put another pressure on already overworked staff."(P8).* Research can be seen by others as negatively impacting on time and resources:

> *"I think they worry when there's a lot of IT and forms and we are being forced to do more ourselves."(P6)*

> *"They're stretched so thin and maybe haven't done research before, now suddenly being asked to do research they just see it as another thing."(P1)*

Not being aware of anyone else in their direct teams who are engaged in research gives it "*that kind of rarefied air"(P3).* Peer support and teamwork for research was more challenging with autonomous or lone working is practiced in the profession.

A wider team culture of not wanting to change or see value in improving practice prevents research engagement:

> *"The idea of change and standards and accountability is really quite low… it literally is, 'why are you causing this extra work? why are you raising issues about standards? Just keep quiet, keep below the radar. It'll be fine'."(P4)*

Subtheme 2.4: Organisational

Participants shared that there are various aspects of being part of a community NHS Trust organisation that creates barriers to engaging in research, including infrastructure and support services, with comparisons made to acute settings.

In community NHS trusts, services are typically spread over a wide geography rather than having a singular base, for example in a hospital, which can make research involving activities such as transporting blood samples to labs challenging:

> *"We are based all over...and we don't have a team, it's not like having a team of nurses in an acute hospital who will run a trial or a clinical trials department."(P6)*

Participants compared their profession to the medical profession with the view that *"medics do research and they have clinical teaching sessions"(P8)*, particularly those based in hospital settings. With medical staff, research is part of the professional structure, offering research pathways such as clinical academic roles:

> *"With the doctors, part of their CPD and annual progression are teaching sessions, peer review, mini clinical evaluation exercises, it is just part of the culture."(P4)*

> *"It's really common for doctors and dentists to be a clinical academic, there's a set framework, where as in [profession], there is not a real set structure."(P2)*

It was felt that community trusts *"don't really get the same credit"(P7)* as hospitals which can lead to the idea of "*let the hospitals do all that instead."(P4).* Community trusts can be overlooked despite having good research opportunities:

> *"There is a wealth of clinical information and expertise, but because that all happens out of the hospital, I don't think the acute teams necessarily realise what's going on all the time."(P6)*

It was suggested that a lack of awareness around the Trusts' research opportunities is due to limited communication function to promote the organisation, compared to acute hospitals with more infrastructure:

> *"A lot of what we do hits the news by default, rather than us promoting it and saying look what we're doing…acute hospitals have got much bigger sort of comms to support that."(P6)*

Participants felt that the logistics of the Trust prevents research from being able to take place or opportunities to approach the Trust, particularly as there are no teaching hospitals or universities close to the Trust in the region:

> *"It all stems from not having a [profession] school, hospital or teaching hospital in the Eastern region. In other regions they're so used to quality improvement and audit… but we're, just, the culture isn't there."(P4)*

> *"We are quite far from the university, so don't know if they would spontaneously turn to us as a service."(P5)*

This can affect student placements "*not being taken up"(P5)*, which subsequently has a negative impact on potential research engagement by student cohorts.

Participants shared they are aware of colleagues who have left the organisation for positions in hospital organisations to access opportunities which they were not able to at the Trust:

> *"I could name 5 very good [staff] in our service that we've lost in the past number of years who've gone to teaching hospital X, teaching hospital Y because they have those opportunities there."(P4)*

This leads to a cycle of low research culture:

> *"Those places attract the people who want to do research and our place attracts the people who don't, they stay comfortable and think within this service I don't have the pressure or additional expectation of doing research."(P4)*

There are challenges in accessing support from the Trust research team and consequently have not been able to take research ideas forward:

"I think your department is running fairly low… you're busy too… I just need some sort of direction and generally talk it through."(P8)

"It just went round and round [with questions], it was just so complicated to try to even approach this…on top of doing all the clinical stuff it became such a big thing I thought I'm just gonna leave this then."(P4)

It was felt there is not much awareness around the research team or support available for research at the Trust:

"I find this Trust very supportive and aware in general, but in terms of research it's not front and centre, I find I have to seek it out."(P8)

"The people that are coming to you for research aren't going to be the people that probably need the most help…I don't think people would know what your remit is." (P1)

Alternatively, the barrier was viewed to be the organisations wider infrastructure for research support pathways, as they are *"not part of the funding and the commissioning of the services in the region."(P4)*

Theme 3: Impact Of Covid-19

The COVID-19 pandemic has had an ongoing impact on professional practice and participants reflected on how this has changed research engagement.

Since the pandemic, services have been in crisis management and participants described feeling under pressure to deliver and meet demands more quickly. This has meant that crucial steps of doing research before implementation can be overlooked:

> *"[Research] has been devalued…it's like a mindset from COVID that we need to get these things out as quickly as possible…that behaviour seems to have carried on."(P1)*

Prior to COVID-19, participants felt that there was more time to engage in research, but the clinical pressures, low morale and exhaustion of staff since the pandemic have made this more challenging:

> *"COVID disrupted us enormously, before, I was able to grab the time to do very minor research… but since COVID the pressure to see patients has been so high that just getting time to breathe is much harder."(P8)*

Joining the Trust during COVID-19 was a limiting factor in understanding of the organisation and awareness of research:

> *"I wouldn't know where to start, I joined the Trust at a really difficult time and I barely even got an induction before COVID hit. I've been totally focused on trying to work out how to do my job."(P3)*

The change to online working from COVID-19 has had benefits, as remote appointments with patients are often more convenient and online meetings for collaboration, teaching and innovation are quicker and more accessible:

> *"There's a good amount of training now especially after COVID…one of the benefits of teams that we can all access a lot more in terms of workshops and clinical teaching."(P8)*

However, it was reflected how the change to online was challenging for professionals initially as there was a *"technology panic, having to learn really quickly"(P8)* and created significant changes to team working:

> *"COVID separated me from the team… I've become much more distant from my team now…everything changed basically."(P8)*

Online and virtual placements were seen to have a negative impact on students feeling overwhelmed in the workplace having limited practical experience, which makes prioritising research in practice more challenging:

> *"With virtual placements, they're so busy trying to get their head around the practical everyday implementation of what they've learned."(P5)*

It was reflected that COVID-19 had an impact on pausing of research studies which were already running or being set up. Before COVID-19 there was more capacity for individuals to attend research conferences and one participant reflected that because of COVID-19, successful research events stopped and have not yet been resumed. However, participants have started experiencing a shift recently post-COVID-19, with a more considered research approach slowly able to resume:

> *"This is the first year where it feels like it did before COVID, where we sit down and think 'what's the best way to do this? How can we do this? What's the right approach' and all that kind of thing."(P1)*

Theme 4: Suggestions for Improvement

Participants made suggestions on specific actions to improve engagement in research at the Trust. I grouped these into subthemes: skill development, peer support, opportunities and awareness.

Subtheme 4.1: Skill development

To be able to engage in research, teaching or refreshing of research skills from previous qualifications is needed. Providing research skills support is beneficial as "*upskilling and encouraging then improves retention."(P2).*The library service and literature searching was suggested as a first step to engaging staff in research:

> *"The first step is getting more people with an Athens login. Second step is getting people happy to search and try to identify the gaps, and then you move on from there."(P5)*

Participants felt that a simple beginners guide to research would be useful. Quality improvement academic training sessions (QI Academy), delivered by the Trust were suggested as the starting point to develop key skills and knowledge in research:

> *"The whole point of the QI Academy is to upskill people…to lead a project and to do the proper approach…the training is the first step."(P1)*

It was also suggested that the research team could get more involved in the quality improvement training by endorsing it or facilitating some of the sessions, as this will raise the profile of QI and of the research team:

> *"People in the QI Academy will see that the research team do that and they've endorsed this, but if I ever need to do something else that's bigger I will go to them."(P1)*

Subtheme 4.2: Peer support

Participants felt it was important that "*if people do have ideas or are wanting to be involved, there are opportunities for people them like to discuss with research people."(P2)*. A collaborative platform to share research was seen as useful for peer support in research "*trying to support each other to make it as efficient and functional as possible."(P5).* Fortnightly or a monthly drop-in session with research team representation, or a forum to share ideas or ask questions about research were suggested:

> *"An informal thing to encourage people and get people that are interested to come regularly, then you can build a community of people that are interested and go from there."(P2)*

Having peer examples or role models in the Trust who have been able to engage in research would help others to "*be aware that these opportunities are out there*.*"(P2).*

Trust events showcasing research were suggested as an opportunity to share work and have *"keynote speakers to hopefully inspire others to do more"(P6)* research. These were previously funded by the Trust but have not resumed after COVID-19.

Subtheme 4.3: Opportunities

Ensuring there is awareness about opportunities in research early in careers was suggested, as some people "*think that you have to wait to be a Band 7, Band 8A, 8B before you can start to go into research which just isn't the case"(P2).*

It was felt the drop-in research sessions can be the first step, then having opportunities such as the research champion programme, or research internships shows a progression route for development. Participants reflected this as a strategy for building research culture seen in other Trusts:

> *"With the big Trusts, when people first come in it's like these are the different opportunities for you, so it's like getting people on to that conveyor belt a lot earlier."(P2)*

It was viewed that the Trust may need to develop research roles to enable those who have engaged in research opportunities to continue developing, such a clinical academic role after completing PhDs or doctoral fellowships. This is seen in other Trusts, where job descriptions are being amended for Band 7 positions, for example senior nurses or senior physiotherapists:

> *"They are allocating protected time, such as 10-20%, to explore research opportunities or think of ideas that you think might be useful to then go to the research team and start to formulate it."(P2)*

Participants reflected that for effective change it needs to come from "*support of the top"(P5),* therefore suggested that research should be highlighted more as part of the Trust strategy being led by the board. Opportunities for leadership representation at showcasing research events was suggested as it *"shows research is valued at the Trust" (P6)* and *"is a good way of making sure [leadership] know what's going on."(P6).*

Some participants referred to operational research opportunities which could be accessed if there were more resources. One function could be the SystmOne patient

database used across some Trust services which is currently "*not user friendly or specific enough"(P6)* to support data for research:

> *"It would be much better if it was all in SystmOne…to pull all the data…but we're not really there with that accuracy that's required for a clinical research project."(P6)*

Having research team support based in the clinical setting would enhance research opportunities and engagement:

> *"There are lots of things that we could do, having [research team members] based in the clinical building, the clinical research could flourish… you won't get that unless [research team members] are released to come out to be with the clinical teams."(P6)*

Subtheme 4.4: Awareness

Participants felt the *Comms Cascade*, a fortnightly Trust-wide news bulletin which includes a section on research, has a large amount of content so research is overlooked. Additionally, the intranet is confusing to navigate so there is a feeling of not "*knowing where to look"(P3)* for research. It was suggested that it would be better if there was a separate research bulletin:

> "*If it was more targeted, like a separate research thing, then those people who were interested in it would read it."(P7)*

Communications about opportunities to get involved in research would be helped by leadership endorsement:

> *"Including it in when [leadership] does the weekly comms or just regular emails about the benefits of research and emailing managers, just really pushing it."(P2)*

More awareness and promotion of the research team within the Trust is needed with a "*big badge saying research"(P8)* as it was noted "*you might think that lots of people know who the research team is, but every year there is a high turnover of staff"(P2)*.

It was also felt external communications could be more promotional as this would increase research opportunities for the organisation:

> "*Getting the news coverage [means] suddenly you are someone that people want to come to and ask, success breeds success in this sort of thing"(P6).*

Building relationships and links with universities was seen as an important factor to improve future engagement for individuals and the wider Trust:

> *"It's like a three-way triangle: the university, the research team and the clinician. If you get those relationships working well, you'll get better engagement and benefit more people."(P2)*

5.2 Summary

In this chapter I have presented the findings from my phase two interview framework analysis. The findings from the phase one survey were explored in more depth across the themes covering enablers, barriers and the impact of COVID-19 on research engagement. The 'suggestions for improvement' theme outlined action points and areas of development identified by the participants which will be significant when informing an

improvement plan, discussed further in chapter 6.4. The key points from the phase two analysis are summarised:

- Research being viewed as part of the professional role was a key enabler, at an individual, team and management level.
- There were various motivations to engage in research including academic recognition, financial incentives, and job satisfaction.
- Managers' level of awareness and support for research was an important factor.
- Administrator support was key to supporting research in teams.
- A research strategy supported by leadership at both the team and organisational level was important.
- The priority of clinical demands was a key barrier impacting on protected time for research, seen across the individual, management, and team levels.
- Lack of research training, recognition and awareness for individuals and teams were preventatives to engaging in research.
- Organisational barriers included logistical and geographical challenges, infrastructure and access to research support.
- Impacts of COVID-19 have been both positive (e.g. increased collaboration) and negative (e.g. pressure on students). The pandemic has an ongoing impact on research engagement.

In my final discussion chapter, I synthesis and discuss my phase one and phase two findings within the context of wider literature. I outline the implications of this research and make recommendations for practice.

Chapter 6: Discussion

This chapter locates my findings in relation to the current literature, context, and relevant theories. The implications of my research for development and improvements in practice are discussed, and I reflect on my role and impact as an insider researcher.

6.1 Research and Development Culture

Differences between professional groups in research and development culture were found in the survey R&DCI scores (Watson et al., 2005; Hollis et al., 2019). The highest overall score for R&DCI was in the student group. This is interesting in that there were also discussions raised in the interviews about the importance of students for supporting research with 'up to date' training and knowledge. However, due to there only being one participant in represented in this group, it was limited in further analysis and also generalisability (Creswell, 2014). Allied health professionals, nurses and midwives had the highest overall research and development culture score across professions, demonstrating that support, skills and intention for research are relatively high for these groups in the Trust. This may reflect a growing culture for research in these professions, which is particularly relevant considering the emphasis on these historically under-represented groups through research strategies set in recent years for nurses (NHS England, 2021), midwives (Royal College of Midwives, 2020) and allied health professionals (Health Education England, 2022). This is also reflected in the literature as there appears to be significant focus on evaluating research capacity and culture in allied health professionals and nurses to be able to inform developments for

research in these groups (Luckson et al., 2018; Gimeno et al., 2021; Comer et al., 2022; Cordrey et al., 2022; Caldwell et al., 2017; Britton et al., 2023). Although there was good representation from these groups in the Trust in both the survey and the interview sample, it will be important to continue to focus explorations on engagement with these groups. This will further understanding in how to address any arising challenges and support these professions, given the focus on increasing research capacity for these groups.

6.2 Barriers and Enablers

My research identified barriers and enablers to research engagement across the Trust. The most reported barrier to research across the organisation identified in both the survey responses and interviews was lack of protected time. This reflected the literature in which protected time has been identified as essential for research engagement across professional groups and seniority levels (Gilbert et al., 2016; Lowrie et al., 2015; Comer et al., 2022; Harrison, 2005). Lack of protected time was discussed in relation to the level of support from managers for research with clinical demands taking priority, as seen in other studies (Luckson et al., 2018; Lowrie et al., 2015). A lack of priority for research in roles reflected the literature (Comer et al., 2022; Lowrie et al., 2015). Marjanovic et al's (2019) review also identified that a failure to recognise research contributions in job plans, appraisal systems and career pathways was a major challenge for effective NHS staff engagement in research. DHSC outline a strategy to embed clinical research delivery in NHS roles (DHSC, 2021, p.13) and NHS England recognise that developing research careers and opportunities requires having protected time (NHS England, 2023a). Suggestions to do this are inclusion of research in job

plans and joint appointments across health and care providers and academic institutions (NHS England, 2023a). Despite this, my findings suggest that more awareness and development is needed to ensure both staff and managers perceive research to be part of delivering the professional role. In the literature, a large proportion of nurses and AHPs surveyed identified that research is not part of their job plan (Britton et al., 2023). The suggestions made in the interviews to embed research into job descriptions and have clinical academic roles and pathways available is worth exploring further. The practicalities and implications of this should be considered to address the significant barrier of lack of protected time, to make priority for research within roles and embed research into practice. This is applicable for professions both within the organisation and more widely.

There are various ways in which NHS staff can engage in research (Marjanovic et al., 2019). The findings of my research showed that whilst many participants have had an active involvement in research delivery, for example screening and data collection for studies, it was felt contributing to studies in this way often resulted in limited recognition and therefore there was less interest in doing these activities. There is a strong evidence base from social science studies that staff are motivated to gain recognition (Barends et al., 2022). Recognition can positively influence engagement and performance in the workplace (NHS England, 2023a; Barends et al., 2022) and more specifically, motivate contributing to research (Evans et al., 2013). It has been found that even when recognition is small such as a thank you card for contributing, it can have a huge effect on staff feeling recognised and rewarded (Bradler et al., 2016). Participants in my research showed more willingness to engage in research activities

which would receive more recognition, such as leading a project or being an author on a research publication. Therefore, ways to encourage and recognise efforts for engaging in research studies, at all levels, should be considered in depth to improve motivation for research.

The desire from participants to develop and deliver their own research ideas or projects requires further discussion. In the suggestions for improvement actions, skill training development sessions, peer support groups and research team support mentoring were outlined as ways to potentially enable staff to lead and produce their own research. However, available resources and time for this must be considered. In the Trust research team, a significant proportion of the posts are funded by the CRN to support portfolio research studies across services, involving the Trust acting as a 'site' to deliver the research activities such as eligibility screening, data collection and deliver interventions locally for the study sponsor (NIHR, 2024). Due to funding, much of the resources are focused on portfolio delivery, however, there is dedicated mentoring support for staff to develop research ideas and complete projects, for example as part of research degrees. Staff projects often tend to be small scale and time intensive which could present challenges to deliver within professional practice. There is also a capacity limit on what support can currently be offered by the research team. However, it is important to recognise the evidence that progressing individuals in their research careers enables staff fulfilment and further contribution to research for health service improvements (Bateman et al., 2006; McNicholl et al., 2008). In addition, increasing the ability of individuals to use research has been found to positively impact on the wider research system (Marjanovic et al., 2019; Boaz et al., 2015). This evidence, and the

findings that staff at the Trust wish to develop their own research, suggests that ways to support staff to develop and lead their own research must be considered further. This may require a review of the current resource allocation and levels of support for staff which can be offered by the organisation and more specifically, by the research team.

6.3 Impact of COVID-19

My findings highlight that the COVID-19 pandemic had a significant impact on clinical practice and continues to be a contributing factor to research engagement. An initial question around COVID-19 was included in the survey to situate my research within the current context. Reflections of COVID-19 were made persistently throughout the interviews indicating it as a poignant issue in professional and personal life more widely. This reflects the wider literature on the impact of COVID-19, such as on nursing students' resilience, both personally and professionally (Henshall et al., 2023). The findings from my research showed negative and positive impacts of COVID-19 changing practice, but ultimately, it remains a factor which affects the extent to which professionals can engage in research. This adds to other literature which has used local level evaluations to explore the short- and long-term impacts of COVID-19 on health research within an NHS organisation (Wyatt et al., 2021). It is valuable to recognise the ways COVID-19 has had an impact, and identify post-pandemic changes to practice, as this will inform appropriate ways to support research going forward in the changing landscape of clinical research in the NHS (Park et al., 2021).

6.4 Suggestions for Improvements

Literature exploring barriers and enablers of engaging in research for staff has also focused on asking what individuals would require or want from an action plan for research improvement (Gilbert et al., 2016; Bench et al., 2019). This was replicated in this research, which identified a 'suggestions for improvement' theme from the interviews. This theme provided rich detail referencing a desired direction or specific action which would either help the individual, teams or the wider organisation to engage in research.

6.41 Recommendations for Practice

The following summarises recommendations for practice and action points for the Trust research team to consider. These points could also be considered in other similar settings:

- Raise awareness of research team and make it clear what support the research team can provide.
- Provide research skills training, including raise awareness of access to the library service and link with the QI skills development.
- Embed research team members in the clinical setting for research delivery support.
- Ensure resource for staff to discuss and develop their own projects and ideas with the research team.
- Hold research showcasing events, which include representation from leadership.

- Create a focused research newsletter or bulletin for research news and opportunities.
- Highlight research as a Trust strategy, including leadership/ management endorsement and encouragement of opportunities.
- Support research communications externally to raise the research profile of the Trust.
- SystmOne/ patient database development to enhance data use for research.
- Create a peer support research forum, e.g drop-in research sessions.
- Build links with universities and academics.
- Develop dedicated research and clinical academic role opportunities and include research element in job descriptions.

These recommendations are invaluable to the research team and will be taken forward in plans to inform improvement strategies. Organisations may choose to carry out their own local level explorations, as I have done, and as seen in other literature to tailor strategies to professional groups or settings (Cordrey., 2022; Gilbert et al., 2016; Bench et al., 2019). However, the recommendations found by this exploratory research using a multidisciplinary organisation offers transferable action points which can be considered by other NHS organisations aiming to build research culture.

6.5 Insider Research and Reflexivity

Insider research refers to when researchers conduct research with populations of where they are also members (Kanuha, 2000). As I was undertaking this research with Trust staff on behalf of the Trust in which I work as a member of the research team, I

was therefore an ‘insider researcher’ (Braun & Clarke, 2013). This required a level of reflexivity throughout the research to acknowledge how my role and personal assumptions made an impact on the research process and potential insights into the data (Braun & Clarke, 2021; Fleming, 2018). I kept reflexive journals where I engaged in thoughtful reflection of internal insights, recorded methodological decisions, and rationale of the research process (Tobin & Begley, 2004), which was particularly useful for the qualitative analysis in both phase one and two (Appendix 5.5 & 6.5) and overall reflections (Appendix 7).

A key advantage of being an insider research is the ‘pre-understandings’ the researcher brings to the design of the study (Brannick & Coghlan, 2007). As I was embedded in the Trust research team, I had good understanding of the issues being explored and of the organisation, which meant I could build rapport more readily in the interviews and facilitate meaningful social interactions (Rubin & Rubin, 2012; Gabbert et al., 2021). Due to my confidence in understanding the topic and research questions I could provide a level of flexibility throughout the interviews and tailor questions to the interviewee’s experiences and roles, which can allow respondents to engage more deeply with the interview (Lindlof & Taylor, 2017). However, being an insider researcher and known as a member of the research team also created challenges during the interviews. Participants often presented me with queries about the research team, asked for support or updates about a certain project. I needed to strike a balance between building trust and holding a natural conversation (Dwyer & Buckle, 2009), whilst separating my role within the Trust research team from my role as a postgraduate researcher. One strategy to minimise bias which I employed was to begin the interview

with a disclaimer, and informed that this research was being undertaken for the first time by myself in a postgraduate position (Chavez, 2008; Fleming, 2018). Then, during the interviews I noted anything down that related to questions about research in the Trust or support, to revisit when the interview had drawn to a close. This allowed me to fulfil my professional, as well as my research role, both of which are about supporting staff to engage in research.

Insider research was also considered for my methods in disseminating recruitment information. I could have presented the research as an external neutral academic project to limit bias. However, I perceived addressing my position in the research team and including why this research is being conducted at the Trust as more beneficial for engaging staff. Using the Nhs.net email for communications indicated that the survey was coming from a familiar, and trusted, internal NHS Trust email address, which is a method used in similar literature exploring this topic within an organisation (Gimeno et al., 2021; Luckson et al., 2018).

My role situated in the research team in the Trust meant that I was connected to the participants, albeit to different degrees, which I felt emphasised the duty to maintain anonymity and confidentiality of my colleagues (Brett & Wheeler, 2021). Addressing this, I carefully considered the analysis and presentation of the interview findings, which have been discussed in detail in chapters 3.36 and 6.6.

6.6 Limitations

Due to the relatively small sample and this research being within one organisation, much consideration was given to maintaining participants' confidentiality.

For the interviews, I identified professional groups and service groups from the population as potential good sources of information, to determine a purposive sample which would provide the richest and most relevant data (Becker et al., 2012). Including the characteristics with the P-identifiers for the analysis and results involving direct quotations would have made a valuable contribution to understanding differences between groups. However, I determined that the confidentiality of participants was paramount to this (Brett & Wheeler, 2021; Stam & Diaz, 2023). Moreover, the small sample size meant limited characteristics of participants were included for interviews. To be able to transfer these findings to the wider professional or service group obtaining a larger sample from selected identified groups of interest would be valuable. This would help to build further understanding of between group differences and therefore could inform more tailored improvement strategies if there are areas of focus (Gilbert et al., 2016; Bench et al., 2019).

Participants often referenced leadership, including management, executives, and wider Trust board, as key to encouraging research for individuals and developing research culture in the organisation. Managers were represented in both the survey and interviews through participants indicating ‘line management responsibilities’ in the demographics. I made efforts in the recruitment strategies to include senior members of the organisations, such as presenting at the leadership and wider executive team forums, with an audience of approximately 250 senior members and sending targeted emails to service managers. However, due to the institutional structure of the NHS, it is possible these participants were in a clinical or non-clinical position, with line management responsibilities, without necessarily solely fitting the ‘management’

definition. Examples of these positions are service managers, clinical leads, or clinical managers, who may still deliver some clinical responsibilities. It was also unknown what percentage of the sample were in leadership positions. I was therefore not able to distinguish differences or draw conclusions about management or leadership groups using the characteristic of 'line manager'. This would have provided a valuable perspective, considering the literature identifying the significance of management on research engagement (Bench et al., 2019; Luckson et al., 2018).

6.7 Suggestions for Further Research

While a relatively small project, my research nonetheless highlighted some important issues and gaps in the literature. As highlighted by the limitations, there are some areas which would benefit from further exploration including a more focused project with:

- Management and/or leadership sample.
- Identified professional groups of interest.
- Identified service groups of interest.

It would also be valuable to further explore staff views on recognising and rewarding engagement in research, to explore ways in which those who engage in research are best encouraged to continue to do so within the organisation.

6.8 Conclusion

This research has provided an understanding of the views and experiences of community NHS Trust staff members on research engagement. It has provided a

baseline measure of research and development culture across the organisation. The findings outlined key action points which will inform the development of improvement strategies to increase research engagement and build a research ready workforce.

The next steps following completion of this thesis will be to disseminate the findings in a Trust level summary report, particularly to engage leadership and manager groups, and the research team. Preliminary results of this project have been disseminated and will be presented at the 2024 Research and Development Forum conference. The findings will also be shared with interested stakeholders including community trust groups, universities and the East of England Clinical Research Network. The wide interest in this project highlights the growing focus in understanding and developing engagement in research for professionals in the NHS, for which this research provides a valuable addition.

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APPENDICES

APPENDIX 1: Workforce Flexibility Building CRN EoE Bank Scheme Summary

(Attachment via Email)

Workforce Flexibility Building: CRN East of England Bank Scheme

Esther Thomas, Workforce Development Lead and Martin Batty, Deputy COO

Aim

To proactively respond to peaks in workforce demand CRN East of England (EoE) aimed to develop and implement a scheme to facilitate partners in filling short-term gaps in staffing.

Background

Within the East of England Partner Organisations (POs) have had some success using Organisational Bank Staff and NHS Professionals to boost their workforce during times of pressure, particularly during the Covid pandemic. However, this model has not proven to be sustainable in the long term. POs have frequently stated that it can be challenging to effectively utilise in-year funding as it is difficult to attract staff into short-term contracts, bank staff with research skills are difficult to find, and staff who are already providing extra hours are not always keen on doing more hours. This funding could be used to develop and appoint bank staff with the appropriate skills, and support extra hours for the existing workforce.

The Scheme

During 2021/22, a project was successfully piloted, whereby secondary care POs were given funding (£10k per partner) to establish and build a team of Research Nurses/Practitioners/CTAs/Data Managers or other related staff, employed by the bank on a zero hour's contract. Central to the project was the idea that building a team of appropriately trained bank staff would enable a rapid expansion (and contraction) of the workforce to match the ebb and flow of work pressures. The bank scheme continued into 2022/23 with additional ring-fenced funding set aside to support the scheme, which Partners could apply for using a simple Google Form. As the way vacancies are managed has changed for 2023/24, with partners given greater autonomy over their own budget allocation, partners are still able to access these staff banks but using their own funding allocation rather than applying to CRN EoE.

Utility of the scheme and the future

The bank scheme has proven itself invaluable in helping organisations to manage shortfalls in staffing, whether due to peaks in workforce demand, or gaps in workforce availability. The scheme allows short-term flexibility through a readily available and trained workforce, which can contract to match peaks and troughs inherent in the healthcare and research environment. The scheme has evolved since its initial inception, from one in which partners applied for funding into a more autonomous offering in which partners 'own' their staff banks, which are self-sufficient. As we head toward the next financial year and look forward to a new organisational entity with the forthcoming Research Delivery Network and Regional Research Delivery Networks, the scheme is likely to continue and expand further to facilitate the delivery of research trials across an ever wider remit.

APPENDIX 2: Literature review search strategy

APPENDIX 2.1: PRISMA-ScR Checklist (Triccio et al., 2018)

Table. PRISMA-ScR Checklist

Section	Item	PRISMA-ScR Checklist Item
Title	1	Identify the report as a scoping review.
Abstract		
Structured summary	2	Provide a structured summary that includes (as applicable) background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.
Introduction		
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.
Methods		
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).
Summary measures	13	Not applicable for scoping reviews.
Synthesis of results	14	Describe the methods of handling and summarizing the data that were charted.
Risk of bias across studies	15	Not applicable for scoping reviews.
Additional analyses	16	Not applicable for scoping reviews.
Results		
Selection of sources of evidence	17	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.
Characteristics of sources of evidence	18	For each source of evidence, present characteristics for which data were charted and provide the citations.
Critical appraisal within sources of evidence	19	If done, present data on critical appraisal of included sources of evidence (see item 12).
Results of individual sources of evidence	20	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.
Synthesis of results	21	Summarize and/or present the charting results as they relate to the review questions and objectives.
Risk of bias across studies	22	Not applicable for scoping reviews.
Additional analyses	23	Not applicable for scoping reviews.
Discussion		
Summary of evidence	24	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.
Limitations	25	Discuss the limitations of the scoping review process.
Conclusions	26	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.
Funding	27	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.
* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.
† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).
‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.
§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy documents).

APPENDIX 2.2: Literature search planning

Search Planning Form

Question: what are the perceptions of NHS staff on engaging in research?

Concept 1	**Concept 2**	**Concept 3**
Health care staff	**Perspectives**	**NHS setting**

Alternatives keywords, terms and phrases below

Concept 1	**Concept 2**	**Concept 3**
Health care personnel	perspective*	NHS
OR Health care professionals	OR perception*	OR National Health Service
OR Health care staff	OR attitude*	OR UK
OR NHS staff	OR engagement	OR united kingdom
	OR culture	OR England
		OR Wales

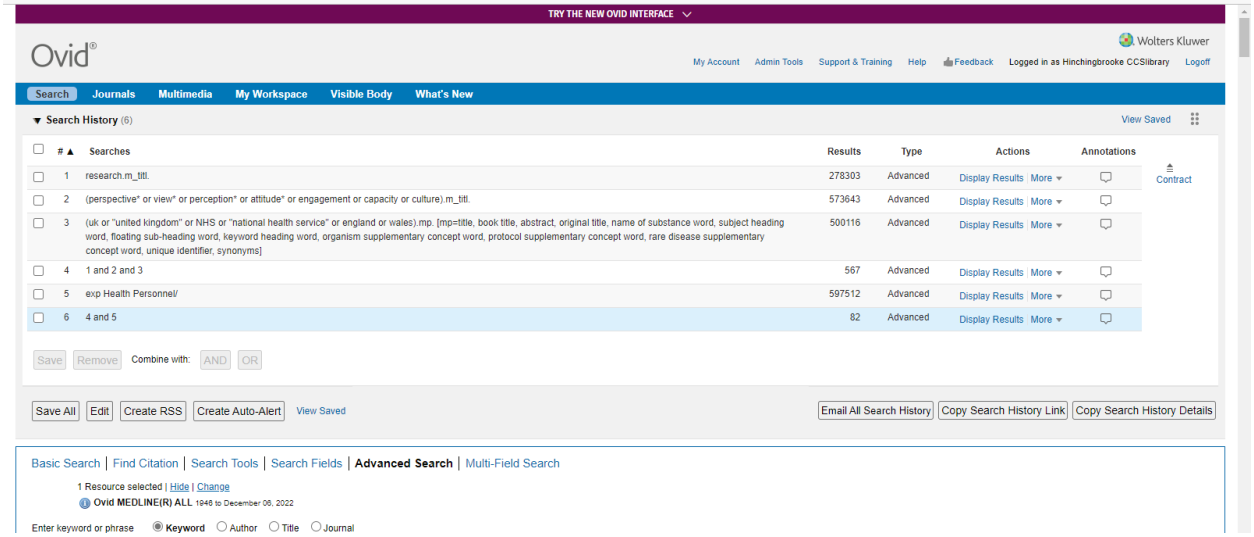
Search commands such as boolean operators, synonyms, truncation were used to develop combinations of search keywords. The use of **OR** would include alternatives to broaden the search, whereas **AND** would combine keywords (Aveyard & Payne, 2016).

The search string was developed: free text terms of 'Research' *(in the title)* **AND** (perspective* or view* or perception* or attitude* or engagement or capacity or culture) *(in the title)* **AND** (uk or "united kingdom" or NHS or "national health service" or england or wales) *(keyword search).* The free text terms were used in conjunction with Medical Subject Headings for each database for "research" and "healthcare personnel" and exploded both terms to focus the search

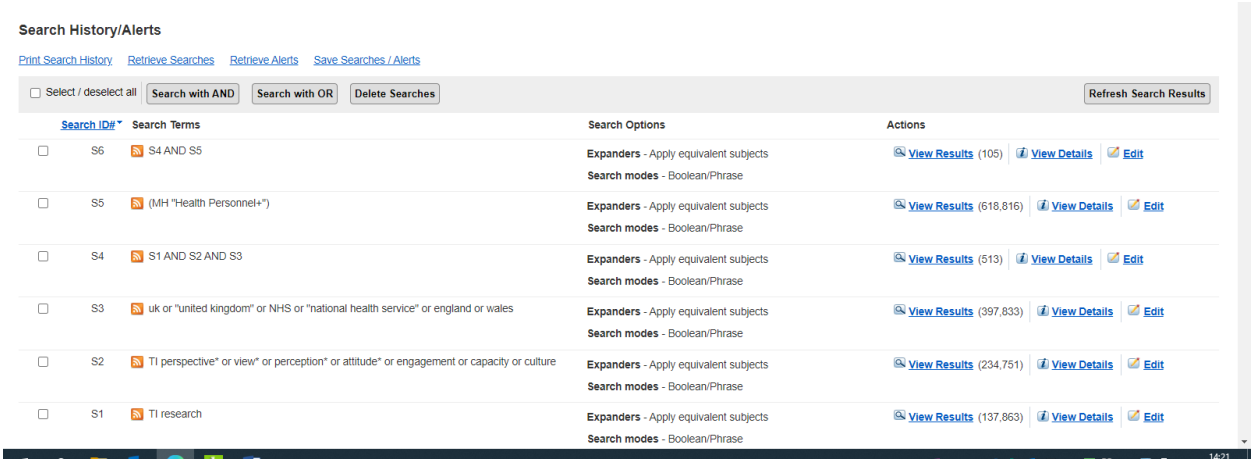
APPENDIX 2.3: Database searches

The string search was inputted to PubMed, Medline and CINAHL.

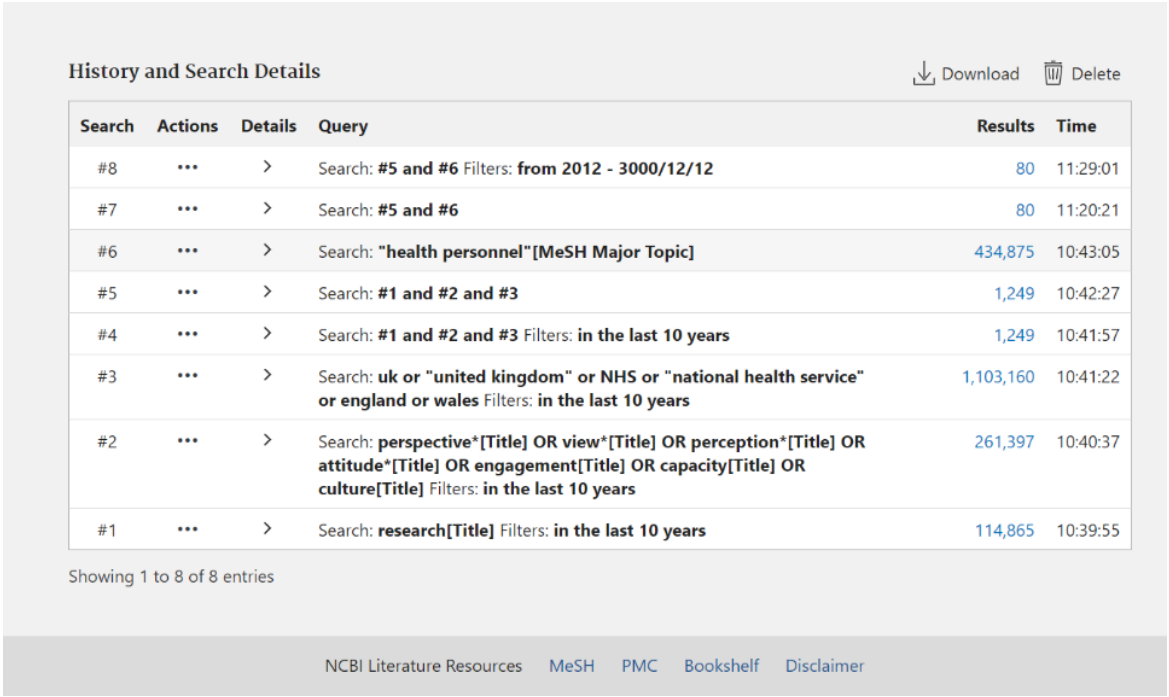
Medline



CINAHL



Pubmed



History and Search Details

Download Delete

Search	Actions	Details	Query	Results	Time
#8	•••	›	Search: **#5 and #6** Filters: **from 2012 - 3000/12/12**	80	11:29:01
#7	•••	›	Search: **#5 and #6**	80	11:20:21
#6	•••	›	Search: **"health personnel"[MeSH Major Topic]**	434,875	10:43:05
#5	•••	›	Search: **#1 and #2 and #3**	1,249	10:42:27
#4	•••	›	Search: **#1 and #2 and #3** Filters: **in the last 10 years**	1,249	10:41:57
#3	•••	›	Search: **uk or "united kingdom" or NHS or "national health service" or england or wales** Filters: **in the last 10 years**	1,103,160	10:41:22
#2	•••	›	Search: **perspective*[Title] OR view*[Title] OR perception*[Title] OR attitude*[Title] OR engagement[Title] OR capacity[Title] OR culture[Title]** Filters: **in the last 10 years**	261,397	10:40:37
#1	•••	›	Search: **research[Title]** Filters: **in the last 10 years**	114,865	10:39:55

Showing 1 to 8 of 8 entries

NCBI Literature Resources MeSH PMC Bookshelf Disclaimer

APPENDIX 2.4: Data Extraction Table

Including Aims, Design, Context, Findings, Implications and Critical appraisal RAG rating of selected papers in the review

Publication/date/ authors	Title	Aims/purpose	Design/methods	Context/setting/ sample	Findings	Implications	Critical appraisal RAG
Cordrey et al., 2022	Exploring research capacity and culture of allied health professionals: a mixed methods evaluation	To explore current research capacity and culture of AHP, to inform tailored research capacity building strategies at a local level	Mixed methods: survey incl. RCC tool, and focus groups	93 AHP (survey), 60 AHP (focus groups), single department, NHS foundation Trust	Five themes from focus group: empowerment, building research infrastructure, fostering research skills, access for all: positive research culture. AHPs recognise benefits of research at team and department level but marginally at individual level	Local strategies to build research capacity building should aim to address role, responsibilities, and barriers to AHP research development at individual level.	
Luckson et al., 2018	Exploring the research culture of nurses and allied health professionals (AHPs) in a research-focused and a non-research-focused healthcare organisation in the UK	To explore the influence of research focused exposure on the research culture of nurses and AHPs in the UK, to explore any difference in research culture between research-focused and non-research focus clinical area	Mixed methods: Survey incl. RCC tool, focus groups, interviews	224 (survey), Nursing and AHPs (focus groups) senior managers (interviews), hospital NHS Foundation Trust	No difference in research culture score between nurses and AHPs. Lack of support at middle management level is a barrier to research.	Need to include a whole-level approach In organisation to improve research culture and crucial communication issues and a lack of support at the middle management level need to be addressed to improve research culture.	
Lowrie et al., 2015	Research is 'a step into the unknown': an exploration of pharmacists' perceptions of factors impacting on research participation in the NHS	To explore National Health Service (NHS) pharmacists' perceptions and experiences of pharmacist-led research in the workplace	Qualitative: Interviews	54 Pharmacists, GP and secondary care, NHS	Lack of prioritisation of research was greatest barrier, and perceived lack of support from managers. Staff realise desirability and necessity of research for service provision, a combination of individual and professional level changes is needed to increase activity	Provide starting point for understanding mindset of hospital-based and general practice-based pharmacists towards research, as well as their perceived barriers and supports	
Bench et al., 2019	Orthopaedic nurses' engagement in clinical research; an exploration of ideas, facilitators and challenges	To explore orthopaedic nurses' views regarding the research priorities for neuro-musculoskeletal care and the perceived barriers and facilitators associated with their engagement in the research process.	Mixed methods: survey and focus groups	75 Nurses, Orthopaedic hospital NHS trust	Little evidence of research engagement. Themes from focus group include research activity, priorities and motivation, culture and leadership and resources.	Key to research building success in the nursing workforce will be developing effective leaders who can create a positive and supportive research culture across an organisation	
Comer et al., 2022	Allied health professionals' perceptions of research in the United Kingdom national health service: a survey of research capacity and culture	To explore current research capacity and culture of AHPs	Mixed methods: cross-sectional survey, incl. RCC tool and free text	3145 AHPs, National, NHS	Individual and organisational level research skill/success perceived as adequate. Inadequate research skill/support at team level. Individual motivation to engage in research, to develop skills and for job satisfaction. Barriers include lack of prioritisation, and time.	Benchmark provided for AHP research perceptions, capacity and culture across the NHS	

Gilbert et al., 2016	Identifying barriers and facilitators to engaging in clinical research within an NHS Therapies Department: results of a listening exercise	To explore barriers and facilitators to engaging in clinical research	Qualitative: Focus groups	23 HCP, single therapies department, hospital NHS Trust	Protected time essential to engage in research activities across all seniority bandings. Various action plan ideas from staff useful	Explored barriers and facilitators but also asked the direction of what staff would want to see included in an action plan for research which have direct implications for an improvement project	
Gimeno et al., 2021	Frontline Allied Health Professionals in a Tertiary Children's Hospital: Moving Forward Research Capacity, Culture and Engagement	To gather staff views on indicators of research capacity and culture at an organisational, team and individual level in a tertiary children's hospital	Quantitative: survey incl. RCC tool	166 AHPs, Tertiary Children's Hospital NHS Trust	Research-related skills and research capacity perceptions of individuals were significantly lower than their perceptions of the Organisation or Team. Research engagement was widely supported but with many barriers	Based on the results, multi-layered strategies and processes proposed to build research capacity and culture aimed at the individual level within their team	
Caldwell et al., 2017	Research awareness, attitudes and barriers among clinical staff in a regional cancer centre. Part 1: a quantitative analysis	To establish the levels of research awareness and attitudes among clinical staff groups in a regional cancer centre and identify any barriers to participation in research.	Quantitative: survey	123 Clinical staff in a regional cancer centre, NHS	Positive attitude toward research. Main barriers: lacking the required knowledge, skills and training, lacking support from managers, and lack of opportunity or time to be involved in research.	Implementation of a specific action plan based on the recommendations	
Britton et al., 2023	Barriers to research progress for perioperative care practitioners working in cardiothoracic surgery	To explore attitudes towards health research and audit, and to identify current challenges and barriers to surgical research and audit as perceived by cardiothoracic nurses and allied health professionals	Quantitative: survey	160 cardiothoracic nurses and AHPs Hospital, NHS Trusts	Research and audit are valued. Time and lack of priority identified as main barrier. More training and awareness is needed.	Identified views in a under-research group. Further understanding is needed to build strategies.	

APPENDIX 2.5: MMAT tool

Example completed for quantitative descriptive design and mixed methods section of MMAT for Comer et al (2022).

Category of study designs	**Methodological quality criteria**	**Yes/ No/ Unsure**	**Comments**
Screening questions (for all types)	S1. Are there clear research questions? S2. Do the collected data allow to address the research questions? *Further appraisal may not be feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.*	Yes Yes	'What is the current research capacity and culture of AHPs' Yes. Gives a good baseline measure of current views of AHPs (a representation of AHPs, who participated.)
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?	Yes	Cross sectional AHPS across UK, national NHS, Online survey allowed for a large sample
	4.2. Is the sample representative of the target population?	Yes	large sample 3145 across organisations, HEE defined AHPs, UK wide. However still only represents a small proportion of all AHP NHS UK. Has representation from all AHP professionals and various settings.
	4.3. Are the measurements appropriate?	Yes	Validated RCC tool used in AHP populations, also integrated a SCORR Scale – a 6 point scale for respondents self assessment of current attainment in clinical research skills Addition of questions focusing on self reported research activities and views: self-reported research engagement level; discussion of research during appraisals; time allocated for research for those who indicated that research was part of their role description; and awareness of national-level research organisations. Could have incorporated less self report questions, and included evidence for example publications, qualifications Is only a single snapshot, not over time.

	4.4. Is the risk of nonresponse bias low?	No	9-20 mins completion for the survey at time of pandemic may have introduced bias Self selection bias reflected by those interested – reflected by high proportion of research in job roles and research qualifications
	4.5. Is the statistical analysis appropriate to answer the research question?	Yes	Descriptives and interquartile range appropriate to compare with literature appropriate for this question Presents topline results from initial analysis. Further data generation needed to compare differences between regions, groups and organisations. Free text by inductive content analysis – analysis presented in detail

5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?	Yes	The survey was useful to disseminate to a large number The inclusion of qualitative free text options allowed for the expansion and more in depth themes to be generation which was useful for an exploration of perceptions
	5.2. Are the different components of the study effectively integrated to answer the research question?	Yes	The findings of the quantitative and qualitative analysis are reported separately then synthesised well in the discussion.
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	Yes	Themes of barriers and enablers are discussed, in line with the levels of individual, managerial, organisational across the RCC.
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	unsure	Inconsistencies not discussed, as the free text qualitative was an expansion on the quantitative
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?	Yes	Yes

APPENDIX 3: Ethics Approval Notification

Protocol number aHSK/PGR/UH/05101(2)

HEALTH, SCIENCE, ENGINEERING AND TECHNOLOGY ECDA

ETHICS APPROVAL NOTIFICATION

TO	Lauren Moody
CC	Louca-Mai Brady
FROM	Dr Rebecca Knight, Health, Science, Engineering & Technology ECDA Vice Chair
DATE	15/02/2023

Protocol number:	**aHSK/PGR/UH/05101(2)**
Title of study:	What are the barriers and enablers to building a research ready workforce in a Community NHS Trust?

Your application to modify and extend the existing protocol as detailed below has been accepted and approved by the ECDA for your School and includes work undertaken for this study by the named additional workers below:

no additional workers named

Modification: detailed in EC2.

General conditions of approval:

Ethics approval has been granted subject to the standard conditions below:

Original protocol: Any conditions relating to the original protocol approval remain and must be complied with.

Permissions: Any necessary permissions for the use of premises/location and accessing participants for your study must be obtained in writing prior to any data collection commencing. Failure to obtain adequate permissions may be considered a breach of this protocol.

External communications: Ensure you quote the UH protocol number and the name of the approving Committee on all paperwork, including recruitment advertisements/online requests, for this study.

Invasive procedures: If your research involves invasive procedures you are required to complete and submit an EC7 Protocol Monitoring Form, and copies of your completed consent paperwork to this ECDA once your study is complete.

Submission: Students must include this Approval Notification with their submission.

Validity:

This approval is valid:

From: 15/02/2023

To: 31/07/2023

Please note:

Failure to comply with the conditions of approval will be considered a breach of protocol and may result in disciplinary action which could include academic penalties.
Additional documentation requested as a condition of this approval protocol may be submitted via your supervisor to the Ethics Clerks as it becomes available. All documentation relating to this study, including the information/documents noted in the conditions above, must be available for your supervisor at the time of submitting your work so that they are able to confirm that you have complied with this protocol.

Should you amend any aspect of your research or wish to apply for an extension to your study you will need your supervisor's approval (if you are a student) and must complete and submit a further EC2 request.
Approval applies specifically to the research study/methodology and timings as detailed in your Form EC1A or as detailed in the EC2 request. In cases where the amendments to the original study are deemed to be substantial, a new Form EC1A may need to be completed prior to the study being undertaken.

Failure to report adverse circumstance/s may be considered misconduct.
Should adverse circumstances arise during this study such as physical reaction/harm, mental/emotional harm, intrusion of privacy or breach of confidentiality this must be reported to the approving Committee immediately.

APPENDIX 4: Permission for project from Trust

NHS
Cambridgeshire
Community Services
NHS Trust

22nd July 2022

Cambridgeshire Community Services NHS Trust
Unit 3, Meadow Park
Meadow Lane
St Ives
PE27 4LG
UK

Lauren Moody BSc
Clinical Research Assistant
Research Hub
Units 7/8
Cambridgeshire Community Services NHS Trust,
Meadow Lane,
St Ives, Cambridgeshire
UK

Dear Lauren

Re: 'What are the barriers and enablers to building a research ready workforce in a Community NHS Trust'

I am pleased to inform you that Cambridgeshire Community Services NHS Trust has given permission for your project to be carried out within the Trust. This permission letter is also confirmation that formal R&D/HRA approval are not required, as this is not classed as research, but a survey of staff views of carrying out research within the Trust.

The project must follow the agreed protocol and be conducted in accordance with Trust policy and procedures in particular, regarding; data protection, health & safety and information governance (IG) standards. The data analysed remains the property of the Trust and any dissemination of the information, including posters, oral presentations and publications requires prior permission from the Trust.

Approval is subject to adherence to the Data Protection Act 2018 (GDPR), NHS Confidentiality Code of Practice, and any further legislation released during the time of this study. If you make any amendments to your project, please ensure that these are submitted to the Research Manager and that any changes are not implemented until approval has been received.

Yours sincerely,

Dr David Vickers

Medical Director
Consultant Paediatrician and Clinical Lead CFSME Service for Children and Young People
Medical Director East Anglia's Children's Hospices
Trustee Royal College of Paediatrics and Child Health
Mobile: 07855081720
Medical Director: 01480308222
Clinical: 01223884160
Email: david.vickers@nhs.net

APPENDIX 5: Phase one: online survey

APPENDIX 5.1: Content development

Suggestions made from research team and supervisors when developing the survey and review of first draft

Feedback/ comments	Amended	Action
Less formal approach		Reviewed
Include option of Withdrawing responses if can provide the time submitted		Supervisor advised not to include
Include definition of research		Included 'defined research here as engagement with any kind of research, this could be conducting a service evaluation to helping deliver an NIHR study to doing your own masters or PhD'
use the date collected to inform future research capacity building programmes for the trust such as a research champions programme, in PIS?		Decided against including specific programmes but included about informing programmes
Wording of linking survey to demographic information, to be more clear		'Your email address will be linked to your 'About you' section, but all other responses will remain anonymous.'
Use NHS mail -		Discussed with supervisors, actioned
About you		
Include options for corporate staff - admin and clerical, unknown staffing group		Majority of corporate staff sit in admin & clerical, however if they are professionally qualified and this is required as part of their role this is how their staffing group will be coded on ESR. Staff should know their staff group as per their ESR record. (standard national coding, and how the staff survey collects this data) - to go down to the next level of roles would become too complex
Additional qualifications and no qualifications (year 16, year 18, etc …)		Is this question necessary - It will become difficult data management wise to add in lots of different qualifications. As collecting professional qualification in previous question I will not include this
Gender: Could be rephrased slightly to, male, female, Prefer to self-identify (please write in ……..) or Prefer not to say.		Included
Students (e.g. Student Health Visitor, Student School Nurse) could be amended to say pre-registration students (student physios, nurses, OT etc.)		The option is directly taken from ESR national coding, changing this will mean not able to compare to overall available workforce
May be helpful to have a further drop down under childrens services, to break down the different children services in each area		This will it make it too complex unfortunately

Section 2: Amended to be CCS Research experience		
Add question about whether or not they have had any contact/engagement with the research team		Included
Add experience of engaging in the research team		Included likert scale
profile/importance/gravitas given to research by the service they work in.		Added question: What importance do you feel research is given in your service?
Section 3: ER&DCI		
if a question could be added to the eR&DCI if it's not fixed, or maybe where it asks what peoples existing research experience is, if there could be a subsequent question about what would you wish to get involved in research if you had the support and training to do so from the trust		Added in question for this is where I am vs this is what I'd like to do for each activity. R&dci is validated.
Closing:		
Include question on, Has your experience or views about research changed since the COVID-19 Pandemic? Please reflect		Included
Make more clear there will be an opportunity for interviews, and how will be linked to demographic info		please be assured that your email addresses will only be linked to the information you provided in 'About you' section, all further responses will remain anonymous)
Include how results will be shared		Included results from this evaluation will be available on the staff research intranet section in 2023 or 2024

APPENDIX 5.2: Survey

Barriers and enablers to research engagement Community NHS Trust Staff Survey

Introduction

'What are the barriers and enablers to building a research ready workforce in a Community NHS Trust?'

Hello, my name is Lauren Moody and I am part of the research team here at CCS NHST.

I am undertaking a Masters by Research (MRes) at the University of Hertfordshire and my project is looking at staff views on what helps and hinders participation in research.

We are defining research here as engagement with any kind of research, this could range from conducting a service evaluation, to helping deliver an NIHR study, to doing your own masters or PhD. It would be great if you have undertaken research in your role within the Trust, but if you have not it would still be good to get feedback on your perceived enablers and barriers.

The research team really want to get more staff interested and involved in research and we would like to explore how we can help achieve this across all staffing groups. Being involved in research is also a priority for nursing and AHP staff, as presented in the research strategies for these professions.

I would really appreciate if you complete the survey, which should take around 5 minutes. At the end of the survey, you will be asked to indicate if you would be interested in taking part in an interview or focus group. Your email address will be linked to your responses in the 'About you' section, but all other responses will remain anonymous.

You may find a full downloadable copy of the participant information sheet here Full Participant Information Sheet. Please save a copy for your records. If you have any questions, you can email me at lauren.moody@nhs.net.

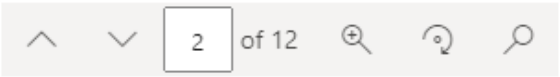
Your participation is entirely voluntary, you are free to omit any question or withdraw from the survey during completion. Please note once your survey has been submitted your responses will not be able to be withdrawn as it will be anonymous.

1 / 12

1 of 12

- I confirm that I have been given a Participant Information Sheet giving particulars of the study, including its aim(s), methods and design, the names and contact details of key people and, as appropriate, the risks and potential benefits, how the information collected will be stored and for how long, and any plans for follow-up studies that might involve further approaches to participants. I have also been informed of how my personal information on this form will be stored and for how long. I have been given details of my involvement in the study. I have been told that in the event of any significant change to the aim(s) or design of the study I will be informed, and asked to renew my consent to participate in it.
- I have been assured that I may withdraw from the study at any time without disadvantage or having to give a reason.
- I have been told how information relating to me (data obtained in the course of the study, and data provided by me about myself) will be handled: how it will be kept secure, who will have access to it, and how it will or may be used.
- I understand that if there is any revelation of unlawful activity or any indication of non-medical circumstances that would or has put others at risk, the University may refer the matter to the appropriate authorities.

Pressing 'Next' to the survey will be interpreted as your informed consent to participate and that you affirm that you are at least 18 years of age.



About you

Please indicate your age

- 18-25
- 26-35
- 36-45
- 46-55
- 55-65
- 65+

Please indicate your gender

- Female
- Male
- Prefer to self-identify
- Prefer not to say

Please specify:

Please indicate your professional staffing group (as per your ESR record)

- Additional Professional Scientific and Technical (e.g. Psychologist, Pharmacist, Mental Health/Wellbeing Practitioner)
- Additional Clinical Services (Clinical Support Staff e.g. Healthcare Assistant, Healthcare Support Worker, Therapy Assistant)
- Administrative and Clerical (Non Clinical inc. Managerial)

- Allied Health Professionals (e.g. Occupational Therapist, Physiotherapist, Speech and Language Therapist)
- Healthcare Scientists (e.g. Audiologist)
- Medical and Dental (e.g. Consultant, Registrar, Doctor, Dentist)
- Nursing and Midwifery (Registered)
- Students (e.g. Student Health Visitor, Student School Nurse)
- Other

If you selected Other, please specify:

Do you have line management responsibilities

- Yes
- No

Which is the primary service you work in

- iCaSH
- Dynamic Health
- Dental Services
- Bedfordshire Adult Services
- Luton Adult Services
- Bedfordshire Children & Younger Peoples Services
- Cambridgeshire Children & Young Peoples Services
- Norfolk & Waveney Children & Young People's Services
- Corporate Services
- Large Scale Vaccination Service

Research experience

Which statement(s) best describe your existing and desired research experience? (please select yes to any that apply)

	I have...	I would like to...
	Yes	Yes
I have attended a research related training course, eg. Good Clinical Practice Training	○	○
I have participated in local or regional audit or service evaluation	○	○
I have had active involvement in a research delivery, e.g. recruitment, data collection, screening for eligibility, intervention delivery	○	○
I have presented at a conference (poster or spoken presentation).	○	○
Engaging in Patient and Public Involvement initiatives	○	○
I am an author of a research publication.	○	○
I have been involved in collecting data/ completion of outcome assessments/care report forms	○	○
I have completed a dedicated postgraduate research qualification, e.g. MRes, PhD	○	○
I have led a research project / been PI (Principal Investigator)	○	○
I have been involved in the development of a research project/been a co-applicant	○	○
None	○	○
Other	○	○

If Other, please specify

What do you think has enabled you to take part in research?

- [ ] Protected time
- [ ] Managerial support
- [ ] Research associated to my services' strategy/ priorities
- [ ] Research training and awareness
- [ ] Personal interest in research
- [ ] Support from the research team
- [ ] Other

If you selected Other, please specify:

If you have been unable to take part in research previously, what do you think has prevented you from doing so?

- [ ] Lack of Protected time
- [ ] Lack of Managerial support
- [ ] Research is not associated to my services' strategy/ priorities
- [ ] Lack of Research training and awareness
- [ ] Lack of personal interest in research
- [ ] Lack of support from research team
- [ ] Other

If you selected Other, please specify:

What importance do you feel research is given in your service?

- High - research is discussed at most meetings
- Medium - research is sometimes discussed at some meetings
- Low - research is hardly mentioned unless the research team contact us.

Are you aware of the support CCS research team can provide?

- Yes
- No

Have you previously engaged with the research team for support?

- Yes
- No

How useful did you find the support

- Very useful
- Moderately useful
- Slightly useful
- Not useful at all

Research and Development culture index (eR&DCI)

How much do you agree with the following statements

Please don't select more than 1 answer(s) per row.

	strongly agree	agree	disagree	strongly disagree
1. Practice development is valued as part of my job	☐	☐	☐	☐
2.There are people around to help and support me to change/develop practice	☐	☐	☐	☐
3.There is strong professional leadership	☐	☐	☐	☐
4.There is opportunity to develop practice in my area	☐	☐	☐	☐
5.There are regular staff meetings to explore ideas	☐	☐	☐	☐
6.I have access to training and development opportunities which give me the skills to question and investigate practice	☐	☐	☐	☐
7.There are opportunities to reflect on my practice	☐	☐	☐	☐
8.My discipline here works as equal partners with other disciplines in order to change or develop practice	☐	☐	☐	☐
9. The development work that I do links with the Directorate's plans	☐	☐	☐	☐
10. I understand research terminology	☐	☐	☐	☐

11. I feel confident about using research in my practice	☐	☐	☐	☐
12. I know how practice is influenced by research	☐	☐	☐	☐
13. I have the skills to use the library and learning facilities within the trust	☐	☐	☐	☐
14. I would like to learn about research activity during the next 6 months	☐	☐	☐	☐
15. I would like more opportunities to share practice development ideas/research/information across the Trust	☐	☐	☐	☐
16. I am very keen to use research in practice	☐	☐	☐	☐

Optional questions

Has your experience or views about research changed since the COVID-19 Pandemic? Please reflect

Please leave any other comments about your experience or views about research at Cambridgeshire Community Services NHS Trust

My project consists of a survey for a wide group of staffing views, followed by a secondary small sample of people to participate in an interview or focus group.

If you would be open to taking part in this sendondary stage please leave your email address (your email address will only be linked to the information you provided in 'About you' section, all further responses will remain anonymous)

Please leave your email address here

Please enter a valid email address.

Final page

Thank you for completing this survey. Your participation is highly valued. Results from this evaluation will be available on the staff research intranet section in 2023 or 2024!

If you have any further questions, queries or require further information regarding the study, please contact: lauren.moody@nhs.net

APPENDIX 5.3: Participant information sheet

UNIVERSITY OF HERTFORDSHIRE

ETHICS COMMITTEE FOR STUDIES INVOLVING THE USE OF HUMAN PARTICIPANTS ('ETHICS COMMITTEE')

FORM EC6: PARTICIPANT INFORMATION SHEET

1 **Title of study**

What are the barriers and enablers to building a research-ready workforce in a Community NHS Trust?

2 **Introduction**

Please take the time to read the information about the study and what your involvement will include before deciding to accept/decline the invitation. If you have any questions, please do not hesitate to ask.
The University's regulation, UPR RE01, 'Studies Involving the Use of Human Participants' can be accessed via this link: https://www.herts.ac.uk/about-us/governance/university-policies-and-regulations-uprs/uprs. (after accessing this website, scroll down to Letter S where you will find the regulation)
Thank you for reading this.

3 **What is the purpose of this study?**

I am part of the research team here at CCS NHST, as a Clinical Research Assistant. I am currently undertaking a Masters by Research (MRes) at the University of Hertfordshire, where my project is looking at staff views on what helps and hinders participation in research. The CCS research team wants to see how we can involve more staff in research at the Trust, so this service evaluation hopes to help us to understand current views about engagement in research within your professional practice.

4 **Do I have to take part?**

It is completely up to you whether or not you decide to take part in this study when you have considered the participant information presented here. Starting the survey does not mean that you must complete it. Once your survey has been submitted your response will not be able to be withdrawn as it will be anonymous.

5 **Are there any age or other restrictions that may prevent me from participating?**

Must be 18+ and an employee at Cambridgeshire Community Services NHS Trust.

6 **How long will my part in the study take?**

If you decide to take part, you will be involved until you complete the survey, around 5 minutes. At the end of the survey, you will be asked if you would be open to taking part in an interview or focus group to further discuss your views on engaging in research. If you provide your contact details, you may then be approached with this opportunity at a later date.

7 **What will happen to me if I take part?**

You will be provided with a link, please click on this link to access and complete the online survey.

APPENDIX 5.4: Recruitment information

APPENDIX 5.41: Email Communication

Online Survey for all staff

Share your views on participating in research at our Community NHS Trust

The Trust recognises the critical importance of research in supporting best care for patients and is carrying out a Trust Wide service evaluation led by the research team to explore how best to achieve more research engagement of staff.

We are asking all staff, regardless of any research experience, to take part in a 5-minute survey to tell us more about your views of the barriers and enablers to engaging in research.

This survey is open to all employees at CCS NHS Trust, please access here https://herts.onlinesurveys.ac.uk/ccsresearchreadyworkforcesurvey

Closing date: Friday 7th October

This project is being undertaken by Lauren Moody, from the research team at CCS NHST, as part of a Masters by Research (MRes) at the University of Hertfordshire.

Contact details here: lauren.moody@nhs.net

APPENDIX 5.42: Email to service managers

From: MOODY, Lauren (CAMBRIDGESHIRE COMMUNITY SERVICES NHS TRUST) <lauren.moody@nhs.net>
Sent: 10 October 2022 13:38
To: xxxxxxx
Subject: Trust Research Readiness Survey: Update

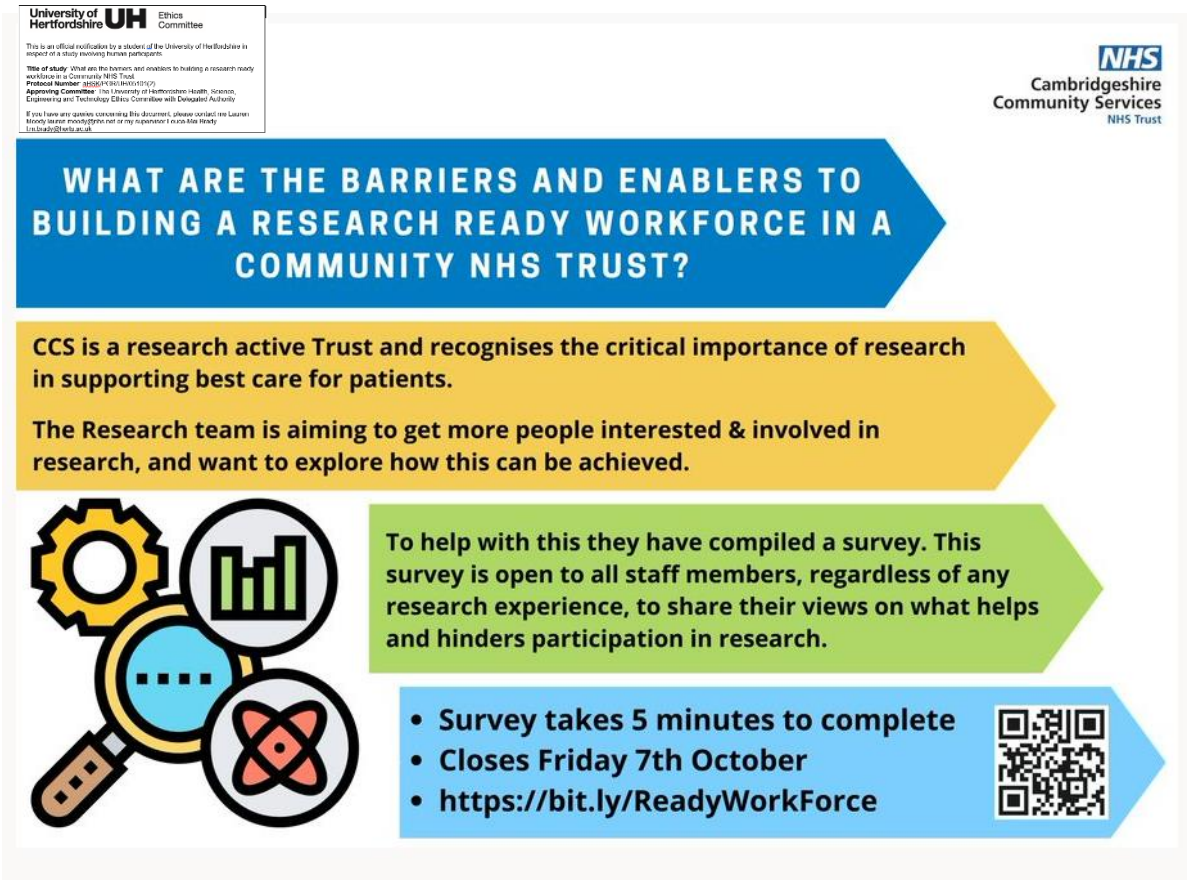
Good afternoon xxx,

The Trust Workforce Ready survey was planned to close Friday 7th October, however a decision has been made to extend this by a couple of weeks to give further opportunity for completion.

To date 31 survey responses have come from Cambridgeshire and Norfolk & Waveney Children and Young People service. Please may I ask for your continued support with one final push to encourage as many survey completions as possible by sharing with your services.

For ease, further detail and link below.

APPENDIX 5.44: Screensaver advertisement



APPENDIX 5.5 Content Analysis

APPENDIX 5.51 Content analysis Barriers and Enablers free text question

Process screenshots of coding on excel

	ENABLERS						
2	7.a. If you selected Other, please specify:	Prev Research training/ qual/exper	daily role	relevance to speciality	national drive	management	motivation
3	Completed research within a taught masters as part of my own career development	1					1
4	Collecting data, enabling/facilitating parts of research projects will fit into to my everyday role.		1				
5	Part of the research team.		1				
6	Previous roles being research positions	1					
7	Part of my job role at the time	1					
8	To support clinical studies relevant to my area of speciality		1	1			
9	this was in the past and was part of a project	1					
10	N/A						
11	At University	1					
12	Research was part of my non-NHS academic role and essential for my PhD. The NHS Trust I worked at, at the time, was very unsupportive (essentially the head of department) of my academic research and I was not allowed to do any research within my core NHS hours. Although, the research was of international importance and potentially impactful.	1					
13	Personal motivation to achieve a qualification	1					1
14	A research secondment	1					
15	Requirement of role		1				
16	also part of national research programmes				1		
17	Directive from management					1	
18	Part of my job role to prove evidence and outcomes		1	1			
19	I haven't taken part in any research that i am aware of.						
20	NA						
21	In another job outside of NHS I was a r&d scientist	1					
22							

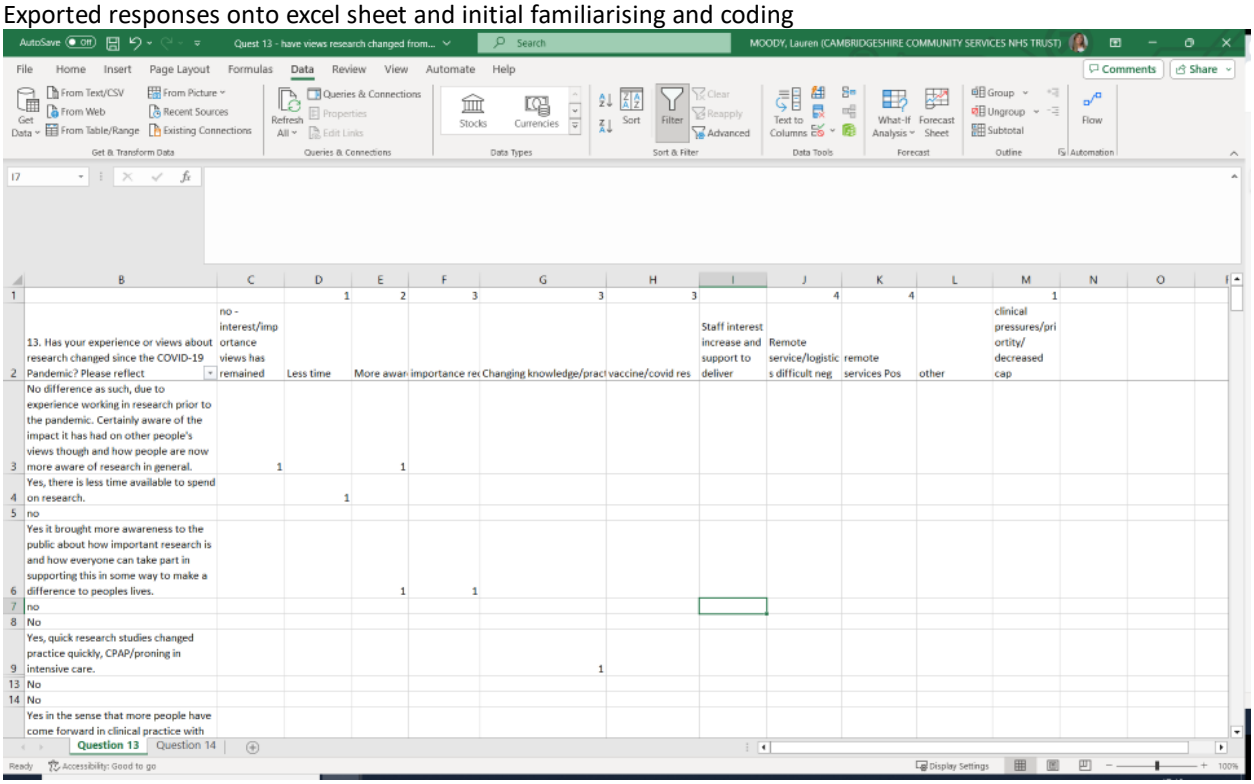
	BARRIERS						
2	8.a. If you selected Other, please specify:	General lack of staff/clinical pressure/ demands	not aware and never given opportunity	funding	confidence	not interested	not valued
3	Lack of staff generally	1					
4	Generally unable to even consider this due to service pressures and demands.	1					
5	colleagues who got 'jealous' and didn't see the value of the work and thought I was not doing anything as usual.						1
6	No aware about research		1				
7	Low staffing levels	1					
8	Major staffing shortage. Core service has to be the priority. Research when done properly needs time	1					
9	Lack of access to opportunities		1				
10	Funding and self confidence			1	1		
11	Never been asked to		1				
12	I have been involved but I am not that excited about it						1
13							
14							
15							

APPENDIX 5.52 Content analysis journal

Undertaken for the phase one survey question 13 free text optional question.

Step 1

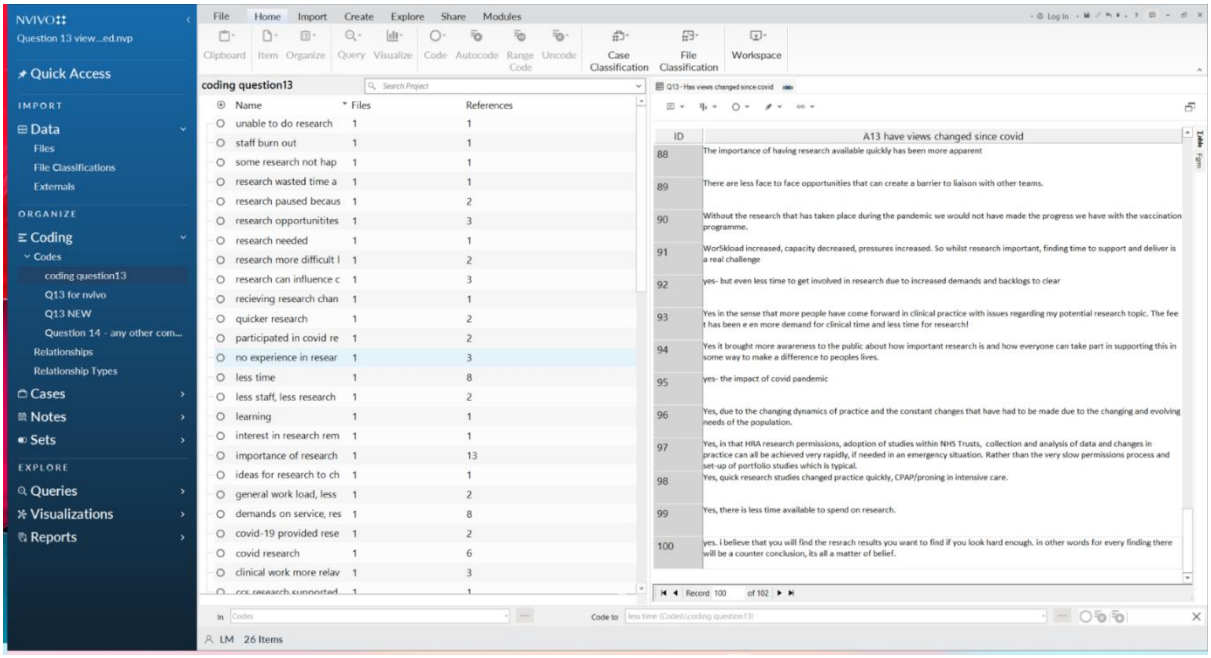
Exported responses onto excel sheet and initial familiarising and coding



	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1			1	2	3	3	3		4	4		1		
2	13. Has your experience or views about research changed since the COVID-19 Pandemic? Please reflect	no - interest/importance views has remained	Less time	More awar	importance re	Changing knowledge/pract	vaccine/covid res	Staff interest increase and support to deliver	Remote service/logistic s difficult neg	remote services Pos	other	clinical pressures/priortity/ decreased cap		
3	No difference as such, due to experience working in research prior to the pandemic. Certainly aware of the impact it has had on other people's views though and how people are now more aware of research in general.	1		1										
4	Yes, there is less time available to spend on research.		1											
5	no													
6	Yes it brought more awareness to the public about how important research is and how everyone can take part in supporting this in some way to make a difference to peoples lives.			1	1									
7	no													
8	No													
9	Yes, quick research studies changed practice quickly, CPAP/proning in intensive care.					1								
13	No													
14	No													
	Yes in the sense that more people have come forward in clinical practice with													

Step 2 and 3

identify big-picture meaning units and developing subcategories and fine-grained codes. Re coded onto Nvivo. 26 initial codes were produced. Examples: 'Yes but even less time to get involved in research due to increased demands and backlogs to clear' coded into 'Less time' and 'Demands on service, less research'. 'Big picture' units were appearing to be evident by multiple units coded onto the same label, for example 13 units directly referencing 'Importance of research' and 8 references for 'demands on service', 8 references to 'less time'.



Step 4 – Refining the categories

Category 1

When reviewing the labels it was evident there were codes for reasons research increased and research decreased. For example, increased because - 'quicker research studies for covid', 'online working'. Decreased because – 'less face to face'. These represent a change in logistics having both a positive and negative on research opportunities. I firstly grouped and renamed into 'research opportunities increased, logistics' and 'research more difficult, logistically'.

Several codes referenced due to covid-19 'some research not happened', Couldn't do research', 'paused research', 'on hold research'. NVivo software allows you select these codes to see the referenced units. When I did this, I could see that they referred to the research being on hold because of logistical issues caused by covid-19. Therefore, the codes could be merged into the category of 'research more difficult, logistically', which was then renamed to define it as 'research prevented due to covid, logistics'.

After reflection these were both refined as subcategories under an 'Opportunities' category, as 'logistics increased' and 'logistics decreased'.

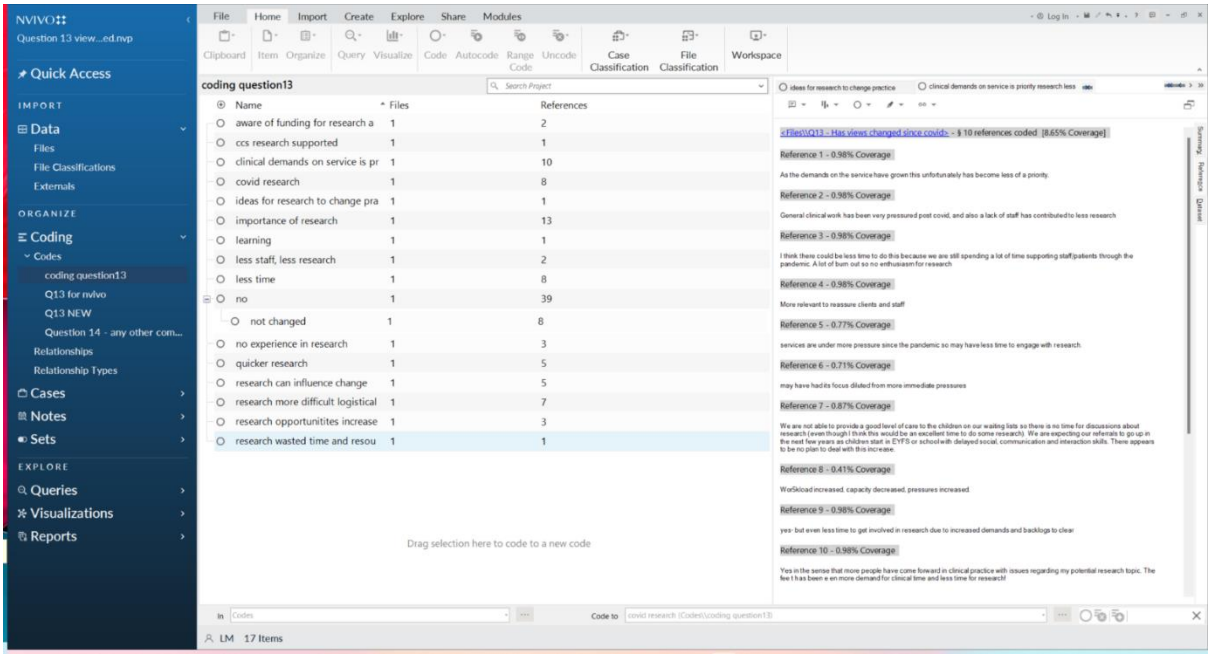
Category 2

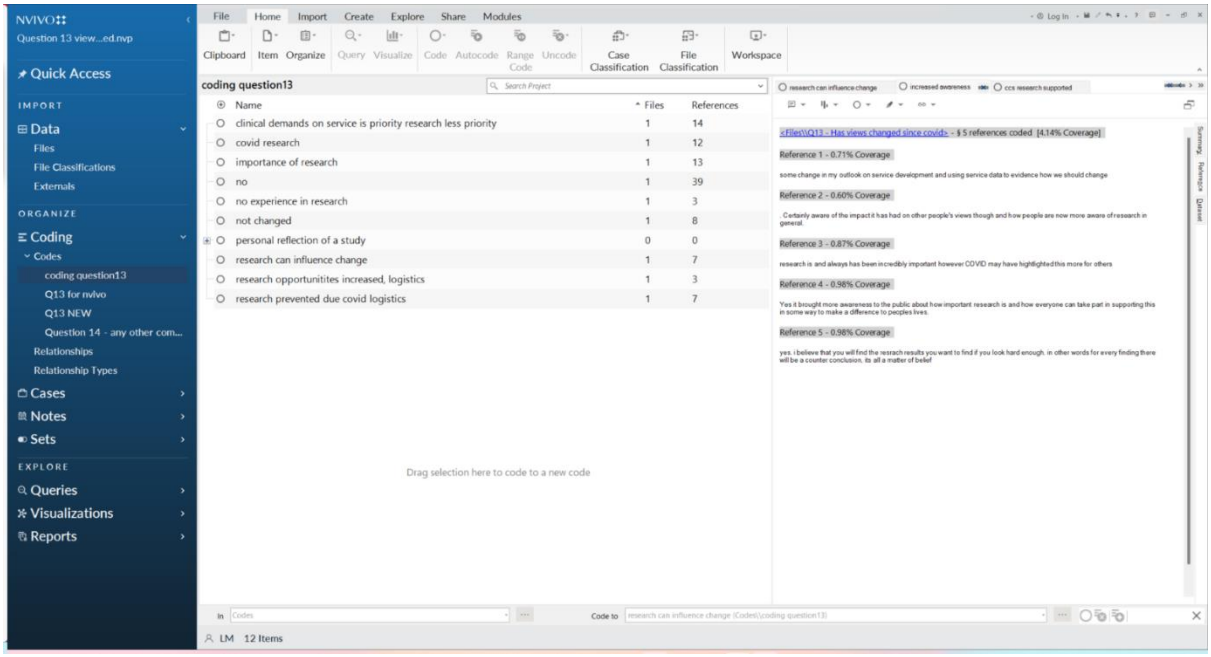
At this stage, I noticed numerous responses which included the narrative that there has been an increase in clinical demand or pressures, which has meant less time and less staff for research. On the initial coding I had separated these items, such as 'less time' and 'clinical demand'. However, when reviewing further, it often appeared these codes are used in the same data unit (sentence), for example 'General clinical work has been very pressured post covid, and also a lack of staff has contributed to less research'. It appeared that there was an overall category which references less time and less staff for research due to increased clinical demands taking priority. This was grouped into category named 'clinical demands on service is priority, research less priority', which was then renamed into the more appropriate name of 'Clinical Priority' category.

Category 3

Responses which refer to research influencing change, covid research influencing change, covid research importance and changes because of research all allude to the overarching theme of a recognition of research

Screenshots of coding process changes through step 4:





Step 5 Synthesis and interpretation
Presented in table in report.

APPENDIX 6: Phase two: interviews

APPENDIX 6.1: Recruitment information

APPENDIX 6.11: Email to participants interested in being interviewed.

Sent: 6th January 2023 13:35
Subject: Thank you: Trust Wide Research Ready Workforce Survey

Dear colleague,

I'd like to take this opportunity to thank you very much for participating in the Trust Wide Research Ready Workforce Survey in September. This survey formed part of a Masters by Research project carried out on behalf of Cambridgeshire Community Services NHS Trust to help inform improvement of research engagement of NHS staff.

Since closing the survey, the responses have been analysed and results are near completion. There were 220 responses in total, which is brilliant.

I am contacting you as you kindly provided your email address indicating you would be open to being involved in the next stage of this project, which will be a sample of follow up interviews/focus groups with myself. These are to explore in more detail perceptions of enablers and barriers to research, and experience of engaging in research at the Trust.

The interview documents are being developed and awaiting ethics approval, after which I will be able to get in contact with individuals to request their participation in this stage.

Many thanks for taking the time to complete the survey and offer to be further involved. I hope to speak soon and be able to share results in due course 😊

Best wishes,

APPENDIX 6.12: Email inviting selected participants for interview

Sent March - April 2023
Subject: Trust Wide Research Ready Workforce Project Interview Invite

Dear,

Hope you are well?

Thank you very much for completing the Trust Wide Research Ready Workforce Survey.

'What are the barriers and enablers to building a research ready workforce in a Community NHS Trust?'

I am getting in contact you as you kindly provided your email address indicating you would be open to being involved in the interview stage, which I'd now like to invite you to. This is the follow up to the survey to be able to explore your perceptions of research in more depth.

Attached is the Interview Participant Information Sheet. Please take your time to read this and be informed that the interviews will be recorded on Teams (video and audio) for the purposes of transcribing only.

I am planning 1 hour interview slots (will likely only take 30-45mins). I can be flexible so please let me know if there is a date/time more suitable for you and we can look to schedule this 😊

If you would like take part, please complete the Consent Form attached, by adding your details, date and signature (can be typed name). If you could return the form via email with your preferred interview time by the **27th March** that would be much appreciated.

Please do not hesitate to get in contact if you'd like to ask any questions about any of the information or interviews, as I'd be happy chat through.

Thank you so much for your support to the project so far and I hope to hear back from you soon.

Best wishes,

APPENDIX 6.13: Email to follow up, on no response

Sent: March – April 2023
Subject: RE: Trust Wide Research Ready Workforce Project Interview

Dear ,

I am resending the below in case you hadn't had a chance to see it yet.
If you could please let me know by Friday 17th March if you'd like to be interviewed, that would be great.

If you've got any questions before deciding to take part, please do not hesitate to ask me. 😊

Best wishes,

APPENDIX 6.14: Pivot table of potential participant sample characteristics

Row Labels	Sum of email
18-25	
26-35	14
36-45	24
46-55	23
56-65	14
65+	1
Grand Total	**76**

Row Labels	Sum of email
Female	63
Male	11
Prefer not to say	1
(blank)	1
Grand Total	**76**

Sum of email	Column Labels										
Row Labels	**Bedfordshire Adult Services**	**Bedfordshire Children & Younge**	**Cambridgeshire Children & You**	**Corporate Services**	**Dental Services**	**Dynamic Health**	**iCaSH**	**Large Scale Vaccination Service**	**Luton Adult Services**	**Luton Children & Young**	**Norfolk & Waveney Chile**	**Grand Total**
No		**2**	**8**	**3**		**2**	**9**		**3**	**1**	**1**	**29**
Additional Clinical Services (Clinical Support Staff e.g. Healthcare Assistant, Healthcare Support Worker, Therapy Assistant)			1				2			1		4
Additional Professional Scientific and Technical (e.g. Psychologist, Pharmacist, Mental Health/Wellbeing Practitioner)							1					1
Administrative and Clerical (Non Clinical inc. Managerial)			2	1			1		1			5
Allied Health Professionals (e.g. Occupational Therapist, Physiotherapist, Speech and Language Therapist)			1				2		1		1	5
Medical and Dental (e.g. Consultant, Registrar, Doctor, Dentist)												
Nursing and Midwifery (Registered)		2	3	2			5		1			13
Other												
Students (e.g. Student Health Visitor, Student School Nurse)			1									1
Yes		**6**	**14**	**9**	**2**	**1**	**4**	**2**	**4**	**3**	**2**	**47**
Additional Clinical Services (Clinical Support Staff e.g. Healthcare Assistant, Healthcare Support Worker, Therapy Assistant)											1	1
Additional Professional Scientific and Technical (e.g. Psychologist, Pharmacist, Mental Health/Wellbeing Practitioner)			1									1
Administrative and Clerical (Non Clinical inc. Managerial)		2		7								9
Allied Health Professionals (e.g. Occupational Therapist, Physiotherapist, Speech and Language Therapist)		3	2	1			1		1	1		9
Healthcare Scientists (e.g. Audiologist)										1		1
Medical and Dental (e.g. Consultant, Registrar, Doctor, Dentist)			1		2		1					4
Nursing and Midwifery (Registered)		1	10	1			3	2	3	1	1	22
Other												
Grand Total		**8**	**22**	**12**	**2**	**3**	**13**	**2**	**7**	**4**	**3**	**76**

Row Labels	Sum of email
Bedfordshire Adult Services	
Bedfordshire Children & Younger Peoples Services	8
Cambridgeshire Children & Young Peoples Services	22
Corporate Services	12
Dental Services	2
Dynamic Health	3
iCaSH	13
Large Scale Vaccination Service	2
Luton Adult Services	7
Luton Children & Young People's Services	4
Norfolk & Waveney Children & Young People's Services	3
Grand Total	**76**

APPENDIX 6.2: Participant information sheet

University of Hertfordshire UH Ethics Committee

UNIVERSITY OF HERTFORDSHIRE

ETHICS COMMITTEE FOR STUDIES INVOLVING THE USE OF HUMAN PARTICIPANTS ('ETHICS COMMITTEE')

FORM EC6: PARTICIPANT INFORMATION SHEET

1 **Title of study**

What are the barriers and enablers to building a research-ready workforce in a Community NHS Trust?

2 **Introduction**

Please take the time to read the information about the study and what your involvement will include before deciding to accept/decline the invitation. If you have any questions, please do not hesitate to ask.
The University's regulation, UPR RE01, 'Studies Involving the Use of Human Participants' can be accessed via this link: https://www.herts.ac.uk/about-us/governance/university-policies-and-regulations-uprs/uprs (after accessing this website, scroll down to Letter S where you will find the regulation). Thank you for reading this.

3 **What is the purpose of this study?**

I am part of the research team here at CCS NHST, as a Clinical Research Assistant. I am currently undertaking a Masters by Research (MRes) at the University of Hertfordshire, where my project is seeking staff views on what helps and hinders participation in research.
There is a national drive to have clinical research as part of everyday core activity and the CCS research team wants to see how this can be supported. Building an understanding of current views about engagement in research within professional practice will help to inform improvements.

4 **Do I have to take part?**

It is completely up to you whether or not you decide to take part in this study when you have considered the participant information presented here. You can choose to opt out at any time.

5 **Are there any age or other restrictions that may prevent me from participating?**

You must be 18+ and an employee at Cambridgeshire Community Services NHS Trust.

6 **How long will my part in the study take?**

If you decide to take part, the interview will last approximately 45 minutes.

7 **What will happen to me if I take part?**

At a date and time convenient to you an interview will be scheduled, with a MS Teams invite link sent to you by email. On joining the interview, I will give a brief verbal explanation of the study and will check you have read this participation information sheet. Please be aware that the interview will be video and audio-recorded for the purposes of accurate transcription, once transcription has been completed the recordings will be deleted.

8 **What are the possible disadvantages, risks or side effects of taking part?**

There are no disadvantages, risks or side effects to taking part.

9 **What are the possible benefits of taking part?**

This study provides the opportunity to share your experiences of research and views on research engagement. You will also be helping to inform how research is supported at the Trust, which will be beneficial to the organization that you are a part of.

10 **How will my taking part in this study be kept confidential?**

As a participant you will be assigned an anonymised code which will be used throughout transcription, analysis, and presentation of the results (e.g direct quotation). The document linking participant codes to participant details will be kept separately to data. Any personal or identifying details will be anonymised or removed from the data before being stored. Data containing personal details will be password protected and stored on the UH secure server in a OneDrive folder only accessible by the researcher and the supervisors.

11 **What will happen to the data collected within this study?**

Recordings will be uploaded to the UH secure server on OneDrive as soon as is practical and subsequently deleted from the recording equipment. Recordings will be deleted once they have been transcribed. Data will be stored for 5 years after the completion of the study.

12 **Will the data be required for use in further studies?**

The data collected may be re-used or subjected to further analysis as part of a future ethically approved study, including possibly being deposited in a repository with open access (freely available); the data to be re-used will be anonymised.

13 **Who has reviewed this study?**

This study has been reviewed by:

- The University of Hertfordshire Health, Science, Engineering and Technology Ethics Committee with Delegated Authority

The UH protocol number is HSK/PGR/UH/05101(1)

14 **Who can I contact if I have any questions?**

University of Hertfordshire UH Ethics Committee

If you would like further information or would like to discuss any details personally, please get in touch with me by email: Lauren Moody lauren.moody@nhs.net, or my academic supervisor Louca-Mai Brady l.m.brady@herts.ac.uk

Although we hope it is not the case, if you have any complaints or concerns about any aspect of the way you have been approached or treated during the course of this study, please write to the University's Secretary and Registrar at the following address:

Secretary and Registrar
University of Hertfordshire
College Lane
Hatfield
Herts
AL10 9AB

Thank you very much for reading this information and giving consideration to taking part in this study.

APPENDIX 6.3: Consent form

University of Hertfordshire UH Ethics Committee

UNIVERSITY OF HERTFORDSHIRE
ETHICS COMMITTEE FOR STUDIES INVOLVING THE USE OF HUMAN PARTICIPANTS
('ETHICS COMMITTEE')

FORM EC3
CONSENT FORM FOR STUDIES INVOLVING HUMAN PARTICIPANTS

I, the undersigned *[please give your name here, in BLOCK CAPITALS]*

.....

of *[please give contact details here, sufficient to enable the investigator to get in touch with you, such as a postal or email address]*

.....

hereby freely agree to take part in the study entitled What are the barriers and enablers to building a research ready workforce in a Community NHS Trust?

.....

(UH Protocol number HSK/PGR/UH/05101(1))

1 I confirm that I have been given a Participant Information Sheet (a copy of which is attached to the email) giving particulars of the study, including its aim(s), methods and design, the names and contact details of key people and, as appropriate, the risks and potential benefits, how the information collected will be stored and for how long, and any plans for follow-up studies that might involve further approaches to participants. I have also been informed of how my personal information on this form will be stored and for how long. I have been given details of my involvement in the study. I have been told that in the event of any significant change to the aim(s) or design of the study I will be informed, and asked to renew my consent to participate in it.

2 I have been assured that I may withdraw from the study at any time without disadvantage or having to give a reason.

3 In giving my consent to participate in this study, I understand that voice, video or photo-recording will take place and I have been informed of how/whether this recording will be transmitted/displayed.

4 I have been told how information relating to me (data obtained in the course of the study, and data provided by me about myself) will be handled: how it will be kept secure, who will have access to it, and how it will or may be used, including the possibility of anonymised data being deposited in a repository with open access (freely available).

5 I understand that if there is any revelation of unlawful activity or any indication of non-medical circumstances that would or has put others at risk, the University may refer the matter to the appropriate authorities.

Signature of participant.....Date.....

Signature of (principal) investigator.....Date.....

Name of (principal) investigator *[in BLOCK CAPITALS please]*

Form EC3 – 26 May 2021

APPENDIX 6.4: Interview topic guide

- Thank you for agreeing to take part in this interview, which will last about 45 minutes
- The purpose of this interview is to ask you about your experiences of research as a member of CCS NHS Trust, including barriers and enablers to taking part in research. These interviews are a follow up to the Trust Wide research ready survey to find out a bit more detail, which is hoped to help inform Trust improvements.
- There aren't any right or wrong answers, just to remind you all data will be anonymised when transcribed.
- I received your signed informed consent form, I'd like to re-check you had a chance to read the Participant Information sheet and asked any questions you may have.
- And can I check you are happy for the session to be recorded to have an accurate record for transcription.
- Thank you – I will start the recording now.

1. Opening questions

- What is your current role, service, line manager responsibilities, any formal research training
- Are you currently involved in research/ have any previous experience of research/ in what way (* e.g patient outcome measures, evidence-based practice, research delivery?)
- What relevance/importance, if any, do you think research has in your current role

2. Barriers

- If have engaged/had opportunity: have you experienced any challenges to engaging in research and if so could you give some details
- if haven't engaged previously: do you perceive/ are you aware of any barriers preventing engaging in research

3. Enablers

- If been able to get involved in research: what do you think enabled you to do so
- If interested in getting involved/ more involved in research: what do you think would help you to do so
- If not interested: what would motivate you to engage in research
- Managerial priority / team support/ research culture
- What opportunities are there currently in your team/service to hear about or engage in research?
- Do you feel research is supported by your colleagues / managers/ service
- Are there any specific service/manager drivers to research.

4. Overall Research at the Trust

- Do you feel there is a good research culture (awareness, support, opportunities) for research at the Trust
- Would you like more opportunities for research / do you hope to get more involved in research in your role
- Do you think there is anything which could be done to improve research at the Trust

- Is there anything else you'd like to add in relation to any of the topics we've spoke about today? Any questions?
- Thank you so much for your time. I will be conducting the other interviews and analysing the findings and hope to be able to share them in due course will ensure to circulate to all participants.

APPENDIX 6.5: Framework analysis

APPENDIX 6.51: Framework analysis journal

Undertaken for the Phase two interviews data analysis.

14.08.23

First proposed framework. Main themes identified from the topic guide and literature

These were reviewed after feedback – needing to establish sub themes and descriptions. Further familiarised myself. **See Appendix 5.52 Initial framework table**

After creating this initial framework changes were made when reapplying to the text when reading back through – some of the thought process of these are set out:

- Motivations moved into each into each level: Enablers – personal, manager motivations, organisational motivations
- Impact of covid new theme: research before covid, as a lot referenced to how things were different with research before
- Lack of support and support under each was redefined/merged under 'enablers' or 'barriers' in general for each manager and organisational level
- opportunities moved under enablers or barriers (opportunity or lack of)
- Academic links under the individual level barriers and enablers actually is more of a organisational infrastructure thing when referencing lack of local teaching hospitals etc. however when still seen on a personal level is an enabler ie individual has good academic links enabling research
- Suggestions on how to improve research sit within themes – support, communication, leadership engagement
- Additional suggestion to improve was added = academic links
- Clinical demand included in impact of covid as an additional theme
- Team moved from motivation into the professional individual themes under enablers and barriers. Team is more of a professional direct impact on individuals – although not referenced often

02.08.23

Impact of covid-19 – new code added of changed practice to include any reference to things that have changed because of covid.

Clinical demands renamed to clinical/service demands.

Under suggestions for improvement – subthemes were created as appeared to be talking about same general thing rather than individual suggestions – for example, communications, support …

03.08.23

New Framework Appendix 6.53 & presented in supervision meeting 03.08.23 – agreed to be inputted/ started on NVivo indexing and work iteratively keeping notes of any amendments.

04.08.23

Framework added to Nvivo and first interview transcript indexed.

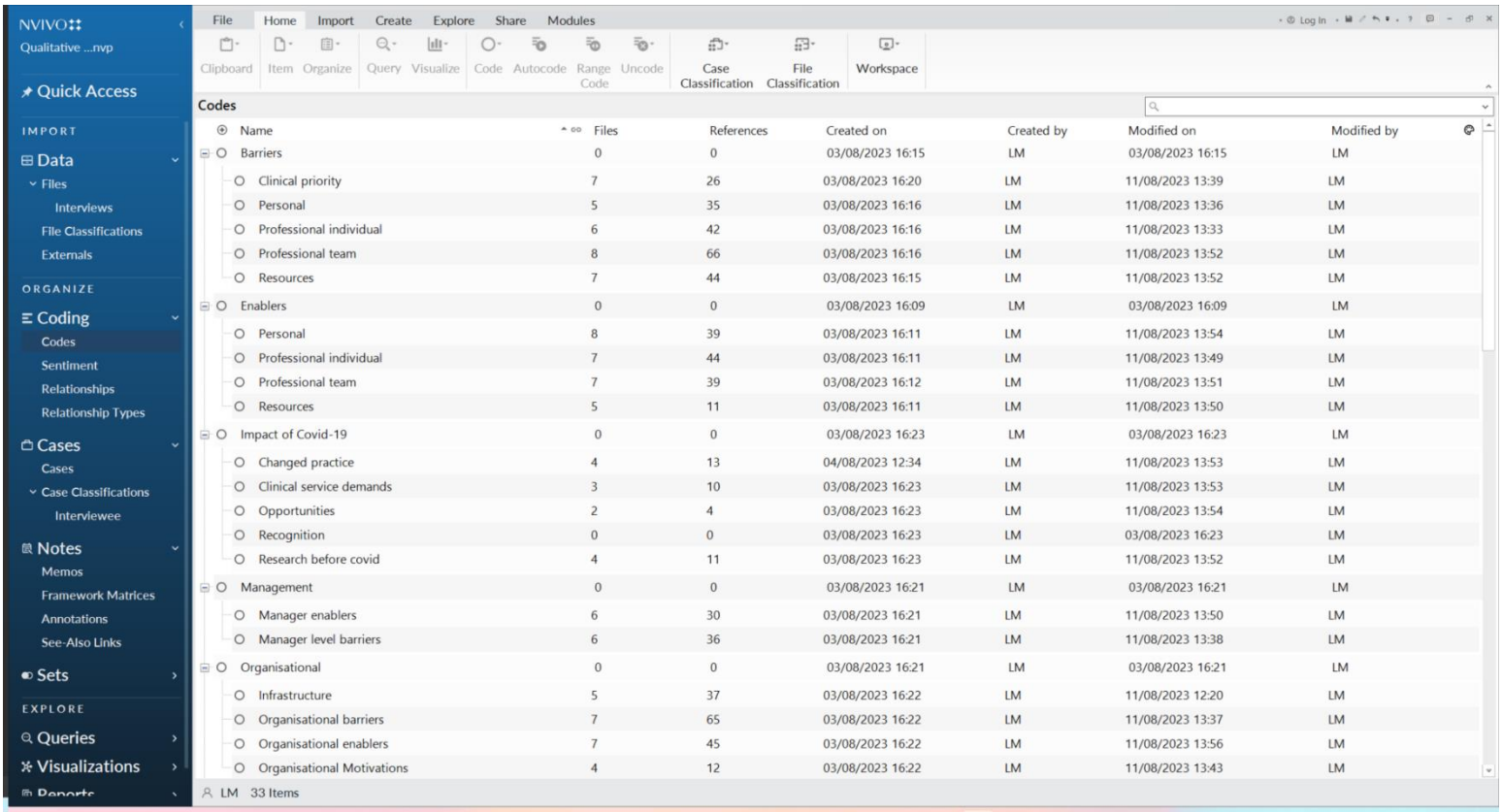
09.08.23

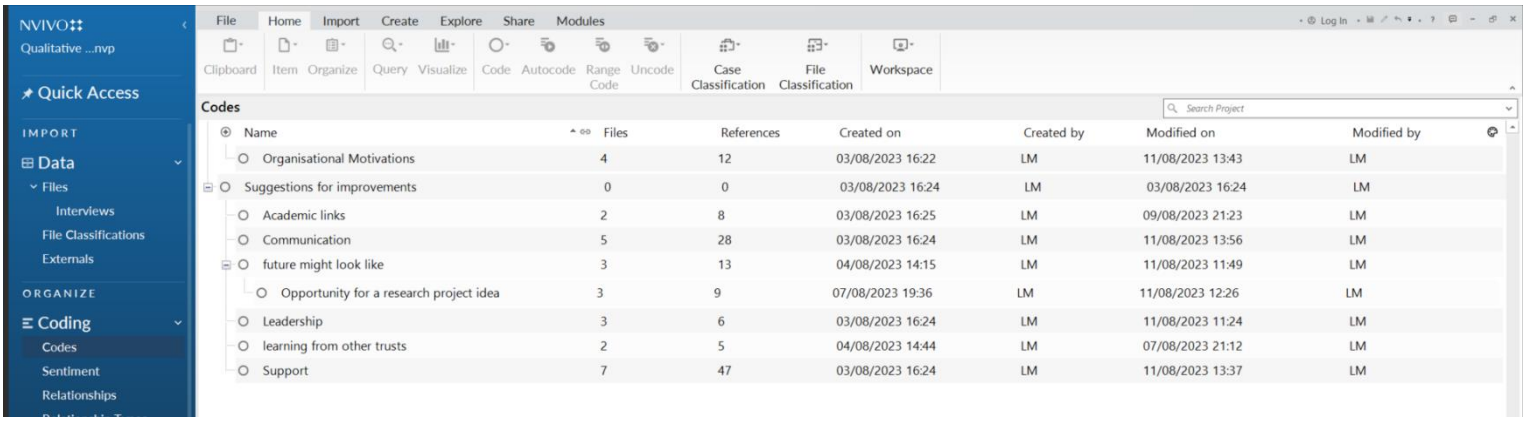
Indexing half of p5 – noticed a lot of reference to age / seniority being a barrier – Ie more senior people in role less likely to do research, the younger are more research minded… should this go into professional individual & barrier or enabler? Thinking it is an enabler to say younger as it references that the younger staff are more recent in their education and therefore more research minded.

10.08.23.
Created code for Opportunity for a research project/ idea – as there were several cases where the interviewee mentioned particular projects they would like to do. Not enough to be a theme sub theme so later moved under Suggestions for improvements – future might look like….
Future might look like – future opportunities for studies suggested. Later this included suggestions specifically on how research could be delivered if there was a more hands on approach from the research team to clinical/res delivery.
Linkage – manager barriers often also coded with resource, clinical priority - the idea that managers are more focused on clinical caseload

11.08.23
All 8 interviews been systematically worked through and indexed.
Next step is 4. To review the data extracts.
Under Covid-19 – recognition, none was coded so this was deleted. each sub theme above was mostly interlinked and a lot of cross sub theme references. I think it works better to combine as one theme

Nvivo screenshot 1: first indexing complete





Reviewed and amended themes for example:

- future might look theme was actually referencing suggestions under the other themes, such as more clinical/academic roles for research therefore moved under academic links.
- Opportunities for a research project idea was moved out as a subtheme
- Under learning from other Trusts the 2 points fitted in the other categories – ie support or academic.
- Suggestions under leadership mostly fitted under organisational motivations – ie what they do/ what to do or what they could do at organisational leaders level to impact on research
- Academic links and Communication merge – about building research relationships and awareness. Label named – building awareness
- Opportunity for research project referenced the reasons why a certain piece of research didn't happen or cant happen. For example 'I should've done it…' 'it shouldn't of stopped' because of low priorities, or funding. These were put under the other sub theme barriers, but then I decided to keep them all as references as 'other' as may be useful for the team to see exactly what type of studies individuals are suggesting. – tbc
- I went through each sub theme again looking at the number of references to identify if there were p's that had been missed in the sub theme to identify if there was anything relating to it now in the data extracts. 6- 8

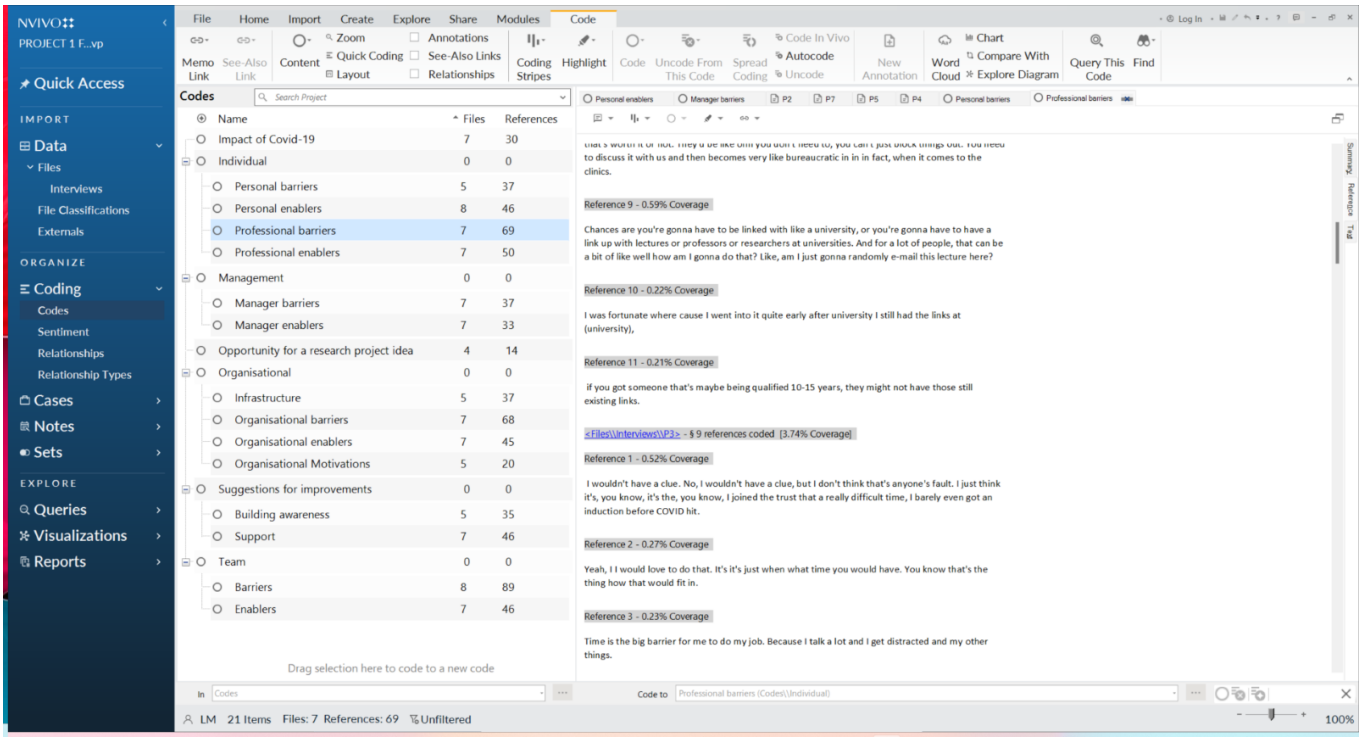
16.08.2023

When I was revisiting my literature review – something came to my mind suddenly. Papers in the literature review used the RCC – splitting by each domain of the individual, team and organisational level. I had originally, and in this current framework where 'professional team' is both under barriers and enablers top theme, but it then made me wonder whether I should move it out and have theme of 'Team' and under this enablers and barriers, like there is for the manager and organisational themes…. I reviewed the extracts under these themes to consider

Then to have a 'individual' theme and under this to put both professional and personal sub themes. Resources originally under 'barriers' and 'enablers' – now under both individual, and team – data extracts had to be reviewed and moved under either of these – this was easy to do.

In the individual theme just wondering how they all fit together and work / cross overs what is person and what is professional? On some level they are the same – especially if looking at this all from a professional nhs level. Could it be individual: - Barriers - Enablers – Motivations?

NVivo screenshot 2: After reviewing all themes and data extracts



- Suggestions for improvements theme review

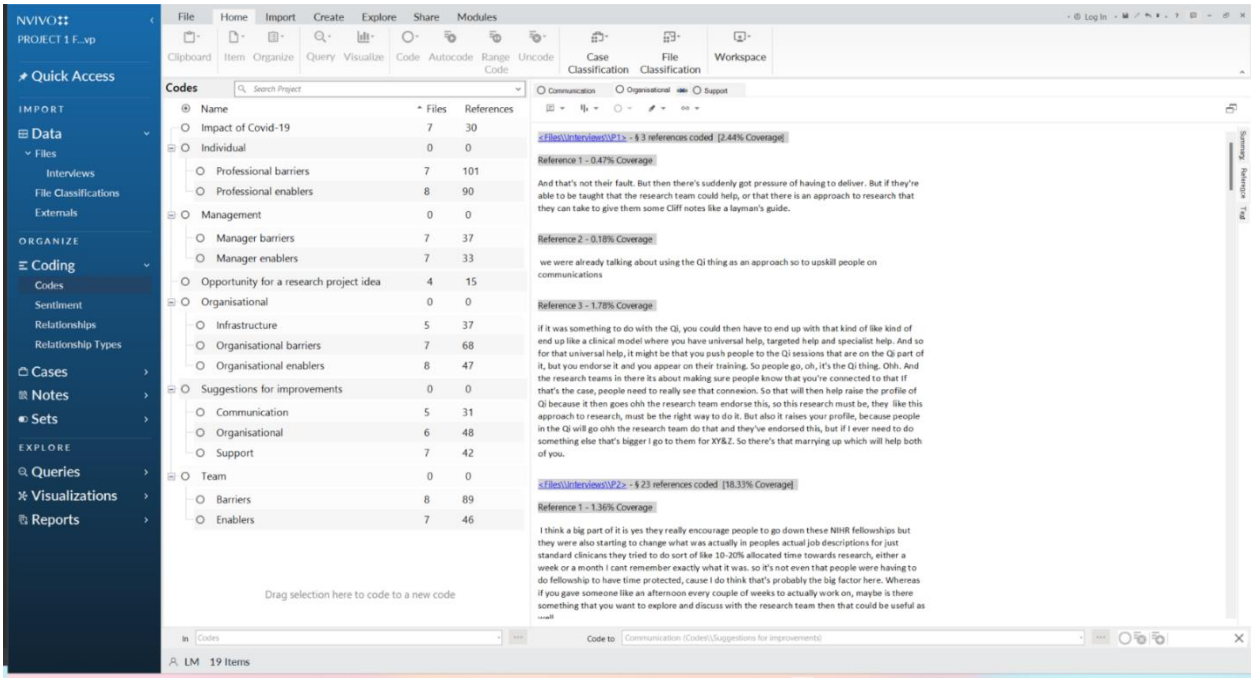
Should it be on a Organisational level….. Then from a research team level…..: What could the research team do… What could the trust do…

Recoded all under into suggestions for improvements , into suggestions for improvements: -- organisational support - research team support

Reviewed all extracts

Not sure if it is organisational support, or research team support, then organisational cultural/ leadership improvements…? But then it is hard for me to decide what the research team do and what the organisation does as ultimately are both linked

Nvivo screenshot 3 – corresponding to Appendix 6.53 new framework table



Reviewed and Re coded the 'opportunity for a research project idea' into either support, organisational or professional enabler or barrier.

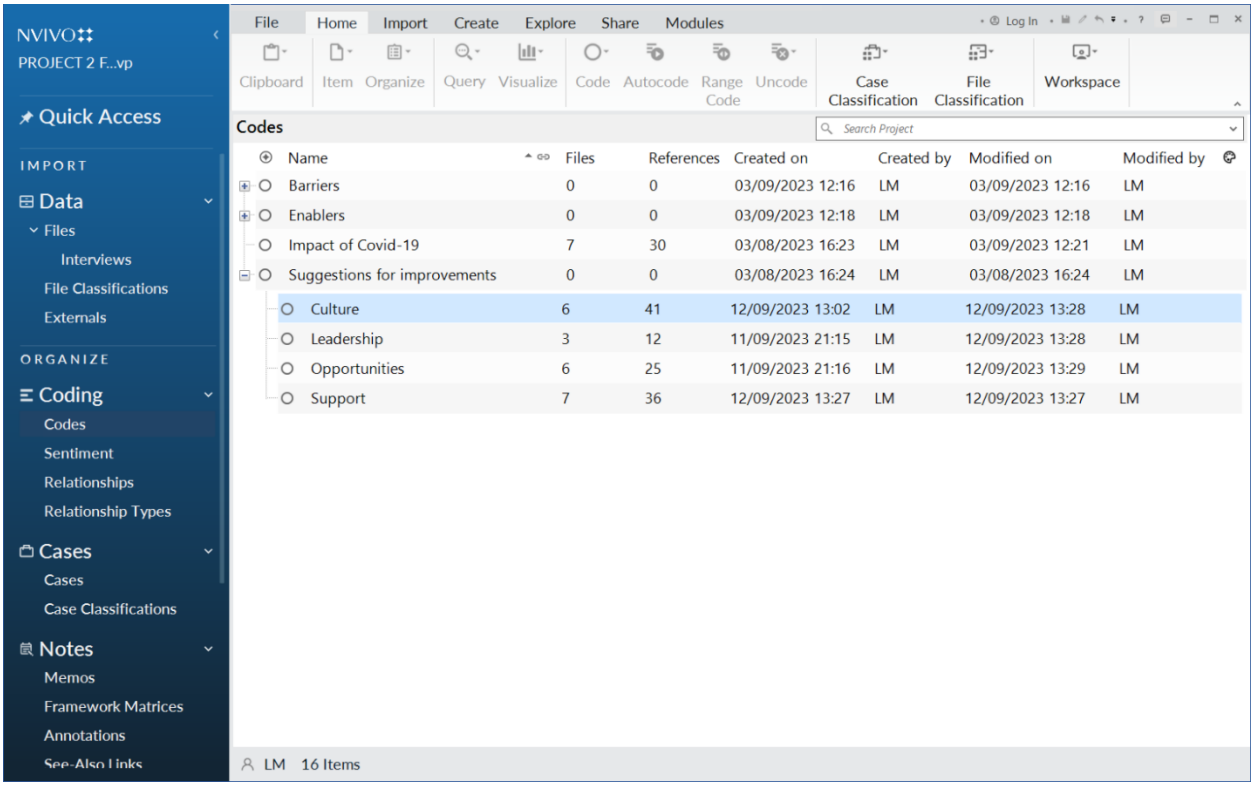
25.08.23
Reviewing all codes under individual and team barriers and enablers to ensure they are all referencing the right thing. There is some cross over but the distinction is the individual is referencing things the participant thinks in a barrier or enabler to them individually ie 'I don't have enough time' 'I don't have the skills'– Team references things the participant thinks about their teams perceptions, capacity or skills towards research which may prevent them from engaging 'there is a lack of awareness in the team of research' 'there is no recognition or support for research from other clinicians'

26.08.23
Reviewed organisational code – I think it would make more sense to review the infrastructure code and put these under organisational barrier or enabler because they are in essence saying how the infrastructure of the organisation helps or hinders research to occur. All under organisational
Went through each of the themes and subthemes to ensure it all corresponded to the right code – moving narratives into different codes when it fitted better or had been repeated cross codes deciding whether this was necessary or which one it was actually referencing.

02.09.23
Nearly to the end of reviewing I was re thinking over the structure and was imagining the framework matrix of how it would be structured and thought there would be a much better way of presenting it. Rather than having it as 'Individual' main theme and then barrier, enablers, and the same with the 'team' and 'management' and 'organisational' – to have **barriers** and **enablers** as the main themes and each other original ones as sub themes under these both. I worked on restructuring this which just

meant moving around but the actual content under the codes remained. Restructuring made it a lot more clearer for me and my understanding. Suggestions for improvement still needing rethinking. **See Appendix 6.54**

Nvivo screenshot 4- Framework reviewed



APPENDIX 6.52: Initial framework table, narrative and examples

Theme 1: Enablers – Individuals perceived enablers to engaging in research

Sub theme	Description	Examples
Resources	Reference to resources enable engaging in research	training, education, funding, time, opportunities
Personal	Personal factors which motivate engagement in research	interest, passion, experience, career progression for finances, recognised need, wanting to do something positive, choose to do it / put in own time
Professional individual	Professional individual factors which have motivated or aided engagement in research	role models, peer support, role creation, evidence-based practice, research as part of role, personal contacts/links with academics
Professional team	Professional team factors which have aided engagement in research	Staff supportive/ engaged, interested, admin interest, wider team

Theme 2: Barriers – Individuals perceived barriers to engaging in research

Sub theme	Description	Examples
Resources	Resources which prevent engagement	Time, lack of research teaching/ education, funding
Personal	Personal factors which prevent engagement in research	feeling of guilt, not having confidence, skills, experience, putting in own time is not feasible, other life commitments, not wanting change
Professional individual	Professional factors which have prevented engagement in research	no value to role or career progression, no pathways, 'safer' not to change, research in training but not in practice, not being given/ not aware of opportunities, don't feel valued/recognised for doing research, divide between academic research and clinical role, research translate into clinical practice or needs,
Professional team	Professional team factors which have prevented engagement in research	Staffing capacity, staff lack of recognition/awareness, Team don't see value, seen as burden, teams not interested in research,
Clinical priority	How clinical demands take priority over research	clinical pressures, research seen as burden to clinical, wait list & patient numbers more important

Theme 3: Management – Individual perceptions of management to research

Sub theme	Description	Examples

Manager level barriers	Any perceived barriers from management/ wider service level	Higher directive 'way of doing things' not wanting change, managers delivering on service measures, not willing to change, reactive not proactive clinical pressure, A divide from management and clinicians. Don't see value in research, lack of awareness/ understanding, not able to allocate time, not progressive appraisals, would be concerned about clinical role delivery, not feeling supported or listened to by management
Manager enablers	Any perceived enablers from management/ wider service level Reference to support from managers	managers interest / encouraging upskill in teams, Allocated time/agreed by managers, support for research role, see value

Theme 4: Organisational – Perceptions of the Trust to research motivations, support, opportunities

Sub theme	Description	Examples
Organisational Motivations	Suggestions of wider Trust motivations to do research	Raise profile of Trust, staff retention, recruitment, improve service delivery, success=success, becoming more recognised
Organisational enablers	How does the trust/ research team support/enabler research to occur	Creating research role, funding/opportunity created for fellowships… been given funding for intervention, peer examples, library service, more opportunities here compared to other trusts
Organisational barriers	Reference to organisational barriers to conducting research/lack of support	Challenge experienced in receiving research team support / approvals/ processes, funding, funding doesn't go far. Trust loosing staff due to lack of opportunities - leave to a trust/organisation with better research pathway
Infrastructure	Organisation/infrastructure of the Trust impacts on research	Locality infrastructure limited to hospitals & teaching hospitals – prevents academic links. Regional barriers/ logistics Community setting vs hospital – wide spread, acute not always aware of community opportunities, less support than acute eg in comms Research seen as done 'elsewhere'

Theme 5: Impact of COVID-19 – How has covid impacted on practice, and subsequently research

Sub theme	Description	Examples
Research before covid	What research looked like in the individuals professional role/ personal before covid	Able to attend nihr conference, time to discuss research, showcasing event, people were more able to get involved, is harder now
Clinical demands	Reference to how clinical demands and priorities have been affected and how this has affected research opportunity	Pressured day activities, changed all of practice and delivery, clinical priority before any research
Recognition	Increased research recognition/ awareness due to covid	Participation in research, covid research and trials studies, participation, importance of clinical trials
Opportunities	Opportunities to get involved in research affected by changes in practice from covid	Increased as more workshops and clinical teaching Online working has prevented research, disconnected.

Theme 6: Suggestions for improvements – any direct ideas or actions to take to improve engagement in research, or what the individual would like implemented

Sub theme	Examples
Support	Admin, expertise from research team, peer support, Forums, research champions, sharing ideas/learning, role model, Research skills training, Systems issues S1 for read codes would be valuable
Communication	Improve dissemination of findings, newsletter, share resources, Funding for showcasing, advertising opportunities, advertising research team awareness, …
Leadership	Engaging leadership and evidencing benefits, representation and endorsing, making it mandatory at senior levels, learning from other trusts to implement changes to role descriptions, highlight importance to managers
Academic links	Create links with university/ teaching/ students, building relationships

APPENDIX 6.53: Reviewed framework (v1)

Individual		
Sub theme	Narrative	Examples
Barriers	What does the individual feel prevents them from engaging in research, including both personal and professional factors	Time, lack of research teaching/ education, funding
		feeling of guilt, not having confidence, skills, experience, putting in own time is not feasible, other life commitments, not wanting change
		no value to role or career progression, no pathways, 'safer' not to change, research in training but not in practice, not being given/ not aware of opportunities, don't feel valued/recognised for doing research, divide between academic research and clinical role, research translate into clinical practice or needs,
Enablers	What does the individual feel enables them to engage in research, including both personal and professional factors	training, education, funding, time, opportunities
		interest, passion, experience, career progression for finances, recognised need, wanting to do something positive, choose to do it / put in own time
		role models, peer support, role creation, evidence-based practice, research as part of role, personal contacts/links with academics

Team		
Barriers	Reference to professional team factors the participant feels prevent engagement in research	Time, Staffing capacity reduced, staff lack of recognition/awareness, Team don't see value, seen as burden, teams not interested in research, feeling alone in the team if interested in research
Enablers	Reference to professional team factors which the participant feels aid engagement in research	Staff supportive/ engaged, interested, admin interest, wider team

Management		
Manager level barriers	Any perceived barriers to research from management/ higher service level	Higher directive 'way of doing things' not wanting change, managers delivering on service measures, not willing to change, reactive not proactive clinical pressure, A divide from management and clinicians. Managers don't see value in research, lack of awareness/ understanding, not able to allocate time, not progressive appraisals, would be concerned about clinical role delivery, not feeling supported or listened to by management
Manager enablers	Any perceived enablers to research from management/ higher service level	managers interest / encouraging upskill in teams, Allocated time/agreed by managers, support for research role, see value

Organisation		
Organisational enablers	How does the trust/ research team support/enabler research to occur	Creating research role, funding/opportunity created for fellowships, Qi training, been given funding for intervention, peer examples, library service, more opportunities here compared to other trusts, links with universities/ academics, leadership supportive, benefits of being a community trust for support, research culture at the trust, research team support, comms
Organisational barriers	Reference to organisational barriers to conducting research/lack of support	Challenge experienced in receiving research team support / approvals/ processes, funding, funding doesn't go far. Trust loosing staff due to lack of opportunities - leave to a trust/organisation with better research pathway, lack of research culture such as peer support or awareness.
		Locality infrastructure limited to hospitals & teaching hospitals – prevents academic links. Regional barriers/ logistics Community setting vs hospital – wide spread, acute not always aware of community opportunities, less support than acute eg in comms Research seen as done 'elsewhere'

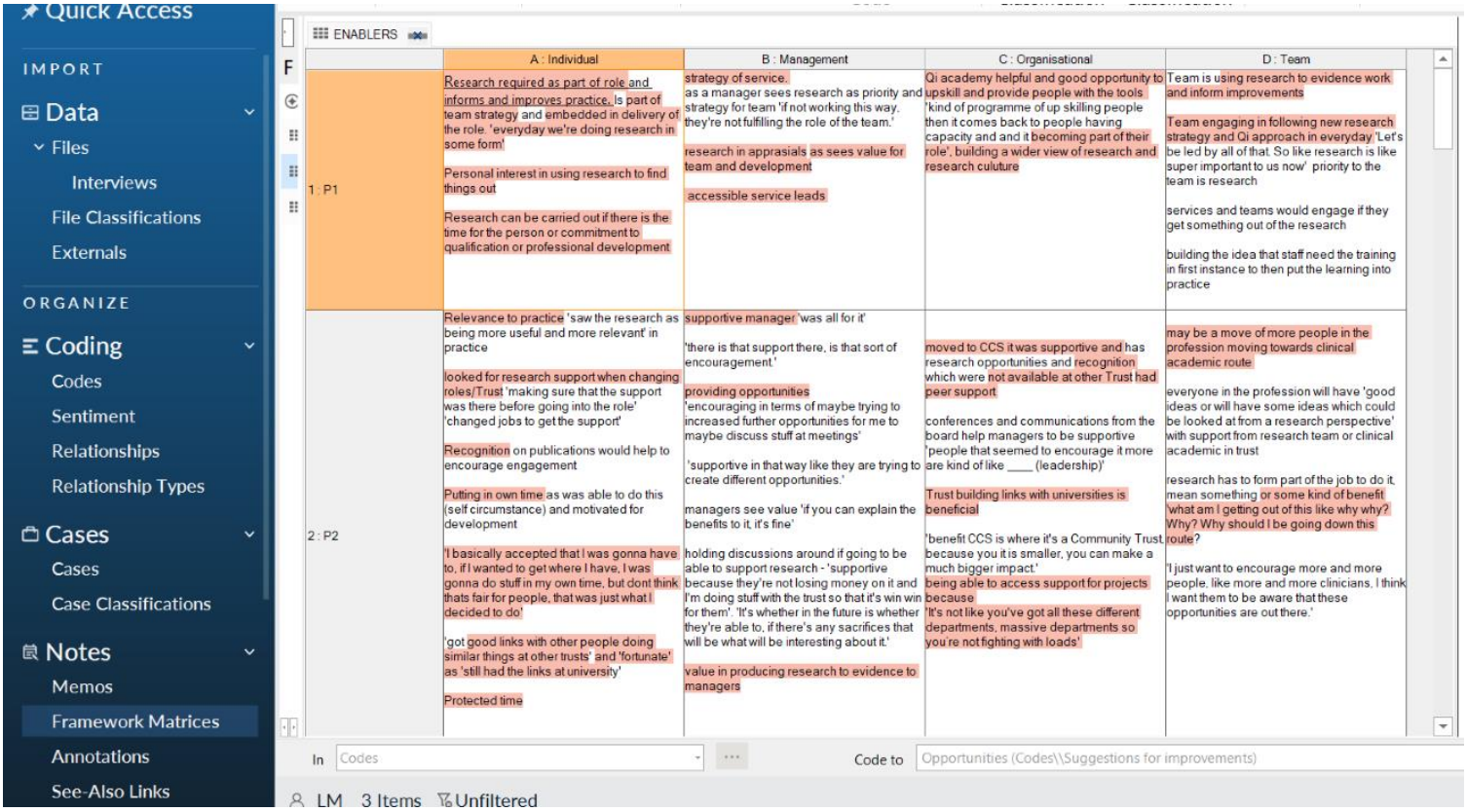
4. Suggestions for improvement		
Sub theme	Narrative	Examples
Support	What research support is the individual suggesting they would like	Admin, expertise from research team, peer support, Forums, research champions, sharing ideas/learning, role model, Research skills training, Systems issues S1 for read codes would be valuable
Communication	Suggestions around communicating or building awareness of research opportunities and support	Improve dissemination of findings, newsletter, share resources, Funding for showcasing, advertising opportunities, advertising research team awareness
Organisational	What could be done at organisational/ leadership level to improve research	Engaging leadership and evidencing benefits, representation and endorsing, making it mandatory at senior levels, learning from other trusts to implement changes to role descriptions, highlight importance to managers Create links with university/ teaching/ students, building relationships

Theme 5: Impact of COVID-19 – How has covid impacted on practice, and subsequently research
All

APPENDIX 6.54: Reviewed framework (v2) for Framework matrix summaries

Enablers • Individual • Management • Team • Organisational	Barriers • Individual • Management • Team • Organisational
Impact of COVID-19	Suggestions for improvement • Skills development • Peer support • Opportunities • Awareness

Keeping as close to the interview transcripts words as possible, linking the narrative highlighted quotes to the original source. Once I completed summary matrix for each of the themes and cases I then exported from Nvivo into an excel spreadsheet. I did this because it was easier to edit and add columns next to each theme to really break down into clear elements what each of the boxes were saying to be able to compare more readily.



Screenshot of section of excel spreadsheet Nvivo Matrices from excel, for identifying elements

Individual		Management	
personal: not knowing where to start, who to ask for funding. not having the confidence to approach or look at research roles. it is daunting if not experienced 'research is the thing that has this kind of massive, it's this massive thing for me and and I've never really thought that I'm sort of clever enough' Age as a factor - have a feeling of letting the younger staff do the research 'there are people who are much brighter and smarter than you and younger than you who can do it all properly' safer in job, don't want that other rejection would feel judged if applied identify research ideas in practice but not feeling like its the role or not feeling trained enough Time, would do the research but the workload would still need to be delivered previous bad experience with further learning 'makes you scared of starting again' personal circumstance workload pressures 'I don't even know if I've got the mental space for that. Um, because this job is quite. Quite draining at times' the type of research roles that would be interested in are not available, and not knowing where the transferable things fit in a lot of lone working makes it difficult to know whats going on elsewhere no requirement for research as part of role no advantage career wise by undertaking any research not part of the profession to engage or train in research, whereas in other professions it is role is stressful and draining, don't want to take on any additional, research becomes such a big thing on top of work which isn't possible feeling different within the service for being interested no dedicated time teaching and training not seen as important to others	not skills/ confidence. younger staff do it. Safer not to change role. Previous bad experience. Workload pressures. Unaware of research/ others doing research due to lone working not part of role No advantage/ career progression to doing Research. Workload is stressful and pressures, not wanting anything additional. Feeling different for wanting to do research. Not protected time	manager would think 'its good in theory' but would be worried about how it would be carried out in practice if wanted to do research would have to show manager that 'I'd really though about it before I presented it; Patient numbers is main focus 'And anything that is not that is just seen as dirty and, you know unwanted and unwelcome. And thats both by staff and management.' research isnt seen as interesting by managers if it doesnt help get patients through 'It'll take you away from seeing patients, so why bother? Stop being stupid?' 'focus is on getting patients in, getting patients out, everything thats measured is really the put through of patient numbers'. 'to get a quality improvement project running with CCS is just it's a non starter because they think that will just take away time and resources from seeing the patients.' if research is undertaken will take time away from patients so will have negative benefit not values for improvement: not patient outcomes - some family and friends feedback but its about numbers of feedback rather than looking at it and improving, or applying learning from any research to service audits seen as 'tick box' 'nobody's particularly interested in then learning from the audit. Ohh how can we improve?' 'no engagement in change or transformative leadership' 'that's a bit of bother. Lets continue how we're doing it' not wanting to change to new guidelines, feeling of managers not wanting to 'annoy the people who were working with us because if we annoy them they might stop working with us and go work elsewhere.' historical and out of date ways of working because 'thats always what happens' what previous directors did. Management is very different to clinical - but cant really progress much further without going to management appraisals not progressive or beneficial. management not recognising achievements or career development 'the appraisals are very much seen as a tick box exercise of all we've got to do this rather than something that is of value to the individual and a value to the service' Not feeling valued when carried out research in clinical service 'as like almost a sense of	manager sees value but priority is clinical delivery over research. patient numbers / waiting times priority to managers - Research has negative affect on this. No push for research or improvements. Not valued in progressive appraisals. Not recognised for doing research by managers

		'Don't acknowledge it' 'embarrassed that I was doing something of interests that was not part of the culture of what we do. So it's almost having to hide this under your hat at work, yeah' seen as luxury or additional anything like research or additional education is really seen as a luxury and a refinement that we can't really afford to to, - idea of let 'someone else do that' even if management was to change its more the funding and commissioning not feeling valued when raising ideas 'his is above what you're paid for, go away, you know, let the grown-ups look after this' no culture 'academic poster just is a foreign concept'	

APPENDIX 7: Reflexive journal

Literature search and review

The literature search was challenging for me as it was quite a broad topic to explore. I sought advice from NHS Library service, who conveyed that the search strategy was not straightforward and very much a case of trial and error, so 'a bit messy and confusing'. Advised the best method is to search for the correct subject headings specific to each database which was very helpful as incorporating the subject headings was not something I was including in my searches before, hence the free text searches alone showing lots of irrelevant papers. Attending sessions with both the University library service and also my Trust NHS Library service was extremely beneficial for learning. Particularly as we tend to recommend the NHS Library service to staff members interested in research at the Trust, yet I had not had much engagement with the service before, and the advice was so helpful. I engaged in RDP sessions for learning methods for literature review and undertook much recommended reading on critical appraisal. I believe these helped to elevate my writing skills and critiquing, to a level much high than in previous drafts.

Defining the research

I spent a considerable amount of time deciding on the definition of this research. Originally being framed as a service evaluation, this was queried and perhaps was not completely accurate to the project aims. It is very difficult with this type of research as it tends to cross over between different definitions including research, service evaluation, service improvement and quality improvement, and there can be 'grey areas'. In some studies of staff views on research they actually defined the term 'research' broadly to 'encompass activities related to quantitative and qualitative studies, service evaluations, clinical audit and quality improvements (Connolly et al., 2018). I believe I made the most appropriate decision that I could about its definition as baseline research for service improvement project, although I am aware there are alternatives.

Interviews

- Throughout the interviews my listening skills were exercised and developed, being able to hold a space for silence and let the interviewees share their experiences were important, but the same time being aware of when they were going off on a personal tangent and redirecting back to the topic!
- I wanted to ensure that I was putting my own views or expertise about research at the Trust aside which was difficult as I do feel very passionate about my role. During reflection I could recognise perhaps when I stepped back into my research team role too much but recognising this allowed me to make continuous improvements about my style of interviewing going forward.
- During conversations individuals would suggest certain people to me who they thought would be valuable to invite to interview. Being situated in the Trust research team I was aware of individuals mentioned and their engagement in research, but it wasn't appropriate within the constraints of this project to approach selected individuals. I was appreciative of the suggestions, but it did somewhat blur the line between being a researcher for the purpose of this research, and a colleague within the Trust.

- I do perceive that my role being situated within the team at the Trust allowed for more informative and valuable conversations. It enabled a deeper understanding of the context and individuals' circumstances and views. I also felt (I hope) that it allowed the interviewees to be comfortable to express their true views.

Findings

My initial findings chapter for phase two was much too large where I had lots of quotes which weren't always totally relevant or easy to follow. I think that I was so focused on getting everyone's views included that I ended up including too much, this may have come from feeling a duty to have colleagues voices heard. Reviewing this chapter took a lot of re-thinking of the narrative and making it more succinct. I considered where I could use a relevant section from large quotes, which highlighted the main point I was addressing. As I was embedded in the research and as a member of the Trust I had to focus on amending where I hadn't made things clear for an outsider who would not necessarily know the terminologies or the different types of services etc. Again, reminding me to step back from my role embedded in the research team.

Personal challenges

I faced challenges with completing this research project alongside working full time and experienced similar barriers and enablers to those explored in this project. I was extremely very grateful for the allocated study leave assigned by the Trust, but also needed to dedicate many additional hours outside of working full time which influenced both my professional and personal life. It is interesting to reflect that myself being part of the research team where we aim to facilitate staff engagement in research these challenges persist. Having a supportive team and manager allowing for flexibility throughout the duration of the project was the biggest enabler to being able to deliver and complete this project within the timeframe.

Supervision

Regular supervision sessions were invaluable to the encouragement of progressing with this project. Receiving detailed feedback and suggested readings and training were highly useful. Having good communication with both my supervisors was highly reassuring.

Peer support

I have found it valuable to network with other students on HSK workshop days and PGR evening sessions and have received insight into different research routes, expertise and passions. As a Masters by Research student, the support and advice I have received from PhD and doctoral students has been valuable. I presented at the HSK conference last year which was really beneficial in building my confidence for 'owning' my research and realising that I am the expert of my research project!

Thank you for reading my reflections. Overall I have thoroughly enjoyed completing this research thesis and feel it has developed me both academically and in personal confidence in what I can achieve.