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YQSR Yorkshire Quality and Safety Research Group

Bradford Teaching Hospitals NHS
NHS Foundation Trust

Lessons from the frontline: The impact of redeployment during COVID-19 on nurse well-being, performance and retention

Protocol: Version 4, 12/08/2021

Aim & Objectives

The overall aim of this programme of work is to gain a better understanding of the impact of redeployment during COVID-19 on nurse well-being, performance, and retention. The secondary aim is to use this knowledge to produce much needed guidance and training for managers and policy makers tasked with managing the workforce in a crisis and during normal service delivery.

To achieve these aims we will undertake two work packages to address the following research questions:

WP1: How was the process of redeploying nursing staff managed prior to and during the COVID-19 crisis?

WP2: How did nurses make sense of redeployment during the COVID-19 crisis and what effects does it have on well-being and job outcomes?

Background and Rationale

In February 2020, there were 335,171 nurses working in the NHS, approximately half of whom work in acute hospital care (NHS Digital, 2020). These nurses, working on the frontline during COVID-19, have experienced redeployment to specialties and teams they have never worked in before. They have struggled with inadequate or ill-fitting PPE; they have witnessed patients and relatives in distress. They have dealt with risk and uncertainty, huge changes to their ways of working over short periods of time, and the constant fear for themselves and their family and friends that they may be transmitters of the disease.

This rapid readjustment was more keenly felt in areas where COVID-19 was most prevalent and in areas with high levels of the most vulnerable groups (older, poorer, and more ethnically diverse populations). During the COVID-19 crisis, staff redeployment has been extensive and varied. Some staff have been redeployed into high risk areas from their relatively safe ‘home’ wards (Dunn et al., 2020). Other staff who are at high risk or shielding have been moved off wards to different duties (personal communication). For example, in our local Trust (Bradford) staff in this category have been asked to provide telephone information and support (via the Electronic Patient Record) to relatives of patients who are in hospital but unable to receive visitors. These types of redeployment are likely to have different consequences, with the potential for trauma or moral injury in the first group and strong feelings of guilt in the second. The emotional ramifications of working through COVID-19 are only beginning to be understood. For example, a recent survey by the Nursing Times found that over a third of nurses reported that their mental health was “bad”

or “very bad” as a result of the COVID-19 pandemic (Nursing Times, 2020). There may also, of course, be benefits for staff who are redeployed, including opportunities for learning and development.

The longer-term consequences of this crisis for healthcare staff are, as yet, unknown. In Canada, levels of staff stress, burnout, sickness, and substance abuse were significantly higher amongst staff in hospitals treating SARS patients 18 months after the outbreak ended (Maunder et al., 2006). It is well established that the wellbeing of staff impacts on patient care. In a recent systematic review, staff burnout was associated with lower patient satisfaction, less professionalism, and higher levels of clinical errors (Panagioti et al., 2018). Together with the potential for staff shortages, through higher nurse turnover, which also impact patient care, it is clear that generating knowledge about how best to redeploy and support staff has huge implications for patient care. The specific consequences of staff redeployment, an important feature of the COVID-19 response in the UK, has been written about primarily via opinion pieces (Dunn et al., 2020; Cox, 2020; Sarpong et al, 2020). However, we have not identified any empirical research on this topic in the UK.

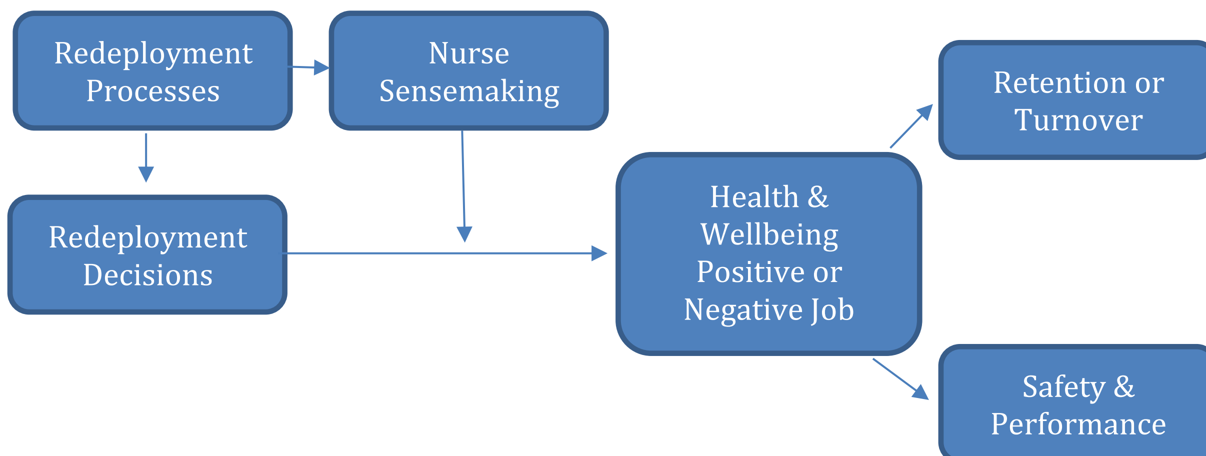
This is an important gap in our understanding for three main reasons:

1. Health need: Nurse retention is critical for the NHS. In October 2019, the Nursing Times reported over 43,000 nursing vacancies (Mitchell, 2019), the highest ever recorded. We need to understand the implications of redeployment (and other changes relating to COVID-19) for staff wellbeing, engagement, sickness/absence and retention so that we can plan to mitigate the impact on these staff outcomes and, in turn on patient care.
2. New knowledge: Redeployment is increasingly common within the NHS as nursing vacancies increase. While a flexible workforce is desirable for employers, the costs and benefits for staff themselves of being ‘moved’ to a specialty and team that are unfamiliar, and how best to reduce the costs and achieve these benefits, are not understood. The large-scale redeployment of staff during COVID-19 provides a unique opportunity to understand how best to do this in a crisis and beyond.
3. Organisational need: Senior staff within our NHS Trusts (matrons, HR managers) were asked to plan their staffing and respond to the crisis in a very short timescale with no existing evidence to support their decisions. As evidence emerged of the increased risk to BAME staff they were required again to respond. These decision makers require a framework for thinking about the different methods for reallocating staff and the ethical implications of adopting these different approaches.

This research programme will address these gaps in understanding identified via our advisory group.

The programme theory we are using to guide this work is outlined below and rests upon sense-making and retention theories from Organisational Behaviour. In particular, our project is based on a multi-level assessment of redeployment as a deviation from what was expected; thus, nurses need to make sense of it (Weick, 1995) based on their own mental schemas, the perceived justice of the processes used, and the way the redeployment decision is presented to them (Maitlis, 2005; Maitlis & Christianson, 2014). WP1 will examine the justice and ethical implications of the redeployment processes on the decisions themselves. WP2 examines the effect of sense-making on the decisions and their

outcomes. Job design research suggests that these outcomes could be either positive (e.g., increased knowledge, skills; Grant et al., 2010) or negative (e.g., increased ambiguity, decreased self-efficacy; Acker, 2004); and the likelihood of one over the other will depend upon this sense-making (Maunder et al., 2006). The jolt of the redeployment and these subsequent effects will lead to decisions to remain or leave the NHS (Lee & Mitchell, 1994) as well as affecting their overall performance and patient safety.



Method

Sampling, access and setting

We will collaborate with three NHS Trusts on this research programme. Trusts will be in regions that have seen average or above average cases of COVID-19 in the local population and so have been impacted significantly by the virus. We will also choose Trusts in which BAME staff (middle grade, non-medical) are represented at the same level as the national population average, slightly above average, and at high levels.

We understand that Trusts are likely to have managed and recorded redeployment in different ways. Therefore, when working with each of our partnership Trusts, we will be guided by their appointed Research Champion for the study to identify the most appropriate strategies for identifying and approaching potential participants. These Research Champions will occupy a senior role in their Trust and act as our key point of contact for the duration of the study.

For both work packages we will discuss with each Research Champion and the senior nurses our aim to reflect appropriately the ethnic diversity of their Trust within our samples and elicit their support with this when they identify potential participants. Depending on Trust preferences, the Research Champions or senior nurses may elicit the support of local BAME networks, or their Equality and Diversity leads in identifying and encouraging BAME nurse participation in the study.

Work packages

WP1 (Months 3-12): How was the process of redeploying nursing staff managed prior to and during the COVID-19 pandemic?

Rationale

All healthcare providers have redeployment policies and procedures in place, and recent academic research has explored how nursing staffing patterns in the NHS impact on patient outcomes (e.g. Dall'Ora and Griffiths, 2017; Griffiths et al., 2018). Whilst guidance on redeployment during the crisis has been issued (NHS England/NHS Improvement, 2020; Royal College of Nursing, 2020), it is not known how redeployment processes have been modified in a pandemic crisis where large swathes of staff needed to be mobilised quickly to work in different areas of the service. Moreover, it is unclear how decisions made about staff reallocation were informed by specific barriers or enablers relating to demographic factors (e.g. the ethnicity, age and health status of the staff that place them at higher risk of contracting coronavirus, Khunti et al., 2020), organisational features (e.g. the structure of service delivery), team dynamics (Foster, 2020), and ethical considerations. In response to a request from our local Trust, we developed and published (Dunn et al., 2020) a framework for thinking about the ethics of redeployment i) how to deallocate staff in the 'home area' in ways that do not impact negatively on patient care, ii) the degree of control that staff have in shaping the decision-making process, and iii) fairness in models used for redeployment (e.g. volunteering, compulsory reallocation, or equal sharing of responsibility).

In WP1 we will draw on this framework to help explore the gaps in our understanding about how acute NHS Trusts approached, and have managed, their redeployment processes for the largest group of its staff, namely nurses, before and during the COVID-19 pandemic.

Objectives

- To understand and describe the redeployment processes utilised by hospitals in its redeployment of nursing staff prior to and during the COVID-19 pandemic

- To examine the choices made by senior staff in the redeployment of nursing staff, what factors (barriers and enablers) affected decision-making, redeployment processes and the adoption of different models for redeployment

- To share learning to inform future planning of redeployment strategies for nurses during the COVID-19 pandemic.

Research design, methods and procedure

This cross-sectional multi-method qualitative study will utilise semi-structured interviews followed by focus groups. First, we will conduct interviews with up to 30 senior nurses and 3 senior HR managers across at least three acute NHS Trusts. This number of interviews has been chosen in order to capture sufficient insights into decision-making processes, ensuring data saturation and incorporating a significant proportion of those likely to be involved in redeployment decisions across the three Trusts. These staff will be purposively selected to ensure that we include staff with experience of managing redeployment during the COVID-19 pandemic. The sample is likely to include nurses/HR staff working in senior roles - matrons, lead nurses, directors of nursing or their deputies, and HR managers. We will also purposively sample from senior staff involved in the redeployment of nursing staff to high-risk areas, or where staff posed a high risk themselves of contracting coronavirus.

This is to ensure that we are able to understand whether and how the redeployment of BAME staff, older staff, or those with existing health conditions was considered explicitly.

Interviews will be conducted via telephone or video-call or face to face in person, guided by participant preference. A topic-guide has been developed, informed by literature on the practice and ethics of staff deployment and redeployment before and during the pandemic. The format is flexible to allow the generation of naturalistic data on insights that staff see as important, and the research team will agree revisions to the guide in light of emerging themes. Interviews will be audio-recorded and transcribed verbatim.

Second, we will then conduct one focus group per Trust with 4-5 senior nurses purposively selected to explore their beliefs and attitudes on the ethical and practical dimensions of decision-making in relation to redeployment processes and the viability of specific models during the pandemic, using group interaction to generate data. Ideally, we would like to conduct the focus group meetings at each Trust site but recognise we may need to revert to on-line methods if required (Woodyatt et al., 2016). The focus groups will be audio-recorded and transcribed.

As a gesture of thanks for their participation in an interview or focus group we will give each participant a store voucher of £20. Staff taking part will be offered certificates confirming participation in an interview and/or focus group that can be used as evidence in revalidation or appraisal portfolios.

Recruitment and Sampling

Interviews

We will conduct interviews lasting approximately 40-60 minutes with ten senior nurses and one senior HR manager from each of the three participating Trusts. These staff will be purposively selected to ensure that we include staff with experience of managing the redeployment processes of nursing staff prior to and during the COVID-19 pandemic. The sample is likely to include nurses/HR staff working in senior roles - matrons, lead nurses, directors of nursing or their deputies, and HR managers, generally at pay-scale Band 8 or above. We are also interested in seeking the views and understanding the experiences of staff involved in the redeployment of nursing staff to high-risk areas or where staff posed a high risk themselves of contracting coronavirus (e.g. staff from BAME communities; male staff; staff aged more than 60yrs, etc.).

We will conduct the 1:1 interviews by telephone or video-call or in person, for example on site at the hospital or in a neutral environment such as a café, according to participant preference. We will use a topic guide to ensure consistency, informed by our research objectives, discussions with our stakeholder advisory group that will involve senior nursing and HR representatives in the NHS Trusts in which the study will be undertaken, and relevant literature in the field of health services research and health care ethics. The format will be flexible to allow participants to generate naturalistic data on what they see as important and the research team will agree revisions to the guide in light of emerging themes. Interviews will be audio-recorded and transcribed verbatim.

Focus groups

We will conduct one focus group lasting approximately 90 minutes per Trust with 4-5 senior nurses purposively selected to explore their beliefs and attitudes on the ethical and practical aspects of decision-making in relation to redeployment processes during the pandemic, drawing on initial analytic insights from our interview data, and using group interaction to generate further data. Ideally, we would like to conduct the focus group meetings in person at each Trust site but recognise that we may need to utilise on-line methods of delivery as required, according to infection, protection and control procedures and organisational policies. The focus groups will be audio-recorded and transcribed. Although using virtual focus groups is a fairly new concept, research assessing its reliability and credibility has shown that in comparison to face-to-face focus groups, no additional themes or topics were identified that had not been discussed within the virtual groups (Mahoney, 1998). Research has also found that the use of virtual focus groups is theoretically sound and meets all the key criteria required to be considered a focus group (Krueger, 1994).

Recruitment Process and Consent Procedures

Health Care Professionals and NHS Staff

Interviews - Study Research Champions in each trust will help us identify HR managers and nurses working in senior roles (e.g. matrons, lead nurses, directors of nursing or their deputies) with experience of managing redeployment during the pandemic to potentially participate in the interviews. Senior nurses and HR managers in each Trust will be contacted via an email distributed within each Trust, drawing on advice from our stakeholders in each Trust, to ensure we target the correct group of nursing and HR staff. This may include, for example, drawing on existing nurse forums, social media such as twitter, or circulation lists within the Trust. A participant information sheet will be attached to the email. Those who receive this email will be directed to contact the project Research Team if they are interested in taking part in the research.

When appropriate, the researcher may attend the hospital of the research site to support the Research Champion in the sharing of study information, such as the PIS, and raising awareness of the research. In this instance, if a potential participant expresses interest in taking part in the study, they will be provided with the opportunity to provide their contact details for the study team to contact them on. Contact details will be recorded on a standardised form (see Appendix 21). Participant contact details will be transferred to an excel document and stored securely at the Yorkshire Quality and Safety Research Group, Bradford Institute for Health Research or Leeds University Business School, University of Leeds on a password protected NHS or University PC system. The paper versions will be destroyed once they have been electronically stored. The researcher will contact the participant at least 24 hours after the initial contact.

Once a potential participant has initiated contact or provided their contact details, the researcher will verbally explain the study over the telephone and re-send the participant information sheet about what is involved in participating via email, in conjunction with a Consent Form. The potential participant will then be formally invited to take part. The email will explain that if they agree to take part, they may either complete the Consent Form electronically and return via email to the researcher (i.e. with an electronic signature), or through a short recorded phone call with a researcher prior to the interview taking place.

For the latter option, the researcher will have a paper copy of the Consent Form, read each item out and determine the participants understanding and acceptance of each, initialling these on their behalf. They will sign it to indicate this process has taken place by phone, and this will be supplemented by the short audio-recording. A convenient time for the interview will be agreed.

Focus groups – All senior nurse participants taking part in a 1:1 interview will be informed afterwards about the subsequent focus group study and an initial statement of interest will be taken at that point. Senior nurses from each Trust who participated in the 1:1 interview and expressed an interest in participating further in the focus group will be contacted directly via email by the research team. If an insufficient number of these consent to participate, additional senior nurses will then be contacted via a method deemed appropriate within each Trust (e.g. email, WhatsApp, Twitter, Facebook), drawing on advice from our stakeholders in each Trust to ensure we target the correct group of senior nursing staff. Those who receive this communication will be directed to contact the project Research Team as above.

Once a potential participant has initiated contact or expressed an interest to participate following an interview, the researcher will verbally explain the study over the telephone and re-send the participant information sheet about what is involved in participating via email. The potential participant will then be formally invited to take part and a mutually convenient time for all focus group participants to attend will be agreed. A consent form will be completed by all focus group participants. If the focus groups are run virtually, this will follow the process outlined above. If the focus groups take place in person, consent will be obtained at the beginning of each focus group by all participants completing Consent Forms manually.

Data analysis
Data analysis will be inductive and flexible, allowing modification of theories as new data and themes emerge. Qualitative data will be managed, and analysis aided, using NVivo data analysis software as required.

Thematic analysis will be used to analyse the anonymised interview transcripts. Initial familiarisation with the data will be followed by processes of data reduction, during which the researchers will engage in a process of 'selecting, focusing, simplifying, abstracting, and transforming the data' in order to identify patterns and themes within and between sets of data, thereby making sense of them and generating descriptions and explanations relevant to the phenomena being explored (Miles & Huberman, 1994). Emergent findings will be presented to the research team and is likely to lead to topics to explore further during subsequent focus group discussions. Similarly, thematic analysis will also be used to analyse the anonymised focus group transcripts, exploring individual and group level differences.

WP2 (Months 2-16): How did nurses make sense of redeployment during the COVID-19 crisis and what effects does it have on well-being and job outcomes?

Rationale
Redeployment can be seen by nurses as a threat or as an opportunity (Van der Colff & Rothmann, 2009) and this will affect their long-term recovery as the crisis abates.

Redeployment benefits include skill variety and job rotation, which can increase well-being and performance (Hackman & Oldham, 1976, 1980). However, redeployment also increases job role ambiguity, which is known to compromise health and well-being (Brunetto, Farr-Wharton & Shacklock, 2011), job satisfaction, motivation and retention (Acker, 2004; Boudrias et al., 2020; Jackson & Schuler, 1985). Importantly, though, Maunder et al. (2006) found that the trajectory of health care workers' recovery after the SARS crisis was primarily determined by perceptions of organisational support (training, protection, and moral support) and maladaptive relationships with co-workers (anger, blame, self-blame, attachment anxiety). Thus, enhancing the positive and decreasing the negative outcomes of redeployment during COVID-19 may be less dependent on actual skill variety or job ambiguity, and more on how nurses make sense of their redeployment and their new team (Weick, 1995). Sense-making is a social process (Maitlis & Christiansen, 2014), therefore the way in which a redeployment is discussed by important others such as matrons and colleagues (i.e. 'sense-giving'; Pratt, 2000) will affect the outcomes.

In WP2 we will draw upon sense-making and sense-giving theory to help explore how redeployment has been experienced by nurses during the COVID-19 pandemic. We will seek the experiences of three groups of nurses: those who have been redeployed to higher-risk settings, to lower-risk settings, and those who were not redeployed but acquired a redeployed nurse within their team.

Objectives

- To explore the process through which nursing staff affected by redeployment make sense of it.

- To explore the associated short-term and long-term effects on their health and well-being, motivation, performance and turnover intentions.

Research design, methods and procedure

WP2 involves a mixed-methods, prospective cohort study design, utilising longitudinal interviewing and surveys. We will collect data from participants at three timepoints. At T1, we will use semi-structured interviews lasting approximately an hour, conducted by telephone, video-call or face to face, according to participant preference. Prior to the interview, participants will be asked to complete a comprehensive questionnaire covering sleep quality; wellbeing; core self-evaluation; work performance; turnover intentions: perceptions of safety and personal resilience characteristics. This will form a baseline for the follow-ups. During the interview we will take a narrative process approach, asking participants to describe their work environment before, during and since the peak COVID-19 crisis. We will use a critical incident method to capture sense-making of one specific, identified redeployment event, reducing retrospective bias. General, open questions will be asked following the discussion of critical incidents to ensure that all emergent issues around well-being, safety and turnover are raised. At T2, approximately 3 months later (month 4), we will ask participants to complete a shorter version of the questionnaire used at T1 to track outcome metrics. Finally, at T3, 10 months after T1 (month 11), we will re-interview participants and repeat the full questionnaire to ascertain long-term recovery and sense-making during subsequent phases of COVID-19.

Recruitment and sampling
Purposive sampling will be used to recruit 60 nurses in total across our three collaborating Trusts across three groups:

1. Those redeployed to higher risk settings (e.g. ICU, respiratory wards) (N=20; 6/7 per Trust);
2. Those already working in high-risk settings who acquired redeployed staff (N=20; 6/7 per Trust); and
3. Those nurses redeployed to lower risk settings (i.e. non patient facing for health reasons) (N=20; 6/7 per Trust).

We will ensure that BAME nurses are represented in each of these groups. To achieve theoretical saturation (Strauss & Corbin, 1998) we expect to interview approximately 20 nurses from each group. To encourage participation and as a small token of appreciation for their support of the study, participants will receive a gift voucher after completing time point 1 and timepoint 3, up to £50 in total. Staff taking part will be offered certificates confirming participation that can be used as evidence in revalidation or appraisal portfolios.We will also draw on findings from WP1 (from the same three Trusts) to understand the matron's role in nurses' sense-making process, and by sampling co-located nurses we will seek to understand and triangulate the social processes involved in redeployment sense-making. We use follow-ups at 3 months and 10 months to track the aftermath of redeployment that occurred in the first wave, as well as capturing the processes and outcomes of sense-making during subsequent phases of COVID-19. This will also provide 135 data points over the three sampling periods to allow for the multilevel analysis.

Recruitment Process and Consent Procedures

Health Care Professionals and NHS Staff

Snowball sampling will be used, i.e. we will ask the senior nurses who have been invited to participate in WP1 to help us by identify nurses within their teams who (1) were redeployed to higher risk areas, (2) were redeployed to lower risk areas or (3) worked alongside redeployed nurses. We will also ask senior nurses leading higher risk teams (such as critical care, respiratory wards, A&E, palliative care), to help us identify which of their nursing staff met any of the three criteria above in their team during the pandemic. No senior nurses will know which of their staff did or did not participate in the study.

We will be guided by the Research Champions and the senior nurses with regard to the most appropriate mechanism for approaching potential nurse participants in their trust. These mechanisms may include, but would not be limited to, utilising staff huddles to highlight the study to their nursing teams, drawing on internal email lists or internal WhatsApp and Facebook nursing groups or social media, such as Twitter. To support this, we will produce a short, attractive invitation flyer outlining the study and promoting it as an opportunity to process/share experiences of redeployment during the pandemic, to have their voices heard, and to contribute to improving redeployment policy for the future benefit of all nurses. Through the flyer, interested nurses will be directed directly to the study research team, via phone or email, for more information. The flyer may be used flexibly, such as pasted into an email as an image (removing the need to click on an attachment,

and increasing likelihood of being read by busy nurses), printed off and handed physically to staff or posted on staff noticeboards. The research team will be able to post pre-printed colour flyers to the Trusts to minimise any burden to nursing teams, should this be required.

When appropriate, the researcher may attend the hospital of the research site to support the Research Champion in the sharing of study information, such as the flyer. In this instance, if a potential participant expresses interest in taking part in the study, they will be provided with the opportunity to provide their contact details for the study team to contact them on. Contact details will be recorded on a standardised form (see Appendix 21). Participant contact details will be transferred to an excel document and stored securely at the Yorkshire Quality and Safety Research Group, Bradford Institute for Health Research or Leeds University Business School, University of Leeds on a password protected NHS or University PC system. The paper versions will be destroyed once they have been electronically stored. The researcher will contact the participant at least 24 hours after the initial contact.

To recruit potential participants, interested nurses reading the flyer will be directed to email or phone the research team, and given the opportunity to provide their contact details to the researcher, to reduce the burden on potential participants. The research team will then issue a more detailed study information sheet by email (or post if preferred) with a consent form. Nurses deciding that they would like to take part will be asked to return their consent form, completed electronically with their signature. Where nurses are unable to send an electronic copy of the Consent Form with their signature, the researcher will do this by phone, completing the form with the participant's verbal responses and recording in writing that consent was given by phone. This will also be audio recorded. The researcher will arrange a convenient time to issue the questionnaire and conduct the interview.

Participants will be asked to provide their personal contact details when recruited into the study, in the event they leave the trust or are off work due to illness during their participation. Participants will be informed that by providing their personal contact details they are not committing to taking part in the subsequent timepoints, but are agreeing to the researchers contacting them. Participants can decline to take part once contacted and are free to ignore the contact if they no longer wish to take part. Participants will not be contacted on their personal contact details more than twice at the subsequent timepoints.

Data analysis

Interviews will be transcribed and analysed inductively to understand the experiences of our participants. We avoid a template approach to the analysis (Pratt, Sonenshein & Feldman, 2020) and use a combination of thematic analysis techniques from grounded theory approaches (to enable emergent themes, categories and relationships; Strauss & Corbin, 1997), Gioia coding (to facilitate naturalistic generalisations; Pratt & Bonaccio, 2016), and synthetic process strategies (to examine the process of redeployment sense-making in more depth; Langley, 1999). Triangulation within Trusts and comparisons across redeployment sampling groups' experiences will be explored for points of divergence and convergence. Questionnaire data will be entered into SPSS and Mplus and multi-level analyses will be conducted to track relationships over time. Although these data are quantitative, they remain subjective reports of the participant's perceptions of their well-being, performance and turnover intentions and will be treated as such alongside the qualitative data.

Dissemination and Projected Outputs

The results will have strong practical impact through a targeted publication in a journal for health service managers and nurses (e.g. Nursing Management, Nursing Times) and a redeployment toolkit for HR practitioners comprising checklists, guidelines, and educational resources. Moreover, the inductive theory we will build will advance the general understanding of the effects of redeployment sense-making; thus we envisage publishing a multi-method article in a high quality social science journal such as Human Relations or Journal of Management Studies.

Dissemination and spread of finding

There will be three main audiences for our findings:

a. The first audience will be HR management, Organisational Development and Occupational Health departments at local Trust level and NHS employers. We will target this audience through NHS Employers (who have agreed to support this work) and local contacts. We will produce a short handbook/set of guidelines on managing redeployment with a specific focus on how to do this in a crisis situation.

b. The second audience are nurses and nurse managers. Our advisory group will support us in this endeavour. We will produce at least one short article for Nursing Times and present at the RCN conference in 2022. Although beyond the scope of the programme timelines, we also plan to develop a short training video targeting those tasked with managing redeployment in the NHS. During the course of the programme we will also consider the extent to which the public might contribute to the support of staff who have been redeployed. If their role is identified as significant, we will work with our lay leaders and 'Safety in Numbers' citizen group to consider how, and in what form to disseminate this information to the public/patients.

c. Finally, academics in organisational behaviour/occupational psychology, medical ethics, clinical and health psychology. To address these audiences, we will publish our research in relevant disciplinary journals as well as health services research journals and present our work at UK HSR conference.

Project timelines and management

This 18 months programme of research will be hosted within the NIHR Yorkshire and Humber Patient Safety Translational Research Centre, Workforce Engagement and Wellbeing theme. This provides both a source of scientific steer and shared learning via our monthly theme meetings as well as staff resources to help in getting the project set up quickly. Independent Scientific steer will be delivered by a small group of two Professorial level academics, Associate Director of NHS Employers, a senior nurse and a lay leader.

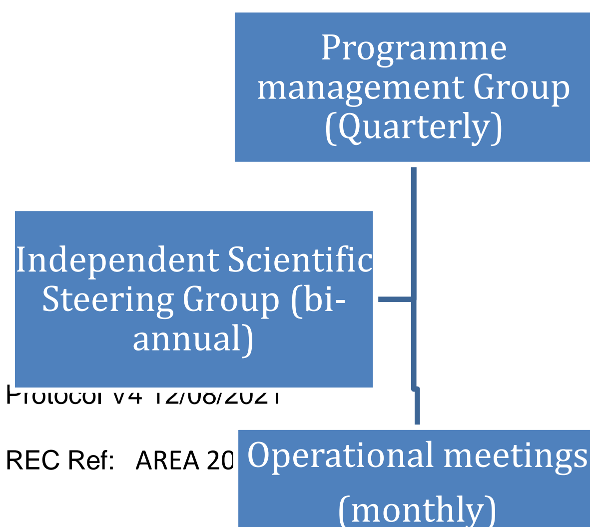


Figure 2: Governance arrangements

Further to the above arrangements, programme management meetings including all co-Is will take place on a quarterly basis. This group will manage the budget and so will also include the Finance Manager. Finally, operational meetings including leads for WP1 and 2 will also be scheduled on a monthly basis to ensure that we can collectively manage the workload as well as provide support and guidance to the research team.

The high-level Gantt chart below provides an outline of when tasks will be completed.

Table 2 High Level Gantt Chart

Task	**Set-up**	**Year 1 (Oct 20-Oct 21)**				**Year 2 (Oct 21-April 2022)**		
Ethics								
Recruitment								
Meet stop/go criteria								
WP1								
WP2								
Write up and Dissemination								

Darker shades indicate intensive periods of data collection for research team

Ethical considerations

Ethical approval (via Business School, University of Leeds) and HRA approval (expedited COVID-19 study) will be obtained.

Quality assurance

The research will be conducted in accordance with the principles of Good Clinical Practice (GCP), as applicable under UK regulations and the NHS Research Governance Framework (RGF).

Data storage

Hard copies or electronic versions of data collected as part of this study will be stored at the Yorkshire Quality and Safety Research Group, Bradford Institute for Health Research or Leeds University Business School, University of Leeds. They will be stored securely in locked filing cabinets in a building that is only accessible by electronic passes or on a password protected NHS or University PC system. Consent and demographic forms will be

stored separately from the research data. A copy of the consent form will be given to participants for them to keep.

Confidentiality and Archiving

Confidentiality

All data collected as part of this study will be transferred and stored securely at the Yorkshire Quality and Safety Research Group, Bradford Institute for Health Research and Leeds University Business School, University of Leeds in accordance with the Data Protection Act 2018. Recordings of interviews and focus groups will be transcribed verbatim. This may be conducted by a UK-based third party with an appropriate confidentiality and data security agreement. Transcripts will be anonymised.

Archiving

Electronic data generated and written records will be retained for a minimum of 5 years after the project ends according to NHS research governance standards. Open access publication of data will ensure longevity of the data in the long-term. Data will be securely archived at the Yorkshire Quality and Safety Research Group, Bradford Institute for Health Research. Arrangements for confidential destruction will then be made. Once interviews and focus group discussions have been fully transcribed and analysed, the audio recordings will be wiped.

IP

There is no existing background IP, with the exception of the ethical framework proposed by Dunn et al. (2020) which is in the public domain. The IP arising from this programme will be retained by the sponsors and programme leads, Bradford Teaching Hospitals NHS Foundation Trust. All findings and recommendations emerging from this programme will be made freely available to NHS. We have included costings for support from Medipex Ltd., our local innovation hub partners to support both collaboration agreements and contract set-up and the protection of any IP arising from this work. They will also help us to consider pathways to impact, innovative dissemination strategies and opportunities for commercialisation of findings outside the NHS.

Patient and Public Involvement

Patient and the public involvement have featured heavily in this research proposal to ensure that the redeployment of staff during Covid-19 has been considered from a patient and public perspective. In developing this proposal, we sought input from our two lay leaders, our PPIE research lead and co-applicant, Olivia Joseph, and local community links. We also drew upon responses about NHS staff during a patient and public engagement workshop in October 2019 prior to the pandemic. Staff who have experienced redeployment during the pandemic have also provided direct input. This has involved co-applicants, Angela Grange and Jayne Marran, other nurses on our team, and posts and discussions within a private Facebook group we established to support staff wellbeing at Leeds Teaching Hospitals Trust (Caring in a Crisis). This has provided understanding of key factors that have impacted on staff during redeployment and thoughts from patient, carer and public perspectives about the NHS workforce and the role that patients and carers can play in supporting staff to deliver the best care.

Our PPIE lead and co-applicant, Olivia Joseph and co-applicant Jayne Marran, will work together to deliver the Patient and Staff Voice in the programme of work. They will ensure

active involvement and engagement throughout the programme and provide support and training for ways of working as well as outlining a clear process for comments, critique or grievances. Diversity of patient and public voices to PPIE activities will be ensured through the recruitment of patients and the public through the NIHR Yorkshire and Humber Patient Safety Translational Research Centre hosted 'Safety in Numbers' public group of 50+ members, via our relationship with multiple grassroots community organisations across Leeds and Bradford, and via the official NIHR People in Research opportunity portal.

In particular, the patient voice will be represented by 8-10 people with experience of being in hospital (both during and prior to the pandemic) who will take part in 4 'community conversations' (months 1, 4, 9 and 16). These conversations will be held online (at least in the first instance) and co-facilitated with the advisory group Lay Leader, PPIE Lead and WP Leads and will explore important themes pertinent to both work packages and establish and communicate key messages, potential formats and methods for the dissemination of findings. In addition, the staff voice will be represented via an advisory group of nurses (including from the BAME staff network) and HR/organisational development managers, who together with our two lay leaders from our local Trust, will provide input throughout the project by meeting with the WP leads on a bi-monthly basis throughout the project.

Broader stakeholder engagement
Associate Director of NHS Employers who oversees the health and wellbeing programme has agreed to sit on our steering group. We will invite a BAME staff network lead and HR lead from our participating Trusts to sit on the programme management group to provide direct input into this research and also act as a conduit for translating findings into policy and practice. At the end of the programme we will convene a stakeholder workshop at 17 months. The focus will be on the learning from the two work-packages and agreeing with the stakeholders a set of recommendations based on the findings. We will also agree a strategy for dissemination of these findings beyond the academic outputs. Senior representatives from NHS Employers, Royal College of Nursing, Kings Fund, NHS England and Improvement, BAME Senior Nursing Leadership group and HR and/or Directors of Nursing/Chief nurses from our three participating Trusts will be invited to attend this workshop.

References

1. Acker, G. M. (2004). The effect of organizational conditions (role conflict, role ambiguity, opportunities for professional development, and social support) on job satisfaction and intention to leave among social workers in mental health care. *Community mental health journal*, *40*(1), 65-73. doi: 10.1023/b:comh.0000015218.12111.26

2. Boudrias, V., Trépanier, S. G., Foucreault, A., Peterson, C., & Fernet, C. (2020). Investigating the role of psychological need satisfaction as a moderator in the

relationship between job demands and turnover intention among nurses. *Employee Relations: The International Journal*.

3. Brunetto, Y., Farr-Wharton, R., & Shacklock, K. (2011). Supervisor-nurse relationships, teamwork, role ambiguity and well-being: Public versus private sector nurses. *Asia Pacific Journal of Human Resources*, *49*(2), 143-164. doi: https://doi.org/10.1177/1038411111400161

4. Cox, C. L. (2020). 'Healthcare Heroes': problems with media focus on heroism from healthcare workers during the COVID-19 pandemic. *Journal of medical ethics*, *46*(8), 510-513.

5. Dall'ora, C., & Griffiths, P. (2017). Flexible nurse staffing in hospital wards: the effects on costs and patient outcomes. *Health Work: Evidence Briefs*, *3*(1).

6. Dunn, M., Sheehan, M., Hordern, J., Turnham, H. L., & Wilkinson, D. (2020). 'Your country needs you': the ethics of allocating staff to high-risk clinical roles in the management of patients with COVID-19. *Journal of Medical Ethics*.

7. Foster, S. (2020). Ensuring safe practice during the pandemic. *British Journal of Nursing*, *29*(9), 539-539.

8. Grant, A. M., Fried, Y., Parker, S. K., & Frese, M. (2010). Putting job design in context: Introduction to the special issue. *Journal of Organizational Behavior*, *31*(2-3), 145-157. doi: https://doi.org/10.1002/job.679

9. Griffiths, P., Ball, J., Bloor, K., Böhning, D., Briggs, J., Dall'Ora, C., ... & Meredith, P. (2018). Nurse staffing levels, missed vital signs and mortality in hospitals: retrospective longitudinal observational study. *Health Services and Delivery Research*, *6*(38).

10. Hackman, J.R. & Oldham, G.R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, *16*(2), 250-279.

11. Hackman, J. R., & Oldham, G. R. (1980): *Work redesign.* Reading, MA: Addison –Wesley. Weick, K. E. (1995*). Sensemaking in organizations*. vol 3, California, USA: Sage Publications.

12. Jackson, S. E., & Schuler, R. S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational behavior and human decision processes*, *36*(1), 16-78. doi: https://doi.org/10.1016/0749-5978(85)90020-2

13. Khunti, K., Singh, A. K., Pareek, M., & Hanif, W. (2020). Is ethnicity linked to incidence or outcomes of covid-19?. *BMJ*, *369*(8243). doi: https://doi.org/10.1136/bmj.m1548

14. Krueger, R. A. (1994). *Focus groups: A practical guide for applied research* (2nd ed.). Thousand Oaks, CA: Sage.

15. Langley, A. (1999). Strategies for theorizing from process data. *Academy of Management review*, *24*(4), 691-710. doi: https://doi.org/10.5465/amr.1999.2553248

16. Lee, T. W., & Mitchell, T. R. (1994). An alternative approach: The unfolding model of voluntary employee turnover. *Academy of management review*, *19*(1), 51-89.

17. Mahoney, D.F. (1998). A content analysis of an Alzheimer family caregivers virtual focus group. *American Journal of Alzeimer's Disease*, 13,(6), 309-316.

18. Maitlis, S. (2005). The social processes of organizational sensemaking. *Academy of management journal*, *48*(1), 21-49. doi: 10.2307/20159639

19. Maitlis, S., & Christianson, M. (2014). Sensemaking in organizations: Taking stock and moving forward. *Academy of Management Annals*, *8*(1), 57-125. doi: 10.1080/19416520.2014.873177

20. Maunder, R. G., Lancee, W. J., Balderson, K. E., Bennett, J. P., Borgundvaag, B., Evans, S., ... & Hall, L. M. (2006). Long-term psychological and occupational effects of providing hospital healthcare during SARS outbreak. *Emerging infectious diseases*, *12*(12), 1924. doi: 10.3201/eid1212.060584

21. Miles, M.B. and Huberman, A.M. 1994. *Qualitative data analysis: an expanded sourcebook*. Sage Publications.

22. Mitchell, G. (2019). NHS nurse vacancies in England rise to more than 43,000. *Nursing Times*, 08 October. Available at: https://www.nursingtimes.net/news/workforce/nhs-nurse-vacancies-in-england-rise-to-more-than-43000-08-10-2019/ (Accessed: 14th October 2020).

23. NHS Digital (2020). *NHS Workforce Statistics*. Retrieved 6th September 2020 from https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics/february-2020.

24. NHS England & NHS Improvement. (2020). *Deploying our people safely*. Retrieved 6th September 2020 from https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/05/C0449-covid-19-deploying-our-people-safely-v1.2.pdf

25. Nursing Times. (2020) 'Exclusive: Nursing Times survey reveals negative impact of Covid-19 on nurse mental health', *Nursing Times*, 29th April. Available at:

https://www.nursingtimes.net/news/mental-health/exclusive-survey-reveals-negative-impact-of-covid-19-on-nurse-mental-health-29-04-2020/#:~:text=Subscribe,Exclusive%3A%20Nursing%20Times%20survey%20reveals%20negative%20impact%20of%20Covid,19%20on%20nurse%20mental%20health&text=Almost%20all%20nursing%20staff%20are,a%20survey%20by%20Nursing%20Times (Accessed: 6th September 2020).

26. Panagioti, M., Geraghty, K., Johnson, J., Zhou, A., Panagopoulou, E., Chew-Graham, C., ... & Esmail, A. (2018). Association between physician burnout and patient safety, professionalism, and patient satisfaction: a systematic review and meta-analysis. *JAMA internal medicine*, *178*(10), 1317-1331.

27. Pratt, M. G. (2000). The good, the bad, and the ambivalent: Managing identification among Amway distributors. *Administrative science quarterly*, *45*(3), 456-493. doi: https://doi.org/10.2307/2667106

28. Pratt, M. G., & Bonaccio, S. (2016). Qualitative research in IO psychology: Maps, myths, and moving forward. *Industrial and Organizational Psychology*, *9*(4), 693-715. doi: https://doi.org/10.1017/iop.2016.92

29. Pratt, M. G., Sonenshein, S., & Feldman, M. S. (2020). Moving beyond templates: A bricolage approach to conducting trustworthy qualitative research. *Organizational Research Methods*, 1094428120927466. doi: https://doi.org/10.1177/1094428120927466

30. Royal College of Nursing. (12th August 2020). *Redeployment and COVID-19.* Retrieved from https://www.rcn.org.uk/get-help/rcn-advice/redeployment-and-covid-19

31. Sarpong, N. O., Forrester, L. A., & Levine, W. N. (2020). What's important: redeployment of the orthopaedic surgeon during the COVID-19 pandemic: perspectives from the trenches. *The Journal of Bone and Joint Surgery. American Volume*. doi: 10.2106/JBJS.20.00574

32. Strauss, A. & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks, CA: SAGE Publications.

33. Strauss, A., & Corbin, J. M. (1997). *Grounded theory in practice*. Thousand Oaks, CA: SAGE Publications.

34. Van der Colff, J. J., & Rothmann, S. (2009). Occupational stress, sense of coherence, coping, burnout and work engagement of registered nurses in South Africa. *SA Journal of Industrial Psychology*, *35*(1), 1-10.

35. Weick, K. E. (1995). *Sensemaking in organizations* (Vol. 3). Thousand Oaks, CA: SAGE Publications.

36. Woodyatt, C. R., Finneran, C. A., & Stephenson, R. (2016). In-person versus online focus group discussions: A comparative analysis of data quality. *Qualitative Health Research*, *26*(6), 741-749. doi: https://doi.org/10.1177/1049732316631510