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The Challenges of Nurse Redeployment and Opportunities for Leadership During COVID-19 Pandemic

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Abstract

Objective: Literature has previously shown that healthcare staff redeployment has been widely implemented to build capacity, with little focus on nurses. This study aims to manage redeployment more effectively by capturing and scrutinizing nurses' redeployment experiences.

Methods: A cross-sectional short and structured interview was conducted. Data was analyzed using Braun and Clarkes 6 Step Thematic Analysis approach.

Results: 55 interviews were conducted predominantly from women (85%, N = 47), over the age of 45 years (45%, N = 25), who were in the role of Specialist Nurse or Staff Nurse (78%, N = 43). 5 critical themes emerged: willingness to work in redeployed role, poor communication, stress and anxiety, feelings of being unsupported and abandoned, and positive experiences despite challenging circumstances.

Conclusion: Nurses in redeployed roles were susceptible to stress and anxiety and were seeking dedicated leadership as they worked during a pandemic with the additional challenge of unfamiliar workspaces and colleagues. Nurses play a major role in the resilience of healthcare service, which cannot be achieved without a comprehensive resilience strategy. Healthcare organisations are required to develop strategies, policies, and enforcement measures to ensure that their staff are well empowered and protected not just during potential redeployment but also in their daily operations.

Introduction

In March 2020, the World Health Organisation declared the outbreak of Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2), which causes the disease known as Coronavirus Disease 2019 (COVID-19), as a global pandemic. Nurses are integral to the management of such disasters, adopting roles in acute care, public health, operational strategy and planning, as well as sustaining the ongoing care of patients with long term conditions and complex care needs who might be struggling to access their regular services. An increase in the number and acuity of patients during a pandemic, leads to nurses working beyond their daily capacity and being at risk of physical fatigue and poor mental health.

During COVID-19, nurses in the UK have endured a significant impact on their working lives as every aspect of patient care has been reassessed and reorganised. The strain of the increased demand in excess of capacity for acute nursing skills has been compounded by nurse absenteeism through sickness and self-isolation.¹ In an attempt to address this disparity during COVID-19, many nursing staff were rapidly retrained and redeployed as elective services were halted and staff had to be reassigned to meet the increasing demand.²⁻⁵

Literature demonstrates that the evidence specific to nurse redeployment is weak. A total of 50 studies related to nursing staff working during pandemics were examined with a narrative synthesis approach, to outline predominant themes. Historical data from previous pandemics demonstrates redeployment of staff is a recognised pandemic workforce strategy, 6-8 yet only 1 study was specific to redeployed staff. Where redeployment was mentioned, it was consistently demonstrated to be a source of stress and anxiety, 6,9-11 and a barrier to willingness to work. This study enhances the body of knowledge concerning nurse redeployment during pandemics. It provides evidence for healthcare managers to manage and lead pandemic-associated nurse redeployment for optimum effectiveness. It captures and scrutinizes nurses' redeployment experiences. The objectives are to: (1) explore nurses' willingness to work once redeployed, (2) explore and describe themes of experiences while nurses worked in their redeployed roles, and (3) develop guidance for the management and organisation of redeployment for future pandemic workforce planning.

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Methodology

Research Design

This mixed methods' study used a cross sectional structured interviews with open ended and multiple-choice questions with free text and Likert Scale answers to gather qualitative and quantitative data. The qualitative element of the study was designed to support a phenomenological approach, with the focus on the individual's perceptions of being redeployed during the pandemic. The quantitative element, the addition of Likert scale answers, provided the potential to quantify the distribution of responses to confirm, cross-validate and corroborate any emerging themes.

Distribution and Sampling

Non-probability self-selection sampling was used. The interviews were conducted online between 27th August and 23rd October, 2020. An invitation for participations was sent to 254 nurses across an NHS hospital in the south of England. Participation was voluntary and informed consent obtained.

Literature around this topic offers 3 definitions of pandemic workforce redeployment, working in a completely different role to usual, ^{11,12} working in usual roles with additional unfamiliar tasks, ^{10,11} and finally working within the usual role, but with additional responsibilities at a more senior level than normal. ⁶ All these definitions were used in this study to allow self-selection of nurses redeployed in different ways.

Inclusion Criteria

- Nurses with current Nursing and Midwifery Council registration.
- 2) Nurses who have been informed they may be redeployed, or have already been redeployed to support operational capacity.
- Nurse managers who inform employees about redeployment and managing nurses under redeployment.

Exclusion Criteria

Nurses performing their usual roles unaffected by COVID-19.

Data Analysis

All data was entered into a Microsoft Excel spreadsheet, and thematic analysis was applied. Braun and Clarke's theoretical 6 step thematic analysis framework allowed orientation and categorization of themes during analysis. The frequency of the themes were explored and are presented through descriptive statistics, but due to the large amount of qualitative data volunteered by a relatively small number of participants emphasis shifted from a mixed methods review to qualitative representation of experiences with manual cross referencing and correlation of findings.

Results

Demographic Profile

There were 55 participants in the study, see Table 1. Most of the participants (56.3%, N=31) identified their redeployment within the COVID-19 pandemic as: working in a completely different role with representation of those who worked within their usual role (34.5%, N=19) but with additional unfamiliar tasks; and working within their usual role (5.6%, N=3) but with additional responsibilities at a more senior level than they were used to. 5 critical

Table 1. Demographics of interview participants

	Frequency	Ratio (%)
Gender		
Female	47	85.5
Male	6	10.9
Prefer not to answer	2	3.6
Age (years)		
25 - 35	18	32.7
36 - 45	11	20
45+	25	45.5
Prefer not to answer	1	1.8
Ethnicity		
Mixed White and Asian	1	1.8
White British	42	76.3
Asian/Asian British - Indian	3	5.5
Other white background	7	12.8
Other ethnic group	1	1.8
Prefer not to answer	1	1.8
Years Registered as a Nurse		
Less than 10 years	20	36.4
More than 10 years	32	58.1
Prefer not to answer	3	5.5
NHS Banding (level of seniority)		
Band 5	18	32.7
Band 6	16	29.2
Band 7	18	32.7
Band 8a	2	3.6
Prefer not to answer	1	1.8
Job Title		
Specialist nurse	24	43.6
Staff Nurse	19	34.5
Junior sister	4	7.3
Matron	1	1.8
Prefer not to say	7	12.8

themes emerged from the data (see Table 2) indicating the flexibility of the nursing workforce to support the provision of medical care during disasters, and that nurses perceive redeployment as an opportunity for positive career development and professional fulfilment. However, they viewed that lack of organizational support in terms of structured, uniform and employee centered communication; leadership interventions; and availability of formal mental health provision, have created a less supportive environment and need to be urgently addressed to enhance resilience to future disasters.

Evidence of a Flexible Nursing Workforce

Nearly 50% of participants felt a strong sense of professionalism with associated duty to work in their redeployed role during the pandemic. 47% (N = 26) of the participants identified across all demographic groups saying their redeployment had no impact on their willingness to work. Participants stated 'I felt I was probably more willing to work,' 'I was very motivated to help during the pandemic.' 40% (N = 22) of participants indicated their redeployment did impact their willingness to work. Despite this an altruistic theme still emerged, with staff explaining that they

Table 2. Phrases and wording associated with themes

Theme	Participant key phrases/words
Flexible nursing workforce	more willing to work; felt very motivated to help during the pandemic; willing to do anything that was needed; willing to work; keen to go; happy to work; glad to help out; willing to do my bit; happy to work wherever needed; felt a sense of duty; the right thing to do
Staff mental health	I was scared; very scared; unhappy to move to a COVID-19 ward; I didn't enjoy it; I was terrified; became very anxious; less willing to work; I felt like I was going into battle; felt incredibly stressed by redeployment; running on adrenaline; my head isn't in a good place; staff told not to discuss their anxiety with colleagues.
Structured, uniform and employee centred communication	Lack of information: Initial plan communication unclearly; plans not communicated to me I found out through gossip; no communication at all; communication of plans were nearly non-existent. Style of communication: I had no say in my redeployment; I was told, no discussion; non-negotiable; did not ask us if we minded; just expected we would do it; I wanted a say in where I would go; very autocratic. Short notice redeployment: [I was] told 1 day and sent the next; notified the day before; informed of redeployment the same day; told the
Visible and structured leadership interventions	night before; during handover I was told I was moving; I needed more time. Confusion about role of line manager while redeployed: Very little support from management; lack of support from line manager; abandoned by line manager; poor communication from line manager; line manager was really supportive; line manager has open door policy which I appreciated; approachable line manager. Lack of support from Senior Nursing Team: disrespect from Matrons and higher up; very little support from management; the hospital never acknowledged the stress and anxiety of staff; feel totally let down by management; neglected; ignored; the senior nursing management team had no idea what was happening and hid and should be ashamed of themselves; my line manager was great, but the upper nursing team from him were noticeable by their absence; what were Band 8s doing?
Career development and professional fulfillment	I have the guts to do bank shifts now; I think it was a unique experience that we will talk about for many years to come; a very positive element of this pandemic is the relationships that have been forged with ward staff; feeling of being able to achieve something and at the same time happy that I was able to rise up to the challenge; this was an opportunity that I was grateful I was able to experience; we made a very good and supportive Covid team; I am able to support my current manager and staff with my knowledge about any Covid issues; coming together with other staff from both the hospital and university was a unique opportunity; we learned so much from each other; we all supported each other

continued to work despite their own fears and concerns. 'I was terrified but knew it was the right thing to do,' stated a participant.

Demonstration of the Need for Formal Mental Health support for Redeployed Nurses

Most participants (90.9%, N=50) felt stressed and/or anxious during their redeployment. This was represented in the associated qualitative commentary: 'I felt incredibly stressed at times by the redeployment, even came close to going off sick with stress,' stated a participant. Several staff within this group self-declared that their effectiveness at work decreased due to their stress and anxiety saying: 'I became highly anxious and I became less effective as the anxiety increased.' Participants indicated that their stress and anxiety stemmed from the fact that they did not feel adequately prepared for their redeployment, articulating concerns about the safety of their practice due to inexperience with hospital computer systems, the patient groups they were caring for, and the equipment they were using. A participant stated: I felt I was unsafe at times,' which was confirmed by another participant: 'I did not have the training to give safe care.'

Requests for Structured, Uniform, and Employee Centred Communication and Consultation about Redeployment

A large proportion of the participants (62%, N = 34) felt plans for their redeployment were not communicated clearly. First, there was a lack of information; participants stated that 'communication of plans was very poor, nearly non-existent.' Second, there was dissatisfaction for many as instructions for redeployment were

received at very short notice; a participant stated: 'I was notified the night before that I was being redeployed.' Third, the communication style was heavily criticized, with staff resentful at what they perceived were orders to redeploy without discussion: 'My senior management did not approach us to ask if we minded being redeployed,' stated a participant and, 'I felt as if I had no say at all,' confirmed another. This point was reiterated further when participants were asked how communication of their redeployment might have been improved. The consistent response was requests for more involvement with decision making accompanied by adequate explanations.

No single method of communication was associated with clear communication, although several participants commented that they would have preferred more face-to-face communication about their redeployment. Approximately 54% of respondents (N=30) received verbal, in person instruction about their redeployment with the remaining group reporting they heard via email, telephone, or other sources, which incorporated being told by peers, gossip and rumor, WhatsApp messages, and instruction on arrival for their usual role.

The importance of Visible and Structured Leadership Interventions for Redeployed Staff

Throughout this study there was a theme of participants feeling unsupported and abandoned during their redeployment. First, there was a disparity in the support that nurses received from their usual line manager, with a clear split between those who received support from their line managers (47%, N = 26): 'My line manager was really supportive' stated a supported participant, and those

who did not (40%, N=22). 'My main problem was lack of support from my line manager,' and 'I felt abandoned by my line manager' articulated others. Participants expressed confusion as to the role of the existing line manager when staff are redeployed stating that 'It was unclear who to go to, my line manager wasn't technically my manager and the ward manager I was working with had too many other things to organize,' 'My line manager wanted to know when I was returning and my manager on ward wanted to know how long I was staying and nobody could give a clear answer.'

Secondly, there were strong feelings of resentment towards what were named as 'senior nursing teams/senior nurses/senior management/Matrons/Band 8 nursing staff.' There are repeated calls for more support from this team, for increased visibility and for transparency around their decision making. Participants described that 'explanations of decisions would have improved things' and that 'there was disrespect from matrons and higher up, not once did I get a nice email or text asking if I'm ok,' and there were 'many matrons and commands in place, however minimal conversations with frontline staff.' This confusion led to multiple calls for a formal support mechanism to be put in place, including a single point of contact to address the confusion around the management, and/or perceived absence of management of their redeployment. In contrast to these feelings towards management teams, 73% (N = 40) of participants reported feeling supported by the staff in the area they were redeployed to. Some described it as 'becoming like a new work family.' Those who reported feeling less supported by their peers in their redeployed areas called for formal peer support such as a 'buddy scheme" and 'some form of mentoring.' The role of peer support was emphasized, and the use of informal talking therapy support mechanisms was cited most frequently as a relied upon source of support while staff were redeployed, denoting the importance of feeling supported when they feel fragile and vulnerable. Participants felt they had to talk with colleagues, friends and family members to reduce stress and to fill the gap they felt from their formal hierarchy. While over 50% of participants (56%, N = 31) stated they knew where to access (formal) support services during their redeployment, only 20% (N = 11) accessed these services which could indicate the lack of trust and perhaps the low expectations they had.

Redeployment as an Opportunity for Positive Career Development and Professional Fulfillment

Overall, approximately 44% (N = 24) of participants viewed their redeployment experience as a positive one, 34% (N = 19) viewed it as negative and the remainder (22%, N = 12) were not sure. Those who had positive views stated that: 'A positive element of this experience was the relationships that have been forged with the ward staff,' and 'There was a feeling of having achieved something, I was happy that I was able to rise to the challenge.' About 66% of participants who reported positive experience (N = 16) have 10 or more years as registered nurses indicating a potential correlation between motivation and the length of experience. They felt supported by the team they were redeployed to and over 50% of them (N = 13) felt that communication about their redeployment was clear. Most of those with positive experience (79%, 19/24) felt confident to be able to speak to the correct person about their redeployment. Despite describing positive elements of their redeployment, stress and anxiety continued to be a feature for 66% (16/24) of this group of nurses. There were no shared demographics of this group; however, there were correlations in their experiences. This has been found in those who were not sure.

A major proportion of this group (92%, N=11/12) suffered stress and anxiety during their redeployment and reported that communication about their redeployment was not clear. Only 8% (1/12) reported feeling confident about being able to speak to the right person about their redeployment leading to the majority (58%, 7/12) feeling unsupported by the team to which they were redeployed to. Such challenging and difficult experiences led 22% of the participants (N=12) to declare that their redeployment had caused them to consider leaving the hospital Trust, the NHS, or nursing altogether; threatening the struggling-healthcare resilience even more.

Discussion

Lack of Preparedness

Despite the strengths, the findings suggest that nursing in the UK has been facing serious challenges that started before the outbreak of the ongoing COVID-19 pandemic. Healthcare organisations' lack of response increased the magnitude and intensity of nursing staff problems. For example, the Royal College of Nursing estimates that pre-COVID-19, there were 50000 registered nurse vacancies across the UK.14 This indicates that even before the disruptive impact of COVID-19, nurses were working in difficult conditions, which aggravated the situation and increased vulnerability. The impact of the COVID-19 pandemic on the UK healthcare workforce is yet to be fully realized; however, there is an ever-increasing body of evidence that suggests nurses are susceptible to increased levels of stress and anxiety while working through the pandemic. 15,16 Worryingly, nurses' susceptibility seems to be higher than other healthcare professionals, 15,17 which might be attributed to the fact that they spend more time delivering direct patient care and in the absence of patients' own support networks, are vulnerable to vicarious trauma as they adopt direct social or emotional support roles for their patients.

Redeployment, a critical workforce strategy during the COVID-19 pandemic, has caused additional occupational related stress for many nurses. This study revealed that nurses redeployed during COVID-19, suffered high levels of stress and anxiety, and felt unsupported and abandoned during their redeployment. Such findings are in line with others on the subject such as Shanafelt *et al.*¹⁸ In previous studies, evidence has demonstrated that the fear of being redeployed to an unfamiliar environment may be greater than the fear of any pandemic pathogen.¹⁹ This is problematic. Maslow's hierarchy of needs outlines a fundamental requirement of safety and belonging; only once these are met will nurses be in a position to experience esteem and feeling of self-fulfillment which in turn will motivate them. If these needs are consistently not met, there is likely to be burnout and feelings of self-depletion, with an associated negative impact on nurses' abilities to fulfil their role.

Healthcare organizations' disaster-preparedness need to be revised urgently to take into account the impact of day-to-day operations on the overall resilience of the service and ensure that healthcare workforce is at the core of any preparedness. Achour et al.²⁰ argued that stress and burnout are 'the sleeping cell for healthcare failure,' indicating that this problem has been existing for a few years before COVID-19. Healthcare organisations need to ensure that there are key indicators to measure staff resilience supported by policies and regulations for enforcement.

Empowering Nursing Staff

Despite high levels of stress and anxiety, this study demonstrated the presence of a flexible workforce which supports the ongoing use of redeployment in disaster medicine. This is not an uncommon phenomenon. A professional duty of care combined with altruism, often results in a nursing workforce willing to attend to patients despite their own mental health concerns. ^{21,22} The question must be, at what cost? Research suggests the relevant issue is not about the willingness of staff to attend to major emergencies such as COVID-19, but their ability to respond to events like this without suffering physically and mentally as a consequence of their attendance.²³ In their guidance for staff being redeployed during COVID-19, the Royal College of Nursing refers explicitly to the potential for positive professional opportunities redeployment might provide.²⁴ Despite the documented challenges of redeployment, a group of nurses in this study were able to describe positive outcomes and benefits of their experience. This can be extrapolated to positive effects of career development through broadening of experience and knowledge.

Positivity about redeployment was associated with increased years as a registered nurse. It is worth noting this group still reported feeling stressed and anxious, but it might be assumed they had higher levels of resilience therefore enabling them to manage their stress, accommodate, and recover from the change to their working practices. This observation is corroborated by other studies such as Sull, *et al.*,²⁴ who suggested that resilience in nursing increases with age and banding. Further evidence from the COVID-19 pandemic suggests older nurses experienced less stress levels,¹⁴ and younger, less experienced nurses experienced increased stress levels.²⁵

Moving forward, might it be argued that profiling should be used to redeploy those nurses deemed more resilient? It is not a prospect widely supported. There are concerns about highlighting resilience in certain groups of staff as a beneficial characteristic. An over emphasis on nurses being 'resilient' is challenged by nurses and nurse academics.²⁶ There is the potential that treating resilience as an individual's trait could lead to a lack of organizational responsibility. The critical question is, how should nursing staff be supported so that a successful redeployment does not rely on an individual's inherent resilience? How may redeployment be recognized as an opportunity instead of a source of stress and anxiety with potentially detrimental effects on staff and by association, patients? Both are relevant questions when asked in the context of an NHS organisation that relied on the movement of nursing staff between wards pre-pandemic due to staff shortages as well as during COVID-19. Both are also questions that might be answered with structured and visible leadership indicating the organizational commitment towards nursing staff resilience and

Nursing leaders need to recognise that they have the power to influence the work environment,²⁷ and step up to support staff wellbeing. Consistently, studies of members of the armed forces demonstrate that vertical team cohesion between leaders and their teams is highly correlated with positive mental health.²⁸ There is evidence that during the COVID-19 pandemic, support and care from leaders has benefitted healthcare workers.²⁹ In contrast, the results of this study illustrate a group of staff who were deficient of leadership, their concerns related to poor communication and lack of engagement from leaders, and an associated sense of abandonment. The logical question to ask therefore is if more effective leadership would have prevented this group of nurses feeling so stressed and anxious about their redeployment. There is an indication for the use of the Transformational Leadership model which is closely associated with high levels of staff engagement, empowerment, and retention. Such results are obtained through

a combination of effective communication, visibility, and accessibility. Orucially, these are 3 key factors that the redeployed staff in this study were calling out for. In order to develop a more resilient healthcare service, healthcare organizations are required to commit to more effective leadership, to empower actions, and help nursing staff develop a more attractive work environment. Nursing workforce demonstrated that they consider redeployment as a professional and moral requirement and even as an opportunity for development; however, the lack of organizational commitments and support is what makes them less motivated, anxious, and incapable to be redeployed.

Communication

Findings established that participating nurses have a strong aversion to the autocratic process they experienced. There is an argument for formal, early pre-pandemic engagement with staff by leaders to ensure that staff members are cognizant of the fact that cancellation of elective procedures and associated redeployment of staff is a recognized pandemic workforce strategy. Engagement with pandemic preparedness strategy would have meant that staff would know redeployment was likely, feel more prepared, and less affronted, at the instruction to redeploy at short notice. Such strategies are reflective of conclusions of previous studies where 'self-choice' around working in a pandemic situation was advocated with ongoing involvement in pandemic planning. 31,32 Healthcare organisations need to consider communication between redeployed nursing staff and line management as early as possible to allow for more training and education to offset some of the concerns nurses felt at working in unfamiliar areas with unfamiliar patient groups and associated equipment. Having an early communication will also allow staff to manage their personal lives more carefully and appropriately. Personal circumstances (e.g., childcare) are a key factor for the continuity of healthcare service, yet they tend to be overlooked by healthcare organisations.33,34

Leadership

Findings suggest that there is a sense of mistrust in leaders who were perceived to be far from the frontline and not engaging with redeployed staff. Staff members were seeking visibility and a sense that those making decisions understood the issues they were facing on their redeployed placement. The absence of effective leadership during disaster response generates a negative environment where nurses feel less supported formally and search for alternative forms of support. Findings established that while participants clearly felt the pressures of their redeployment, few accessed formal support services, despite the majority of staff declaring they knew where to access such support. Does this mean that things were not as bad as they describe? Not necessarily; nurses were electing to rely on informal peer support offered by colleagues, line managers, friends, and family. The use of peer or social support in nursing is not unusual. 15,35 Is it possible that redeployed staff were put off the formal support services, believing that they had been put in place by people who were not visible to them and as such are unlikely to understand what they need? If so, such attitudes could compound an existing issue found in team driven professions such as nursing, where those injured by stress from their work and in need of support may be reluctant to seek it out, due to concerns about stigma.³⁶ Support services are required where the onus is not on the individual to actively seek out help, for example, break out areas to encourage peer to peer support.

While it is clear that redeployed nurses in this study felt they needed more support from their leaders, the challenging context in which this redeployment was set cannot be negated. Those tasked with making and implementing difficult decisions regarding staffing may argue there was little time for long discussions and negotiations. Furthermore, the social distancing precautions demanded by COVID-19 prevented any formal gatherings or meetings of redeployed staff which would be the natural starting point when developing a new workforce team. In response, it can be argued that face to face meetings are not the only tool to providing visible, accessible leadership. There is a need to provide sustainable accessibility to leadership through formal redeployment guidance and policy, combined with active visibility of nursing leaders. Theories of leadership draw a fine line between management and leadership, what can be learned here is that leadership is not well understood by 'leaders' which makes them more 'managers' than 'leaders' and thus their focus is on getting things done more than supporting people to do things.

Conclusion

The impact of COVID-19 has necessitated the rapid redeployment of nurses to provide care in key clinical areas. This study surveyed hospital nurses redeployed during COVID-19; to explore and describe themes of their experience in order to develop guidance that might be used for future workforce management. Findings indicate that nurses redeployed during the COVID-19 pandemic are susceptible to stress and anxiety and are seeking dedicated leadership to support them. Despite the concerns around redeployment, willingness to work was high, demonstrating levels of professionalism, altruism, and duty of care that are frequently associated with the nursing profession. Some nurses were able to identify positive outcomes of their redeployment experience, however they reported that they were stressed and anxious.

Based on the themes deduced from the study, effective communication, visibility, and sustainable accessibility have the potential to offset some of the stress and anxiety experienced by redeployed nurses. Effective leadership could support the development of resilience as a learned coping technique instead of an individual personality trait. Perhaps then more nurses will be able to reflect on their redeployment as a valuable and enjoyable experience. Nurse training to deal with pandemics should reduce their stress and anxiety and enhance their resilience. Building the resilience of nurses, as well as other staff members, will lead to a more robust healthcare service capable of dealing not just with pandemics but also other hazards, and disasters. Further research is needed to identify how other healthcare professional groups experienced the pandemic.

Nursing staff play a major role in the resilience of healthcare service, which cannot be achieved without a comprehensive resilience strategy that integrates disaster preparedness and management with the day-to-day operations. Failing to do so can lead to less resilient staff and a vulnerable healthcare service. Healthcare organisations are required to develop strategies and policies and enforcement measures to ensure that staff members are well empowered and protected not just during potential redeployment but also in their daily operations.

Despite the strength of this study, some limitations have been identified such as potential for retrospective bias from participants to influence outcomes. The interviews were conducted approximately 2 months after most participants are likely to have returned to their regular roles and might have forgotten details that could

have affected the findings. There is also the potential for a positive participation bias, those who have issues, a specific point, and are looking for mechanisms by which to expose or offload it.

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References

- RCN Research Society. Impact of COVID-19 on nursing and midwifery workforce (ICON) study Part 1. 2020. https://rcni.com/nursing-standard/ newsroom/news/covid-19-redeployment-training-non-existent-or-inadequatenurses-reveal-160301.
- Maben J, Bridges J. Covid-19: Supporting nurses' psychological and mental health. J Clin Nurs. 2020;29(15–16):2742-2750. https://doi.org/ 10.1111/jocn.15307.
- 3. Mahendran K, Yogarajah S, Ormond, M. Redeployment: creating value through diversity; 2020. https://www.fgdp.org.
- Sun N, Wei L, Shi S, et al. A qualitative study on the psychological experience of caregivers of COVID-19 patients. Am J Infect Control. 2020;48(6):592-598. doi: 10.1016/j.ajic.2020.03.018.
- Hales P, White A, Eden A, et al. A case study of a collaborative allied health and nursing crisis response. J Interprof Care. 2020;34(5):614-621. https:// doi.org/10.1080/13561820.2020.1813093.
- Corley A, Hammond NE, Fraser JF. The experiences of health care workers employed in an Australian intensive care unit during the H1N1 Influenza pandemic of 2009: a phenomenological study. *Int J Nurs Stud.* 2010;47(5):577-585. https://doi.org/10.1016/j.ijnurstu.2009.11.015.
- Damery S, Wilson S, Draper H, et al. Will the NHS continue to function in an influenza pandemic? A survey of healthcare workers in the West Midlands, UK. BMC Public Health. 2009;9:1-13. https://doi.org/10.1186/ 1471-2458-9-142.
- Martin SD. Nurses' ability and willingness to work during pandemic flu.
 J. Nurs. Manag. 2011;19(1):98-108. https://doi.org/10.1111/j.1365-2834.
 2010.01190.x.
- Cai H, Tu B, Ma J, et al. Psychological impact and coping strategies of frontline medical staff in Hunan between January and March, 2020 during the outbreak of coronavirus disease 2019 (COVID) in Hubei, China. Med Sci Monit. 2020;26(e924171):1-16. https://doi.org/10.12659/MSM.924171.
- Jackson D, Bradbury-Jones C, Baptiste D, et al. Life in the pandemic: Some reflections on nursing in the context of COVID-19. J Clin Nurs. 2020;29(13-14):2041-2043. https://doi.org/10.1111/jocn.15257.
- 11. **Maunder R.** The experience of the 2003 SARS outbreak as a traumatic stress among frontline healthcare workers in Toronto: lessons learned. *Philos Trans R Soc Lond B Biol Sci.* 2004;359(1447):1117-1125. doi: 10.1098/rstb.2004.1483.
- Liu Q, Luo D, Haase JE, et al. The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. Lancet Glob Health. 2020;8(6):E790-E798. https://doi.org/10.1016/S2214-109X (20)30204-7.
- Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77-101. https://doi.org/10.1191/1478088706qp063oa.
- Royal College of Nursing (RCN). Building a better future for nursing; RCN members have their say. 2020a; London. https://www.rcn.org.uk/ professional-development/publications/rcn-building-a-better-future-covidpub-009366.
- Greenberg N, Weston D, Hall C, Caulfield T, Williamson V, Kong F. Mental Health of staff working in intensive care during COVID-19. Occup Med. 2021;71(2):62-67. https://doi.org/10.1093/occmed/kqaa220.
- 16. Labrague LJ, De los Santos JAA. COVID-19 anxiety among front-line nurses: predictive role of organizational support, personal resilience and

- social support. *J Nurs Manag.* 2020;28(7):1653-1661. https://doi.org/10. 1111/jonm.13121.
- Shechter A, Diaz F, Moise N, et al. Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. Gen Hosp Psychiatry. 2020;66:1-8. doi: 10.1016/j.genhosppsych.2020.06.007.
- Shanafelt T, Ripp J, Trockel M. Understanding and addressing sources of anxiety among health care professionals during the COVID-19 pandemic. *JAMA*. 2020;323(21):2133-2134. https://doi.org/10.1001/jama.2020.5893.
- Considine J, Shaban RZ, Patrick J, et al. Pandemic (H1N1) 2009 influenza in Australia: absenteeism and redeployment of emergency medicine and nursing staff. Emerg Med Australas. 2011;23(5):615-623. https://doi.org/ 10.1111/j.1742-6723.2011.01461.x.
- Achour N, Munokaran S, Barker F, Soetanto R. Staff stress: the sleeping cell of healthcare failure. *Procedia Eng.* 2018;212(2017):459-466. https://doi.org/10.1016/j.proeng.2018.01.059.
- McMullan C, Brown GD, O'Sullivan D. Preparing to respond: Irish nurses' perceptions of preparedness for an influenza pandemic. Int Emerg Nurs. 2016;26:3-7. https://doi.org/10.1016/j.ienj.2015.10.004.
- Pincha Baduge MS, Morphet J, Moss C. Emergency nurses' and department preparedness for an Ebola outbreak: a (narrative) literature review. *Int Emerg Nurs*. 2018;38:41-49. https://doi.org/10.1016/j.ienj.2017. 12.002.
- Royal College of Nursing (RCN). Redeployment and COVID-19. 2020b. https://www.rcn.org.uk/get-help/rcn-advice/redeployment-and-covid-19.
- Sull A, Harland N, Moore A. Resilience of health-care workers in the UK; a cross-sectional survey. J Occup Med Toxicol. 2015;10(1):1-8. https://doi. org/10.1186/s12995-015-0061-x.
- Roberts NJ, McAloney-Kocaman K, Lippiett K, Ray E, Welch L, Kelly C. Levels of resilience, anxiety and depression in nurses working in respiratory clinical areas during the COVID pandemic. *Respir Med.* 2021;176:106219. https://doi.org/10.1016/j.rmed.2020.106219.

- Traynor M. Guest editorial: what's wrong with resilience. J Res Nurs. 2018;23(1):5-8. https://doi.org/10.1177/1744987117751458.
- Wei H, Sewell KA, Woody G, Rose MA. The state of the science of nurse work environments in the United States: a systematic review. *Int J Nurs Sci.* 2018;5(3):287-300. https://doi.org/10.1016/j.ijnss.2018.04.010.
- Jones N, Seddon R, Fear NT, McAllister P, Wessely S, Greenberg N. Leadership, cohesion, morale, and the mental health of UK armed forces in Afghanistan. *Psychiatry*. 2012;75(1):49-59. https://doi.org/10.1521/ psyc.2012.75.1.49.
- Que J, Shi L, Deng J, et al. Psychological impact of the covid-19 pandemic on healthcare workers: A cross-sectional study in China. Gen Psychiatry. 2020;33(3). https://doi.org/10.1136/gpsych-2020-100259.
- Prado-Inzerillo ML, Clavelle JT, Fitzpatrick JJ. Leadership practices and engagement among magnet[®] hospital chief nursing officers. J Nurs Adm 2018;48(10):502-507. https://doi.org/10.1097/NNA.00000000000000658.
- Ehrenstein BP, Hanses F, Salzberger B. Influenza pandemic and professional duty: family or patients first? A survey of hospital employees. BMC Public Health. 2006;6:3-5. https://doi.org/10.1186/1471-2458-6-311.
- Shabanowitz RB, Reardon JE. Avian flu pandemic Flight of the healthcare worker? HEC Forum. 2009;21(4):365-385. https://doi.org/10. 1007/s10730-009-9114-9.
- Achour N, Miyajima M. Post-earthquake hospital functionality evaluation: The case of Kumamoto Earthquake 2016. Earthq Spectra. 2020;36(4):1670-1694. https://doi.org/10.1177/8755293020926180.
- Achour N, Elhaj H, Ali A. Hospital resilience to extreme events: a staff attendance perspective. Int J Disaster Risk Reduct. [Under review]. 2022
- Liu Y, Aungsuroch Y. Work stress, perceived social support, self-efficacy and burnout among Chinese registered nurses. *J Nurs Manag.* 2009;27(7):1445-1453. https://doi.org/10.1111/jonm.12828.
- Watson PJ, Brymer MJ, Bonanno GA. Post disaster psychological intervention since 9/11. Am Psychol. 2011;66(6):482-494. https://doi.org/10.1037/a0024806.