Lived experiences of healthcare workers on the front line during the COVID-19 pandemic: a qualitative interview study

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ABSTRACT

Objectives This study aimed to investigate the presence of perceived stressors, psychological safety and teamwork in healthcare professionals. As the timeframe for this study spanned the first wave of the COVID-19 pandemic, data were captured demonstrating the impact of the pandemic on these factors.

Design Qualitative interview study.

Setting All staff working within the emergency and critical care departments of one National Health Service Trust in London, UK.

Participants Forty-nine participants were recruited using a purposive sampling technique and interviewed when the first wave of the COVID-19 pandemic had subsided.

Main outcome measures Evaluation of changes in perceived stressors, psychological safety and teamwork in individuals working during the COVID-19 pandemic.

Results The thematic analysis relating to a participant’s lived experiences while working during COVID-19 led to the construction of five key themes, including ‘psychological effects’ and ‘changes in team dynamics’. Several psychological effects were described, including the presence of psychological distress and insights into the aetiology of moral injury. There was marked heterogeneity in participants' response to COVID-19, particularly with respect to changes in team dynamics and the perception of a psychologically safe environment. Descriptions of improved team cohesiveness and camaraderie contrasted with stories of new barriers, notably due to the high workload and the impact of personal protective equipment. Building on these themes, a map of key changes arising due to the pandemic was developed, highlighting potential opportunities to provide targeted support.

Conclusions Working on the front line of a pandemic can have significant implications for healthcare workers, putting them at risk of psychological distress and moral injury, as well as affecting team dynamics. There is striking heterogeneity in the manifestation of these challenges. Team leaders can use the themes and qualitative data from this study to help identify areas for management focus and individual and team support.

INTRODUCTION

The first wave of the COVID-19 pandemic began to have a significant impact on healthcare services in London in March 2020. Healthcare workers were faced with a rapid influx of critically unwell patients, while simultaneously having to create a ‘surge’ environment to provide the sustained increased capacity required. Healthcare workers were effectively faced with a prolonged major incident, working in hospitals operating above a safe occupancy and intensity for a substantial period of time. By early April 2021, there had been over 72,000 hospitalised patients within London and over 15,000 deaths.

Published studies investigating psychological distress in healthcare workers during and after pandemics are predominantly quantitative, using psychological assessment tools such as the Impact of Event Scale or the Depression, Anxiety and Stress Scale. Psychological distress (typically manifesting as anxiety, depression or post-traumatic stress disorder) has been shown to be prevalent in healthcare workers during and after a pandemic, with studies highlighting a range of contributory factors. There is concordance in the findings of many of these studies—female staff, nursing and younger team members appear to be at highest risk; social isolation, fear
of infection and limited resources all contribute to the development of psychological distress.16

A rapid systematic review of 55 studies17 (38 of which focused on the COVID-19 pandemic) explored the psychological impact on healthcare workers facing epidemics or pandemics and concluded that fear of the unknown or being infected was paramount. Other prevailing issues include a heightened state of vigilance,18 as well as the impact of physical symptoms caused by long hours in personal protective equipment (PPE). Resource rationing, resuscitation decisions and remote communications with relatives are also implicated.19 In addition, fears about availability of PPE and mistrust in frequently changing policies have been reported,20–22 highlighting the requirement for open and transparent communication.23 Working in a pandemic adds an extraordinary level of stress to what is already known to be a stressful working environment,24 making the requirement for cohesive teamwork and effective communication even more important. This is particularly challenging in the context of staff redeployment (typically moving staff from non-specialist or outpatient areas to work in high-acuity COVID-19 areas) and the use of PPE. A recognised feature of good teamwork and a positive working environment is the presence of psychological safety,25 defined by Khan26 in 1990 as ‘being able to show and employ one’s self without fear of negative consequences of self-image, status or career’. This has been defined within the team setting as an environment ‘safe for interpersonal risk taking’27 and is essential for crisis management.

The qualitative interview data presented in this paper tell a story regarding the lived experiences of those working in the first wave of the COVID-19 pandemic, with particular emphasis on changes in perceived stressors, psychological safety, team dynamics and the presence of psychological distress. The original study was a larger mixed methods study designed with the research aim of exploring perceived stressors and the presence of psychological safety in emergency and critical care staff,28 an approach.29 This was used to inform an iterative approach process of data collection using a constant comparative technique28 was used—participants representing the multi-disciplinary team (MDT) with experiences of working in either the critical care or emergency department at all levels of seniority were recruited. This ensured a range of viewpoints reflecting those working in each department were represented in the overall sample.

Participants were provided with written materials prior to their involvement in the study, and once recruited provided written informed consent. Interviews taking place following the enforcement of social distancing and stay at home orders were conducted virtually via the Microsoft Teams platform. The audio was recorded using a handheld audio-recording device and subsequently transcribed with all personal identifying information removed. The top guide for the semi-structured interviews can be viewed in online supplemental file 1.

Data were continually reviewed throughout the process of data collection using a constant comparative approach.29 The data were then transcribed, with all personal identifying information removed. The thematic analysis technique, an inductive approach was employed, in which the themes identified were strongly linked to the data. The coding process was data-driven, without preconceived ideas or an attempt to fit the data into a pre-existing framework.

This process was facilitated using NVIVO Mac (V.1) software and was performed in line with published guidance on the conduct of a thematic analysis.30 The data analysis was a recursive process, moving back and forth within the data while progressing through the sequential stages of a thematic analysis. The first stage involved familiarisation with the data, in particular the identification of data items that provided information about experiences of working within COVID-19 and how this had influenced team dynamics, perceived stressors and psychological safety. Ongoing review led to the generation of initial codes and included searching for themes across the data set. Through the process of defining and naming these themes, a thematic framework was constructed that...
encompassed participant experiences of working during COVID-19 and how the pandemic had impacted topics explored in relation to the original research questions (namely, perceived stressors, teamwork and psychological safety). We looked for data relating to how these had developed and changed during the first wave of the pandemic. Once these stages were complete the data were rereviewed, with the intention of creating higher order analytical themes.

Discussion between the wider research team took place at all stages of the analysis to confirm the interpretations of the qualitative data and ensure constructed themes accurately reflected the data set. Of the written transcripts, 10% were coded by a second researcher (AL) and assessed for inter-rater reliability by performing a coding comparison query within NVIVO (V.1) software.

Reflexivity

KG is a clinical research fellow with a background in anaesthesia and critical care. AL is a research physiotherapist with a background in respiratory physiotherapy. SB is a clinical academic and consultant in intensive care. Both KG and SB have experience of working during COVID-19 in critical care units. KG and SB have previous experience with the conduct and analysis of qualitative studies in a clinical environment.

The authors were aware of how their own position may affect the study design, analysis and interpretation of the findings, particularly in the context of their own experiences of working during the pandemic. All authors believed that working during the COVID-19 pandemic was likely to impact on perceived stressors and teamwork, although possessed no preconceived ideas regarding the nature of this impact or how this would manifest. The team maintained a reflexive position throughout the analysis to minimise the risk that any presumptions would affect the analysis and interpretation of the study findings.

This manuscript is written in accordance with the Standards for Reporting Qualitative Research,33 which can be viewed in online supplemental file 2. The study protocol is available in online supplemental file 3.

Patient and public involvement

No patients or public were involved in the design or implementation of this study.

RESULTS

Fifty-eight participants were recruited between September 2019 and November 2020 and took part in a semistructured qualitative interview. Forty-nine interviews took place shortly after the first wave of the COVID-19 pandemic had subsided and were conducted virtually via the Microsoft Teams platform. Data from these 49 interviews are presented in this paper.

The duration of these 49 interviews ranged from 12:09 min to 31:17 min, with an average duration of 20:53 min. Thirty-nine participants in this subgroup were critical care staff, with 10 recruited from the emergency department. This disparity in proportion of participants from each clinical area is a function of those interviewed during the ‘post first wave’ period. The overall sample is proportional, reflecting the two emergency departments and three critical care departments from which participants were recruited according to a purposive sampling technique. All levels of seniority and the multidisciplinary team are represented in this subgroup of 49 participants, although again there is a smaller proportion of emergency department nurses as the majority of this professional group were recruited and interviewed prior to the onset of the pandemic.

The demographics of participants according to department, profession and level of seniority are displayed in table 1.

Majority of the participants within this subgroup were interviewed in the 3 months immediately following the first wave (19 in July, 6 in August and 10 in September), with the remaining 14 interviews taking place within 6 months (9 in October, 4 in November and 1 in December). Thematic saturation was defined by the point at which no new codes were added to the coding framework and was achieved both for the total sample and for experiences

<table>
<thead>
<tr>
<th>Clinical department</th>
<th>Participants (n)</th>
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<th>Level of seniority</th>
<th>Participants (n)</th>
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<td>Junior</td>
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<td></td>
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<td>Doctor</td>
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<td>Senior (band 7 and above)</td>
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<td>Doctor</td>
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<td>Senior (band 7 and above)</td>
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<tr>
<td>Critical care</td>
<td>39</td>
<td>Nurse</td>
<td>6</td>
<td>Junior</td>
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<td></td>
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<td>Doctor</td>
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<td>Senior (consultant level)</td>
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<td>Senior (band 7 and above)</td>
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related to working during the first wave of the COVID-19 pandemic within the first 40 interviews.

Six of the interview transcripts were selected at random from the interviews taking place after the first wave and were coded by a second researcher (AL). A coding comparison query was performed within NVIVO (V.1). Eighty-eight codes were created during the thematic analysis. Across these the percentage agreement ranged between 92.45% and 100%. A kappa coefficient of between 0.4 and 0.75 (fair to good agreement) was seen in 14 codes, and >0.75 (excellent agreement) in 17. Discrepancies in coding were resolved through discussion within the research team.

During the constant comparison analysis and subsequent thematic analysis, it became evident that working during the COVID-19 pandemic had made a significant impact on both the individuals and the teams they worked in. Five main themes summarising the lived experiences of participants working on the front line of the COVID-19 pandemic were constructed. This thematic framework is displayed in figure 1.

The full thematic framework with supporting quotations can be viewed in online supplemental file 4. Extracts of these data are presented within each theme as figures.

**Theme 1: Psychological effects**

New psychological distress (defined as a change in emotional status, perceived inability to cope effectively and discomfort⁴⁸) arising as a consequence of the pandemic was reported by a high proportion of participants. Participants self-reported feelings of ‘burnout’ (a phrase used colloquially by many participants, rather than referring to a measured assessment) and mental exhaustion, in addition to low mood, feelings of anxiety and being visibly upset. Participants also described observing psychological distress in their colleagues. Evidence of psychological distress persisted for the duration of the overall data collection, still being described in those interviewed several months after the first wave.

Psychological distress also resulted from fear of COVID-19 itself (either for participants themselves or their family members), with participants feeling vulnerable and anxious about their own risk. There was evidence of psychological distress from participants feeling isolated—either as an individual (often due to short staffing and high workload) or as a department—struggling to get support from other clinical divisions.

Evidence of moral injury (defined as ‘the profound psychological distress resulting from actions which violate an individual’s moral or ethical code’³⁵–³⁷) was present as a strong theme within the data set, particularly in those interviewed immediately following the first wave. This was typically related to being unable to complete tasks adequately or provide a standard of care seen as essential prior to the pandemic and appeared to be more prevalent in interviews with more senior staff. Senior staff members also described the psychological impact of supporting other team members, describing a sense of ‘taking on others’ psychological distress.

The ‘unknown’ nature of the pandemic and COVID-19 was a substantial cause of distress for participants, both in terms of fearing they were unable to adequately treat their patients and due to a lack of prior experience.

There was demonstrable evidence of participants using coping strategies to help manage the impact of the pandemic. These included having a focus on the fact that it would end at some point, acknowledging that not everything could be done in such a scenario or trying to improve the atmosphere and mood of those around them. There were also data to support a subtheme that individuals employed different coping strategies when handling the psychological challenges of the pandemic. Some participants noted that their normal way of interacting with others changed, or that their experience of stress was different from other staff members, reporting being calmer than how they observed others behaving around them.

There was evidence of a change in the psychology of individuals transitioning from working within the first wave of the pandemic to a more ‘normal’ way of working. There was heterogeneity in the response to this change, with some disappointment at the loss of the new cohesive team structure, a realisation of just how exhausted...
Theme 1: Psychological Distress - Supporting Quotes

Presence of Psychological Distress

"Everyone was so negative and people were going for their beer and just say, I did nothing wrong, I was just too much stress...." Staff Nurse, Critical Care

"I felt overwhelmed. I felt like the difference...." Senior Sister, Critical Care, July 2020

"I was on the verge of crying, I had to stop, and then the next minute it was just being straight back into automatic mode. It's an organiser...." Senior Sister, Critical Care, September 2020

"Adaptability, yes, timing, boredom and constantly overstretched...." Physiotherapist, Critical Care

Fear of COVID-19

"I was very much afraid that the people who were going to visit potentially had it in their home's...." Senior Staff Nurse, Critical Care

"...not handling processes and concerns for that head on at home whether that's here, elsewhere...." Consultant, Emergency Medicine

So, I thought things made it more stressful, more, on an intangible, perhaps a prophylactic mechanism, you can't even understand why you are going to be in that critical, that situation. As is, I don't know, it's just there. And at the time of not having any...." Doctor, Senior Sister, Critical Care, July 2020

Feelings of Isolation

"Yes, we were all old update, you put just stick basically down, if you need some some help, you would have to ask...." Staff Nurse, Critical Care

Indicators of Moral Injury

"I am very afraid that some of our patient's nurse. That's what it is ....was disgusting. We all just thought that if those people could have come or to see them, they probably would do it better than they would understand and not believe in the way...." Staff Nurse, Critical Care

"And the fact that we couldn't give individualised care...." Senior Staff Nurse, Critical Care, July 2020

"I don't usually do that or we couldn't do it in the way...." Senior Staff Nurse, Critical Care, July 2020

"And the fact that we couldn't give individualised care...." Senior Staff Nurse, Critical Care, July 2020

Related to supporting others in their Psychological Distress

"You're giving all the support, encouragement, care, love to people, and you're very worried about staff being and staff, but we really just don't have so much work we had to do, with much more turned out and what we should have. So, you support the team, Critical Care

As a function of the 'unknown' nature of the pandemic

"I didn't think it was going to happen. After that. I think it was difficult and stressful for everyone...." Senior Staff Nurse, Critical Care

"I didn't think it was going to happen...." Staff Nurse, Critical Care

Evidence of Coping Strategies

"I was just doing my best and me and my colleagues thought that...." Senior Staff Nurse, Critical Care, Emergency Department

"You've got to think for the best and... if they can't do it. I can control the situation and make this work...." Staff Nurse, Critical Care

"We didn't see the way to do it. We did it as much as possible to trust in others, and just know people going as much as we could, as best we know...." Staff Nurse, Critical Care

Differences in Individual Coping Strategies

"I didn't think that many people remembered it differently. And I think that, stress, really changed things...." Staff Nurse, Critical Care

"You were very tired. I think, staff, Critical Care

"So, those are the people were relatively very stressed, and then other people would stress around them. And normally, I'm the opposite, that's the stress, and then other people would stress around them, so not sure whether I'll be a bit like that...." Senior Sister, Critical Care

End of first wave and return to normal

"I was as soon as when we actually we finished up and go back to our normal job...." Senior Physiotherapist, Critical Care

"Anyway, it's like a bonfire of order, especially when it is different, with a team, you go in it. You don't have the time to reflect on how you're feeling. But afterwards, you're like, when..." Staff Nurse, Critical Care

"No, I mean, it's not. Everyone definitely has at the moment...." Senior Staff Nurse, Critical Care

Figure 2 Supporting qualitative data illustrating the theme psychological distress and the associated subthemes (theme 1).


they were and relief that it was over (many of the interviews took place before widespread awareness of the likelihood possibility of a second wave of COVID-19 in the UK).

Supporting data for this theme can be viewed in figure 2.

Theme 2: Changes in team dynamics

There was marked heterogeneity in participants’ experiences when describing the impact of the COVID-19 pandemic on team dynamics. This led to the generation of divergent subthemes encompassing both positive and negative effects. Participants generally reported observing mixed effects on changes in team dynamics, highlighting both positive and negative changes, rather than describing purely positive or negative experiences as a consequence of the pandemic.

Data exploring the presence of a hierarchy suggested that this flattened during the pandemic and was a prominent theme within those interviewed straight after the first wave. This was viewed positively, with the unknown nature of the pathology associated with COVID-19 making it easier to discuss and work openly with more senior members of the team, as those in senior positions did not possess unique insights based on prior experience.

There was a compelling presence of increased staff morale and camaraderie within this data subset, as teams came together to deal with the challenges the pandemic posed. This was particularly represented in those interviewed early in the study timeframe. Traditional working relationships between team members adapted, with staff members becoming closer, developing new modes of communication and stepping into roles outside of their normal job description to help each other.

COVID-19 was a shared experience for all participants, and this commonality created an impression of improved teamwork and cohesiveness. Team members reported feeling closer with an increased ability to rely on and trust each other. Many reported an improvement in team dynamics, related to improved working relationships, increased appreciation of each other and a relaxing of expectations regarding what would normally be achieved, possibly leading to less conflict during handovers.

To manage the rapid increase in workload, many non-specialist staff were ‘redeployed’ into the critical care and emergency departments. The impact of this was pronounced within the data, reflecting its significance for pre-existing staff. There were differing feelings regarding the success of incorporating redeployed staff. The addition of redeployed staff created an increased burden for pre-existing staff. There were differing feelings regarding the success of incorporating redeployed staff.
reflection of the workload, time pressures and high stress levels. However, there was also a strong sense of protecting them from questioning by medical staff who might not be aware of their non-specialist status and immense gratitude for the help they provided.

Importantly, negative changes in team dynamics were also reported, with teamwork becoming challenging due to lack of knowledge, a perceived chaotic working environment and as a function of the workload itself. Participants who had seen a positive change in teamwork stated that this had been difficult to maintain once the first wave had ended, mainly due to exhaustion. Later interviews provided participants with more opportunity to reflect on the causes of teamwork breaking down and the attempts made to improve them, such as tools to facilitate communication.

The breadth of participants’ experience and roles within the multidisciplinary team allowed the exploration of the impact of the pandemic from numerous viewpoints, providing an appreciation of the multiple challenges and differing responsibilities. Nursing staff described much higher levels of autonomy and decision making, resulting from the redeployment of non-specialist medical staff and reduced specialist staff to patient ratios. Senior medical staff described the challenges of being responsible for multiple clinical areas and an inability to be visible in all areas simultaneously.

The increased responsibility experienced by many participants was associated with mental strain and a risk of psychological distress. The exact manner in which responsibilities changed was dependent on a participant’s original job role, but the impact was similar—increased feelings of stress and a sense of being out of control. This change in role also provided further indicators of moral injury—senior staff members reported being unable to support their team members in the way they would normally wish to. Supporting data for this theme can be viewed in figure 3.

**Theme 3: changes in psychological safety**

Psychological safety is defined as ‘an environment safe for inter-personal risk taking’. Participants’ perception of the psychological safety of their working environment evolved during COVID-19, with positive and negative changes being reported. The unknown nature of COVID-19 created a more accepting environment in which participants felt they could raise concerns or ideas, with participants feeling less anxious that they might appear to be lacking in knowledge. Psychological safety was also improved by a sense that others understood the potential difficulties an individual might be facing, thereby facilitating open discussion. Many individuals highlighted that the extreme clinical demands precipitated a newly felt ‘freedom’ to be themselves and speak up. Other antecedents to psychological safety, such as the presence of a hierarchy, explored in other aspects of the thematic framework, are also likely to have influenced changes in psychological safety during the pandemic.

Some new barriers to a psychologically safe environment were described as arising due to the pandemic. These included changes in the team and a hectic working environment, with ‘no time’ to speak up or propose new ideas. In this context, having ‘no time’ was a feeling experienced by all those within the working environment, leading to some diminution of psychological safety through a perception that voicing issues would be met with negative responses by those around them due to the recipients’ own time constraints. Not having known answers to potential problems or multiple individuals sharing the same concerns were also reported as being detrimental to psychological safety as it created a sense of futility in voicing issues.

Supporting data for this theme can be viewed in figure 4.

**Theme 4: impact of PPE**

The impact of PPE on participants was significant and remained an ongoing issue even after the end of the first wave of the pandemic. Participants described challenges in effective communication, both between individuals in the same location and with team members outside the clinical area. Wearing PPE caused physical distress, hindered identification of other staff members and acted as a barrier to verbal communication. Communication was reported to be hindered both due to the consequences of masks and full coverage hats and gowns covering facial features and difficulty being heard through masks (both in person and via telephone).

Shortages in PPE supply early in the pandemic had a significant effect on participants, leaving individuals concerned for their own safety, as well as restricting individuals from freely entering COVID-19 areas in order to preserve availability.

The impact of PPE corroborates other themes within this data set (notably the presence of feelings of isolation) and was a significant cause of perceived barriers between team members. This eased as supplies in PPE were less restricted, with more team members able to enter the COVID-19 areas.

Those in leadership positions faced significant organisational challenges when trying to mitigate these problems, both in terms of ensuring adequate PPE supply and in creating solutions to improve communication. There were multiple descriptions of cognitive dissonance, as trying to preserve PPE prevented senior staff members from providing visible support in the way they would normally.

Supporting data for this theme can be viewed in figure 5.

**Theme 5: changes in workplace stressors**

Many participants discussed the impact of the pandemic on the presence of the stressors faced within the workplace. An increase in perceived stressors was expressed universally across the participants, irrespective of grade or role within the MDT. A predominant stressor was the...
**THEME 2: CHANGES IN TEAM DYNAMICS**

**POSITIVE CHANGES**

Flattening of hierarchy, or changes in presence of hierarchy

"It's always been pretty easy, but the fact that nobody knew much about it, sureley flattened the differences between the senior staff and the junior staff." Staff Nurse, Critical Care

"I think that, yes, there definitely was on the ground quite a flattening and a flattening between professions." Staff Nurse, Critical Care

"So, I think in that case, it probably did, and I think about their banding and their grade, were happy to do whatever. So, I think it probably did flatten from that point of view, yes." Senior Physiotherapist, Critical Care

**Morale and Camaraderie**

"But I saw at first-hand what was going on and it was brilliant, they were working more as a team, we were like a family and people just got on with it." Senior Sister, Critical Care

"I think the relationships, generally, was very good. I think, maybe, it's heightened it, if anything, and I think the camaraderie was amazing, between the MDT." Staff Physiotherapist, Critical Care

"I became so much closer with loads of the doctors, the nurses. Whereas usually, people are kind of friends, but less so to the extent that it was during COVID. It was really great, it felt like a little family and I enjoyed coming in to work." Junior Physiotherapist, Critical Care

"When it's stressful because of the circumstances that is when people just sort of roll up their sleeves and just get on with it and that's actually quite good in terms of the camaraderie and whatever." Staff Nurses, Critical Care

**Changes in relationships and breaking down barriers**

"I became definitely closer with the consultants through COVID than I did before." Senior Sister, Critical Care

"a lot of the doctors would go in and relieve the nurses for their breaks. So, when they were coming to review the patients anyway they would stay there for the hour, and let the ICU nurse step out. And they'd stay there with the buddies and things. So I think they really valued that and felt part of a team." Senior Sister, Critical Care

"I think I felt part of the bigger hospital; I think we’ve worked really well together among the specialties, especially at the peak of everything. We were really good, we had systems in place, we had backup systems. Even simple things like if we couldn’t get hold of the ITU ref, there was a consultant number, I think it was a direct line to the ward. So, everybody knew the role that they had to play in the bigger picture, so there wasn’t any sort of long discussion, like we normally would have." Registrar, Emergency Medicine

**Influenced by having COVID as a shared experience**

"Yes. Because it’s something that you all been through together, and we learned a lot about each other in that time. Everyone learned about the team a lot." Senior Staff Nurse, Critical Care

"We’ve witnessed something together, but you can say, actually, I can completely depend on that person when everything is really terrible." Senior Sister, Emergency Department

"I think there was definitely a feeling of being more united in purpose and in everyone’s going through the stress of dealing with this unknown disease." Physiotherapist, Critical Care

"but by the same token, other things worked better, simply because we had a common agenda." Consultant, Critical Care

**Improvement in team dynamics following first wave**

"Or sometimes it can be fantastic, particularly for example, during the pandemic surge, all this suddenly became a much more friendly, and more positive interaction. We all seemed to suddenly become angels, in trying to support each other." Consultant, Critical Care

"But yes, definitely some of the normal medical team that were there were incredibly helpful and they valued that a lot." Senior Sister, Critical Care

"Although normally the expectation is everything is done when you’re handing over, and it can cause an issue or friction if it’s not there. And actually that kind of just went." Senior Sister, Critical Care

"we’ve always been a cohesive team, and I think Covid probably just laid the cement a little bit better." Registrar, Emergency Medicine

**CHANGES WITH MIXED EFFECTS**

**Incorporation of redeployed staff**

"But it was more difficult when I was just surrounded by people whose names I didn’t know, whose background I didn’t know." Staff Nurse, Critical Care

"Many more people we didn’t even know the names of, they were coming in and trying to help. But sometimes they didn’t receive enough training before coming to intensive care. It was really, really difficult." Staff Nurse, Critical Care

"because also there was so many of them, new people so well, and you were just so grateful that they were there. We were just like thank you. They’re not going to be ICU nurses in such a short amount of time with the training they had but we what skills they did have and what they could add to that." Senior Staff Nurse, Critical Care

"But again those new nurses were assigned very sick patients that they probably didn’t have the skills to look after yet with machines they didn’t understand, and things like that. So the whole thing was just incredibly stressful." Senior Sister, Critical Care

**Changes in Support (both reached and ability to provide)**

"But generally, I was very well supported by senior [male] staff and then, the nursing staff and other health professionals were just amazing. They just got on with it." Junior Doctor, Emergency Department

"It made it tricky if you feel like someone’s not coming in." Senior Staff Nurse, Critical Care

"But from a clinical perspective and for the more junior staff I would say it was less because the consultants just weren’t able to go in to the COVID areas because they were also responsible for patients in other areas." Senior Sister, Critical Care

"I think so, yes. I think so. I got a lot of calls asking questions, and I would go in if they needed me, but there were definitely times when we troubleshooting things over the phone, and again that’s not something that we normally do." Senior Sister, Critical Care

"I realized, even myself, I wasn’t so supportive to new staff as I could have been because of the workload." Staff Nurse, Critical Care

**NEGATIVE CHANGES**

**Breakdown in teamwork during and following first wave**

"You saw a little bit more separation and slightly less cohesionness then we would normally see." Consultant, Emergency Medicine

"I'm not sure it was always that rosy, actually. I think that sometimes, the professions were not helping each other." Consultant, Emergency Medicine

"It got worse because everybody had such a huge workload. Nobody really had the chance to support each other." Staff Nurse, Critical Care

"actually it's been off the back of the peak that we've seen the teamwork slightly breaking down just because I think people are mentally and physically exhausted. And so they don’t have time and the energy to be able to put in to do those extra things." Senior Sister, Critical Care

"it’s been very difficult, and it is still difficult. So I think the whole teamwork thing has fizzled out a little bit actually." Senior Sister, Critical Care

**Changes in Nursing Autonomy**

"the nurses on the bed side that were handling the acute situations that you would normally have your reg’s come in for" Staff Nurse, Critical Care

"No, normally twice a day we have a doctor’s ward round where they are physically on the unit, walk around and review the patients. But that stopped happening. And I suppose it was just the lack of medical presence on the floor, so literally if you had an emergency and you called the emergency call bell, you had to wait for the medical staff to step up, come in whenever" Staff Nurse, Critical Care

"it was strange, because you weren’t actually working with the team that you’re used to, because the ratios changed. So, you’d be the only ITU nurse in the area, and everyone else was redeployed from other areas." Staff Nurse, Critical Care

"There wasn’t much medical presence, if I’m being honest, on the unit at the time. I think the nurses felt a little bit more like, we’re kind of here on our own dealing with it a bit more than in a standard situation because there’s more medical presence." Senior Staff Nurse, Critical Care

**Changes in Responsibility**

"you could sense that they were under a lot more pressure. Their workload doubled." Senior Staff Nurse, Critical Care

"For me, stepping into roles that I wouldn’t normally do or things or decision-making, I wouldn’t normally do, there’s a short burst of stress followed by an increase in capability." Staff Nurse, Critical Care

"But I think the nurses that when they saw me come in they suddenly felt really relieved that I was there, and I just suddenly felt this overwhelming pressure like I don’t even know what’s going on." Senior Sister, Critical Care

"I think because if something happened with your patients, it was your responsibility to deal with that at the time, because other people there, you can’t expect them to know what to do, because they’re not trained in intensive care." Staff Nurse, Critical Care

**Figure 3** Supporting qualitative data illustrating the theme changes in team dynamics and the associated subthemes (theme 2).
hugely increased workload, compounded by the volume of extremely high-acuity patients, changes in the working environment and the requirement to use unfamiliar equipment.

Numerous changes in policies and procedures, often at short notice, were frequently described as being stressors for participants. The nature of how staff were affected by these changes in policy evolved over the course of the interviews.

Those interviewed early in the study described frustrations and challenges with protocols adapting to manage the disease itself and PPE requirements. This evolved as the study progressed to explore the difficulties in navigating new protocols designed to return hospitals to normality, while managing a continuing risk of COVID-19 admissions and areas to nurse these patients.

Supporting data for this theme can be viewed in figure 6.

The data within the thematic framework were rereviewed to identify potential points during a pandemic response where modifications and strategies could be employed to provide targeted support, reduce the potential impact of new challenges and enhance the positive elements that emerged. Within this there was a focus on the heterogeneity within the data, illustrating how participants within the same environment could respond differently, leading to a variety of consequences. A map of the changes in team dynamics and psychological effects was created, incorporating possible approaches to mitigate negative consequences and promote the positive aspects. This can be viewed in figure 7.

**DISCUSSION**

**Statement of principal findings**

Individuals working on the front line during a pandemic are affected in a multitude of ways. Many will suffer psychological distress, moral injury and mental exhaustion. Individuals feel extremely challenged when trying to cope with an increased workload and fear of the disease,
all while providing support to an increasingly strained team. This is compounded by new barriers created by the pandemic, such as the requirement for PPE.

Beneficial changes in team dynamics also occur as a result of such extreme conditions, including improved camaraderie and enhanced psychological safety, with some individuals finding the experience worthwhile and even enjoyable.

There is a striking heterogeneity in participants’ experiences within the data and thematic analysis. This highlights how an individual experience can differ, even when the causative factors and triggers—a pandemic—are the same. Through the phenomenological exploration of lived experiences during the COVID-19 pandemic, we gained an increased understanding of how this may arise. The multiple viewpoints within our sample demonstrate how changes in responsibilities, an individual’s job role and experiences will all combine to create different manifestations of how individuals cope with challenges, the psychological distress felt and the subsequent modifications to ways of working.

We provide a unique and indepth narrative regarding an individual’s experience and the changes in team dynamics during the first wave of the COVID-19 pandemic. These changes were mapped out, incorporating the likelihood that there will be divergence in these changes depending on the individual. We highlight key areas where targeted interventions can be employed to support healthcare workers and promote beneficial changes in team dynamics.

Strengths and weaknesses of the study

A strength of this qualitative study is the large participant sample, providing a broad range of viewpoints regarding the impact of a pandemic. This study was designed to explore perceived stressors, the presence of psychological safety and how personality might influence this. We were uniquely positioned to capture data relating to the impact of COVID-19 on these due to the study timeframe, allowing participants to talk freely about their experiences. However, we recognise the initial topic guide was not designed

Figure 6 Supporting qualitative data illustrating the theme changes in workplace stressors and the associated subthemes (theme 5).

Figure 7 A map of the changes in team dynamics and potential psychological effects as a consequence of the pandemic, with suggestions to mitigate these. PPE, personal protective equipment.
with the intention of specifically exploring changes in team dynamics and stress as a function of working in a pandemic. A small subtheme where participants explored how they perceived their personality had affected their response to COVID-19 and the development of psychological distress was constructed. However, the majority of the quantitative personality data collected as part of the original study protocol did not relate to the COVID-19 theme and will be analysed and reported separately.

We also acknowledge that while the overall participant sample is purposive, those with experiences relating to COVID-19 are predominantly weighted towards those working in critical care.

Strengths and weakness in relation to other studies
The qualitative methodology used in this study has allowed the divergent experiences of those working during the COVID-19 pandemic to emerge. This contrasts with many published quantitative studies that use validated tools to obtain a snapshot value regarding the presence of psychological distress. While our qualitative data do not objectively quantify the levels of psychological distress, they distinctively provide the opportunity for positive outcomes as a result of the pandemic to be highlighted (such as camaraderie, improved morale and an increase in psychological safety), telling a broader story than can be achieved with a survey in isolation.

The few existing qualitative studies are small in participant volume and address specific aspects regarding the experiences of healthcare workers during a pandemic. This study, while not designed with COVID-19 in mind, was developed with the broader aims of exploring perceived stressors, teamwork and psychological safety. As such, participants were given the opportunity to discuss their COVID-19 experiences without restriction, creating a rich data set detailing life on the front line of a pandemic.

Our data provide detail on how moral injury can manifest within the participant group, deconstructing some of the causative factors during a pandemic. This topic is not covered in similar studies, although acknowledged to be a significant risk for those working during a pandemic. We add to these published articles by providing lived examples of how and why this occurred. We also explore how an environment of psychological safety can change and develop during a pandemic.

Acknowledged difficulties in communication and supporting junior team members, challenges in providing training and the presence of high levels of occupational stressors—all observed as being risk factors for the development of negative psychological outcomes—are corroborated within this thematic analysis. While not directly asked about, there was no significant theme regarding the benefits or provision of support for mental health during this period present within the qualitative data set. We concur with the conclusion that preventative and proactive measures to support healthcare workers facing high levels of stress associated with working in a pandemic would be beneficial and is underaddressed.

Targets for intervention to support healthcare workers during a pandemic include allaying concerns about health, providing support for staff feeling isolated, collaborative planning for future outbreaks and the creation of an environment that fosters positive working relationships. Workplaces should actively encourage mentoring and proactively support those at risk, improve confidence in infection control measures, offer professional support when required and provide recognition of individuals’ efforts.

Implications for clinicians and policymakers
The heterogeneity of the data in this thematic analysis regarding participants’ experience demonstrates how those in leadership positions should not make any assumptions regarding how individuals will react to a significant challenge, such as a pandemic response. Leaders need to be sensitive to the multiple potential personal responses of their staff, have an expectation that there will be differences in response and plan to have several targeted support systems in place.

An individual’s experience of their working day is not only influenced by external stressors, but of their confidence in the team they are working with. A team who knows each other well, has faith in the competence of others and can rely on them for help will begin each shift more confident and prepared for the challenges they may face. The data in this study highlight how this security was taken away during COVID-19, as individuals had to work in quickly assembled ‘teams’ based on those available, with strengths and weaknesses unknown. While the presence of these new redeployed team members was viewed positively and a crucial requirement of the pandemic response, it created a new set of barriers and challenges.

The qualitative data in this study will assist those in management and leadership positions with future pandemic preparedness. Our thematic analysis map can be used to recognise how a pandemic can improve team dynamics and encourage psychological safety, allowing leaders to continue to foster this. We have also identified that negative consequences arise and that perceived barriers between teams are often a result of different roles and responsibilities and constraints around activities. These data can be used to provide targeted support—ideally pre-empting the development of significant psychological distress and a breakdown in teamwork.

Hospital leaders can use this map to assist in the identification of potential problem areas within their working environments, focusing on the areas that are relevant to them or of greatest need. The experiences of our group of healthcare workers have been used to create potential solutions and improvements to systems and teamwork that can improve the environment and mitigate the risk of psychological distress during crises such as a pandemic. There are also themes and solutions generated within the
Opportunities for future research

There are many opportunities for future research. It would be beneficial to design a qualitative study to specifically investigate the incidence of moral injury in participants working during a pandemic and explore the potential psychological consequences of this, both in the short and long term.

There are areas likely to contribute to psychological distress and moral injury during a pandemic response which were not explored within the scope of our topic guide. Further qualitative studies can be designed to evaluate the consequences of resource rationing, virtual communication with relatives and resuscitation decisions.

It would also be valuable to map changes in psychological safety throughout a crisis such as a pandemic using a validated assessment tool to ascertain whether the perceived changes in psychological safety seen in our qualitative data were reflected in quantitative data. It would also be beneficial to explore some of the themes and solutions generated during the thematic analysis that may be relevant to ‘normal’ working life (such as low staffing and team morale) to assess the applicability of our analysis to all working scenarios.

CONCLUSIONS

The data in this qualitative analysis demonstrate how individuals and the teams they work in are impacted by being on the front line of a pandemic in a number of ways, sometimes in contrasting manners. We provide increased detail on the manifestation of psychological distress and moral injury in those working on the front line and highlight how teamwork can be negatively impacted and how the disease process itself can create challenges—both due to the unknown nature of the illness and the PPE required to manage it. Crucially, we highlight that the response to a pandemic is heterogeneous, with some individuals experiencing improved teamwork and psychological safety. The stressors associated with a pandemic response are generally unavoidable, such as the requirement for frequent policy changes and the redeployment of new staff who are unfamiliar with the team and the environment. Our data and analysis show that it is hard to predict how individuals might respond to an event such as a pandemic based simply on characteristics such as job role, seniority or prior experience. As such leaders need to maintain an open mind to their workforce and actively assess the individuals working within each team.

The themes constructed during this analysis can be used by team leaders and managers to mitigate the impact of these stressors and promote the positive consequences. An awareness of the potential for differences in individual staff experience should allow leaders to develop targeted and individual support, with the creation of customised solutions to the difficulties faced.

Contributors KG and SB conceptualised and designed this study. KG and SB were involved with the recruitment of participants. KG was responsible for data collection, data processing and overall data analysis. AL assisted with data analysis. KG, AL and SB reviewed the data and coding discrepancies in line with qualitative research techniques. KG prepared the original draft manuscript. KG, AL and SB all critically revised the manuscript. All three authors approve the final version of the manuscript. The corresponding author (KG) attests that all listed authors meet the authorship criteria and that no others meeting the criteria have been omitted. SB is the guarantor.

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Competing interests None declared.

Patient consent for publication Not required.

Ethics approval As per UK Research Governance guidance, studies involving National Health Service (NHS) staff by virtue of their role do not require ethical approval. Health Research Authority approval was granted for this study (reference: 19/HRA/4541) in addition to approval from Imperial College Healthcare NHS Trust’s and Imperial College’s Joint Research Compliance Office (reference: 19/H5394).

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available upon reasonable request. All data relevant to the study are included in the article or uploaded as supplementary information. All qualitative data are available within the article or uploaded as supplementary information. Further data (deidentified participant data in the form of qualitative interview transcripts and quantitative survey data) are stored in a secure server within Imperial College Healthcare NHS Trust. They are available on reasonable request by emailing the corresponding author.

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REFERENCES
details/healthcare?areaType=nhsregion&areaName=London
guides/5721312559353136/


**Topic Guide for Qualitative Interviews**

**IRAS Project ID: 263876**

16PF Feedback and Qualitative Interview Topic Guide

**Welcome**

*Introduction, overview of session*
- Welcome, introduction of researcher and project aims
- Overview of plan for study:
  - A short interview which will be recorded, explanation regarding data handling and anonymisation of transcripts.
  - 16PF feedback: Results presented as a written report, individual will take away copy to keep. Explanation that this feedback will not be recorded.
- Review of PIS and completion of written consent form
- "Feel free to ask questions at any stage"
- "I may make notes so that we can return to a topic later in the interview"

**Qualitative Interview**

"We will now move on to a short interview to explore your opinions of stress within the working environment"

**Perceived Stressors**
- What are your experiences of working under stress in the clinical department you work in?
- Experiences of stress at work – Do you find your working environment stressful? Is it always stressful?
- Do you enjoy the environment you work in?
- Coping strategies for stressful environments
- I am now going to read out a list of the 5 most common clinical stressors – can you please rank these in order of which you find most stressful?

**Personality**
- Do you see differences in personalities at work?
- How do you think your personality affects the way you manage stress? If at all?
  - Explore aspects of the participants personality that are both beneficial and detrimental
- Does this have an impact on the team?
  - Positive and negative experiences
  - How do you manage different personalities within the team?

**Psychological Safety**
- Do you feel able to raise concerns within the team?
- Do you think it is beneficial that all members of the team are able to raise concerns?
- Please state whether you agree/ambivalent/disagree with the following statements, thinking about your experiences within your current workplace
  - “If you make a mistake on this team, it is often held against you"
• “Members of this team are able to bring up problems and tough issues”
• “People on this team sometimes reject others for being different”
• “It is safe to take a risk on this team”
• “It is difficult to ask other members of this team for help”
• “No one on this team would deliberately act in a way that undermines my efforts”
• “Working with members of this team, my unique skills and talents are valued and utilised”

*Stops Audio Recording for 16PF Feedback*

16PF Feedback
- Explanation of 16PF results by taking participant through written report
- Time for discussion and possible meaning of results

Sum up short qualitative interview and 16PF feedback
Provide opportunity for any questions or further discussion
Provide participant with the following information
  - If you wish to follow any issues you have talked about, you can contact us (provide information)
  - They can withdraw from the study at any point and their data will not be used
Thank participant for their time.
Supplementary File 2: Standards for Reporting Qualitative Research (SRQR)


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<td>S1</td>
<td>Title</td>
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<td>Data collection</td>
<td>Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative</td>
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<td>S14 Data analysis</td>
<td>Process by which inferences, themes, etc., were identified and developed, including researchers involved in data analysis; usually references a specific paradigm or approach; rationale&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>S15 Techniques to enhance trustworthiness</td>
<td>Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale&lt;sup&gt;a&lt;/sup&gt;</td>
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**Results/Findings**

| S16 Synthesis and interpretation                                     | Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory |
| S17 Links to empirical data                                           | Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings |

**Discussion**

| S18 Integration with prior work, implications, transferability, and contribution(s) to the field | Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field |

| S19 Limitations                                                      | Trustworthiness and limitations of findings |

**Other**

| S20 Conflicts of interest                                           | Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed |
| S21 Funding                                                         | Sources of funding and other support; role of funders in data collection, interpretation, and reporting |

<sup>a</sup>The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and transferability. As appropriate, the rationale for several items might be discussed together.
The Influence Of Personality In Healthcare Professionals: A Mixed Methods Study Exploring Perceived Stressors, Preferred Job Role and Psychological Safety

Version 0.7 08/07/2019

MAIN SPONSOR: Imperial College London
FUNDERS: Restricted Educational support from Bupa Cromwell Hospital. Funding Code: WSSA F36001

STUDY COORDINATION CENTRE: Critical Care Unit, Hammersmith Hospital, Du Cane Road, London.

IRAS Project ID: 263876

Protocol authorised by:

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Study Management Group

Chief Investigator: Professor Stephen Brett

Co-investigators: Dr Kate Grailey, Dr Eleanor Murray

Study Management: Dr Kate Grailey

Study Coordination Centre

For general queries, supply of study documentation, and collection of data, please contact:

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Clinical Queries

Clinical queries should be directed to Dr K Grailey who will direct the query to the appropriate person.

Sponsor

Imperial College London is the main research Sponsor for this study. For further information regarding the sponsorship conditions, please contact the Head of Regulatory Compliance at:

Joint Research Compliance Office
Imperial College London and Imperial College Healthcare NHS Trust
Room 215, Level 2, Medical School Building
Norfolk Place
London, W2 1PG
Tel: 0207 594 9459/ 0207 594 1872
http://www3.imperial.ac.uk/clinicalresearchgovernanceoffice

Funder

- Restricted Educational Support from BUPA Cromwell Hospital

This protocol describes the 'Influence of Personality in Healthcare Professionals' study and provides information about procedures for entering participants. Every care was taken in its drafting, but corrections or amendments may be necessary. These will be circulated to investigators in the study. Problems relating to this study should be referred, in the first instance, to the Chief Investigator.

This study will adhere to the principles outlined in the UK Policy Frame Work for Health and Social Care Research. It will be conducted in compliance with the protocol, the Data Protection Act and other regulatory requirements as appropriate.

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APPENDICES
APPENDIX 1.

GLOSSARY OF ABBREVIATIONS

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<tr>
<td>16PF</td>
<td>Sixteen Primary Factor Personality Assessment Questionnaire</td>
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KEYWORDS

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STUDY SUMMARY

TITLE
The Influence of Personality In Healthcare Professionals: A Mixed Methods Study Exploring Perceived Stressors, Preferred Job Role and Psychological Safety

DESIGN
Mixed Methods Study: Quantitative Personality Assessment Data used in conjunction with Focus Groups and Qualitative Semi-structured Interviews.

AIMS
To investigate the personality profiles of our group of healthcare workers, explore for any differences in personality according to the clinical environment an individual works in, and compare this data to personality data for the general population.

To explore for the presence of a relationship between an individual's predominant personality traits and the clinical situations they perceive to be extremely stressful

To investigate a relationship between an individual's level of psychological safety and their predominant personality traits.

OUTCOME MEASURES
- To create a profile of the predominant personality types within our sample of healthcare workers, and identify differences between this and the general population 16F data.
- To identify any relationship between predominant factors on 16PF profiles and whether an individual works in the emergency department or critical care.
- The presence of associations between identified stressful scenarios and predominant personality factors.
- To undertake a qualitative exploration of the relationship between an individual's level of psychological safety and their pattern of results on the 16PF assessment.

POPULATION
Up to 180 Critical Care and Emergency Department Staff

ELIGIBILITY
Currently working within the Critical Care or Emergency Department as a member of the multi-disciplinary team at Imperial College NHS Healthcare Trust.

DURATION
12 Months

1. INTRODUCTION

1.1 BACKGROUND

There are multiple clinical areas and specialities within the NHS, each providing their own challenges. Whilst the nature of the clinical work within these areas can be extremely different in terms of acuity, staff stress levels and patient cohorts, the broad person specifications (as opposed to specialist qualifications) and job requirements are similar – often meaning individuals self-select for the clinical roles they ultimately find themselves in. There are many unpredictable and changeable factors that can contribute to clinical effectiveness and
individual stress within the healthcare environment – including patient characteristics, staffing and skill mix, bed status and team dynamics.

Workforce stress is conceivably associated with workforce sustainability and career longevity, particularly within the more acute clinical specialties. It is plausible that different individuals have a different susceptibility to this stress depending upon their personality type and how they view and respond to stressful scenarios. This may subsequently impact upon team dynamics and clinical efficiency and be related to the clinical environment in which they become employed.

An individual's personality is defined as “the combination of characteristics or qualities that form an individual’s distinctive character” (2). It can refer to the pattern of thoughts, feelings, social adjustments and behaviours consistently exhibited over time that strongly influence one’s expectations. The Sixteen Primary Factor Personality Questionnaire (16PF) (3) is a well validated tool for providing a measure of normal personality, eliciting a measurement of anxiety, adjustment and emotional stability. This tool has been used widely in healthcare research, often in preference to other psychometric tests. One benefit of 16PF, as described by the authors, is that it is difficult for users to manipulate their responses based upon perceived desired results (4). In addition, within the 16PF Handbook, there are descriptions of typical values for different professional groups, including general practitioners and nurses. However, these date back to 1970, and their applicability to the current NHS workforce and the current model of healthcare within which we operate is unclear.

The use of personality assessment tools in healthcare workers has been explored, most frequently in nursing staff and medical students. A study utilising 16PF in China (5) argued that 16PF data should be used for selection of nurses as it consistently identified high social boldness, openness to change and perfectionism as factors in nurses deemed to be clinically excellent. The explanations for the 16PF descriptors are listed in Appendix X – of note the terms used for each personality factor have different composite factors which are not always intuitive based upon standard definitions. This is a reflection of the fact that each of the 16 factors originated using psychology terminology, and have been translated into non-specialist language.

Several studies of medical students have found an association between personality and performance (both academically and with respect to non-cognitive skills such as empathy) (6, 7, 8, 9). A study of anaesthetists, using a modified version of 16PF, found significant differences in the personality types of male and female anaesthetists for some factors (10) – namely female anaesthetists self-reported they were calm (P = 0.02), patient (P = 0.02) and tolerant (P = 0.02) more often than their male counterparts, whilst more males reported themselves as highly conscientious (P = 0.01). A study exploring the correlation between 16PF and vocational choice in over 700 students observed a significant correlation between individuals’ predilection for science/technology vs humanities/social sciences and certain personality factors (11).

Whilst there is evidence to support an argument that personality is fixed, it is almost certain that an individual’s behaviours are not solely reliant upon these underlying personality traits but are affected by the environment, the team in which they are working and the levels of stress / challenge presented.

An overwhelming majority of surveyed anaesthetists in Scotland and New Zealand did not believe that personality traits of anaesthetists influenced the way they responded to challenging situations (12) although they did feel that if they were able to select future anaesthetists based upon personality traits it would influence their decision. Personality may have a bearing on long-term career resilience and longevity. However, given the pressures on the service delivered by the NHS, within workforce planning we do not have the luxury of being
able to select individuals according to personality type. It is also probable that heterogeneity of personality within our workforce is likely to be beneficial for the clinical outcomes, given the potential complexity of clinical medicine. However, whilst this heterogeneity within our workforce may be useful, we need to consider the consequences for the individual if they are particularly vulnerable to stress- or mismatched in their place or team of work. As such, if we can identify these individuals and understand this we may be able to support them and therefore improve job satisfaction.

Existing studies tend to focus on one particular staff group (be that nurses, medical students etc) and culture/location- rather than comparison of groups or assessment of personality traits and differences across the multi-disciplinary team. There is therefore scope to further evaluate personality traits, how different individuals cope with clinical situations that they perceive to be stressful, how they operate in teams and whether individuals with certain personality types exhibit a preference for certain clinical roles.

Previous work by this research group has explored the presence of psychological safety in healthcare workers, and the factors that influence good teamwork. Psychological safety can be defined as “A shared belief held by members of the team that the team is safe for interpersonal risk taking” (13). In practical terms, this translates as how secure an individual feels within their team to speak up and highlight potential errors, without feeling any personal risk of blame, persecution or mistreatment. The presence of psychological safety within a team has been shown within numerous industry models to be one of the most crucial components facilitating both happiness within a team and productivity / outcomes (14,15).

One theme that emerged from the thematic analysis of qualitative interview transcripts within this study was that the personality of both the individual and the team leader appears to have a significant impact on participants’ confidence to speak up within the team environment. There is opportunity to further explore the influence of personality on psychological safety; and whether there is an association between feelings of psychological safety and predominance of certain personality traits.

### 1.2 RATIONALE FOR CURRENT STUDY

The study will build upon previous work that used the 16PF tool in a sample of critical care workers. This exploratory work indicated a signal that certain personality factors were more predominant than others, and that these differed from previously documented personality profiles in other groups of healthcare workers. By expanding the sample size and extending into an additional clinical area we intend to further explore the personality traits of healthcare workers with the aim of identifying predominant traits that differ from the general population (as outlined in Cattell’s handbook), and also explore any differences in personality based upon the clinical environment in which an individual works. (Critical Care vs the Emergency Department)

The rationale for performing this study has several components. We aim to examine the heterogeneity of personalities within our workforce, build upon previous observations and also contrast the previous studied population of critical care workers with emergency department workers.

Previous work has suggested that critical care workforces contain (and perhaps select for) important numbers of individuals who find unpredictable and organisationally challenging episodes to be particularly stressful; perhaps paradoxically they seek the “control” evident within critical care. Thus using the emergency department, very much characterised by an unpredictable and dynamic environment, is a contrast which will potentially provide a distinctly different population to allow us to challenge a number of hypotheses. In addition, an improved understanding of the personalities of our team members, and how individuals react to stressful situations may allow team leaders to support certain individuals more. This may improve...
teamwork, staff wellbeing and minimise the risk of negative outcomes such as burnout and early retirement from the profession.

2. STUDY OBJECTIVES

Research Question:
Is there a relationship between healthcare workers’ predominant personality traits and their professional role, clinical situations that are perceived as stressful and feelings of psychological safety?

The hypotheses to be tested in this study will be:

- Individuals working within particular healthcare environments have distinct personality profiles from the general population, as defined by the 16PF personality assessment tool.
- The clinical environment an individual selects to work in is influenced by their underlying personality traits & there are identifiable differences in the personalities of those working in critical care in comparison to those working in the emergency department.
- There is a relationship between an individual’s predominant personality traits and the clinical situations that they perceive as extremely stressful.
- High psychological safety is associated with a particular pattern of results on the 16PF assessment.

3. STUDY DESIGN

To explore these hypotheses, we believe the most appropriate methodology is a mixed methods approach – collecting quantitative data in the form of 16PF personality assessment, and subsequently triangulating this with qualitative data from focus groups and short semi-structured qualitative interviews. The 16PF assessment has been internationally validated in providing an accurate description of an individual’s personality. The development of the focus group and interview topic guides have been informed by a thorough literature review, and previous research by the team on this topic.

**Participants and Sampling Strategy**

A purposive sampling strategy will be applied to ensure that staff are recruited equally from each clinical environment, aiming to have a variety of seniority and professional experience within the study group. This project is supported by senior nursing staff at Imperial College NHS Healthcare Trust. Participants will be invited to contribute to this study using email (using secure nhs.net email addresses) by Professor Brett and Dr Grailey. This email will include the participation information sheet and consent form. In addition it will be promoted through the display of posters in each clinical environment and via the Imperial Critical Care Nursing Facebook group, along with departmental briefings. In the event of under-representation of staff from certain clinical areas, these groups will be individually invited again to participate. If, at completion of the data collection period, one group remains under-represented, the analysis will focus upon the groups which are represented in the study cohort.

This study will be single centre, within an NHS organisation in England.

One researcher within the team (KG) will be trained in the use of 16PF by attending a two-day course on its application, delivery and interpretation. This is scheduled to take place in May 2019. Additional members of the team (EM) have previous training and experience in
administering and analysing 16PF questionnaires. The 16PF assessment questionnaire is managed by PSI True Talent, who host the questionnaire and provide the written report. All data about individual participants is held securely by PSI in accordance with GDPR. All data held on the PSI server is anonymised for research purposes and is routinely stored for 7 years (however it can be deleted upon request). A data processing agreement between PSI True Talent and Imperial College will be in place prior to recruitment of participants.

Study Profile

This research study will have two components:

1. Focus Groups
2. The use of 16PF Personality assessments and short qualitative interviews

These two components will be recruited for simultaneously and will run concurrently; as information gathered in the focus groups will be used to inform the short qualitative interviews.

Focus Groups:
Potential participants will be recruited to participate in small focus groups, which have the intention of exploring how individuals feel their personality affects the way they act at work, their choice of job role and how they respond to stress. A key objective of these focus groups will be to produce a list of up to ten scenarios within the working environment which are perceived to cause the highest levels of stress.

Focus groups will take place in quiet meeting rooms on hospital premises. The target size for the focus groups will be 6 – 8 participants, with an maximum duration of 90 minutes. The focus groups will be directed by Dr K Grailey. The discussion will be semi-structured to ensure key topics are covered, but also allowing flexibility for the group to shape the agenda and flow of discussion. [See Appendix X for the Topic Guide for Focus Groups]

Each group will only meet once. We anticipate conducting between 4 – 6 focus groups, although may need to hold up to 10 to ensure thematic saturation in identifying key stressors within the clinical environments being studied.

Dealing with power dynamics during the focus groups

To facilitate discussion regarding feelings of stress at work, a purposive sampling approach will be used so that within each group participants have similar levels of clinical experience and similar job roles. We feel this is the most appropriate way of constructing the focus groups, as those with more experience may not feel able to admit that they feel stressed in front of more junior members of the team. Conversely, those who are more junior may not feel confident to speak up in front of senior members. By grouping participants according to role and seniority previous experience suggests this will minimise the risk of this affecting the group dynamic.

During these group discussions, the participants will be asked to provide examples of the most stressful scenarios they encounter in their clinical environment. To facilitate this, each focus group will contain staff from the same clinical environment (either the emergency department or intensive care), but not necessarily from the same site.

16PF Personality Assessment and Qualitative Interview

100 participants will be invited to complete a 16PF personality assessment from two clinically distinct environments within the hospital: the emergency department and the critical care department. These areas are distinct in terms of work flow, and the levels of control that staff may feel within the environment. It is anticipated that the intensive care environment will be
the most controlled, with the emergency department sitting at the other end of the spectrum and more prone to chaos.

Once recruited, participants will be emailed a link to the 16PF questionnaire using secure nhs.net / imperial.ac.uk email addresses only. The data are to be held securely within the 16PF platform; a report is generated which will then be accessed only by the researcher (KG) via this platform within the 16PF server. Participants will be informed of the data handling process within the participant information sheet. Voluntary accessing and completing the 16PF questionnaire at a time and place of the participants choosing will be taken as implied consent. After completion of the questionnaire, participants will meet with Dr K Grailey in private meeting rooms on the NHS site where the candidate normally works, but away from the clinical environment, in order to provide a detailed explanation of the candidates 16PF results along with the provision of a written report generated by PSI True Talent. This meeting will take place within 4 weeks of the participant completing the 16PF personality assessment. During this meeting, informed consent will be sought for the participant to complete a short qualitative interview. Data regarding their job role, length of experience and clinical environment will also be recorded, and the two data sets paired using a randomly allocated identifier. No personal identifiers will be recorded, and data will be linked anonymised.

During this interview participants will be asked to order the top stressors in both emergency medicine and intensive care medicine (as generated by the earlier focus group discussions). Participants will be asked to rank electronically these stressors using Mentimeter Interactive electronic voting software (www.mentimeter.com), this will consist of a drop down menu pre-populated with clinical scenarios. This software does not record any personal data about the participant and is completely anonymous. Participants will then be asked about their experiences of stress within the clinical environment. [Please see appendix X for the qualitative interview topic guide.] These interviews will be audio recorded, and written transcripts generated for analysis.

The use of topic guides for the qualitative aspects of this research study, trained qualitative researchers and the application of researcher reflexivity will mitigate against the encroachment of researcher bias.

**Consent and Data Handling**

Prior to commencing both the focus groups and qualitative interviews, informed consent will be obtained through the provision of written materials (participant information sheet, consent form) and a discussion between the participant and the researcher about the nature and objectives of the study. There will be opportunity for the participant to ask questions as required.

Focus groups and interviews will be audio recorded and transcribed by a UK transcription company who hold a data sharing agreement with Imperial College London. Participants will be allocated a study number which will be used for identification rather than using personal information. During the process of transcription, any data which could identify the interviewee will be removed from the written transcript. Following receipt and checking of the transcribed data all audio transcripts will be permanently deleted. Personal data (job role and responsibility, interview transcripts and 16PF assessment scores) will be held on a secure NHS server in a folder that has limited permissions, enabling only the core research team to review the data. All data will be linked anonymised using a unique identifier for each case within the study. This identifier will be used instead of personal details and no other personal data will be collected from participants. Only Professor S Brett and Dr K Grailey will have access to the data. Once transcripts/scores are anonymised the original data will be deleted. All data will be handled in accordance with EU GDPR. Data will be initially analysed by Dr K Grailey, with review and input from Professor S Brett. Dr E Murray will not

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have access to any data or interview transcripts. Her involvement will be the review of analysed anonymous data and written manuscripts / reports. There will be no transfer of data out of Imperial College or Imperial College NHS Healthcare Trust.

Data from all components of this study will be triangulated to explore for the presence of any associations between predominant personality factors, preferred professional role and response to stress.

The expected duration of the study will be 1 year.

3.1 STUDY OUTCOME MEASURES
There are four main outcome measures within this study:
- To create a profile of the predominant personality types within our sample of healthcare workers, and identify differences between this and the general population 16F data.
- To identify any relationship between predominant factors on 16PF profiles and whether an individual works in the emergency department or critical care.
- The presence of associations between identified stressful scenarios and predominant personality factors.
  Qualitative exploration of the relationship between an individual’s level of psychological safety and their pattern of results on the 16PF assessment.

4. PARTICIPANT ENTRY

4.1 INCLUSION CRITERIA
Participants must be NHS healthcare staff (including bank staff) and be currently working within either the emergency department or the critical care department.
Participants must be English speaking
The age range for participation will be 18-65 years, as this reflects the age range of those working within the hospital environment in qualified positions.

4.3 EXCLUSION CRITERIA
Agency staff, NHS staff not working within the two pre-defined clinical areas (emergency department or critical care department), service users and the general public will be excluded from participating in this study.

4.4 WITHDRAWAL CRITERIA
All participants are free to withdraw from the study at any point without explanation.

5. ADVERSE EVENTS
In the unlikely event that information that indicates serious risk of harm to participants or unsafe practice is disclosed within the focus groups or semi-structured interviews, the researcher conducting the interview / focus group would be obliged to inform a participant’s line manager of this information, as part of their professional duty towards the protection of patients. Participants will be aware of possibility of this through information provided in the participant information sheet and consent form.

It is possible that the focus groups and interviews may cover experiences that have previously been distressing to participants, especially if related to stressful experiences within the workplace. Information regarding support groups and services will be provided in this instance and appropriate follow up undertaken e.g. Contact. Again participants will be aware of this
process prior to enrolment through the provision of written materials in the participant information sheet and consent form.

6. ASSESSMENT AND FOLLOW-UP

There will be no routine follow up of study participants. Individuals will receive their own 16PF personality assessment data in the form of a written document. Once analysed, data summary reports will be conveyed back to the medical departments involved in this study.

7. STATISTICS AND DATA ANALYSIS

16PF data is completed by the participant directly within the PSI server, using a link provided by the researcher. Once the report is complete, an encrypted written report will be sent securely to Dr K Grailey, who will explain the results to the participant in person. This report contains individual participants scores for each personality factor assessed. Once downloaded the scores will be analysed for predominant traits, and participants scores compared using Microsoft Excel and GraphPad PRISM software.

All data generated through this analysis will be held within secure folders on an NHS server. Focus group and interview transcripts will be coded using NVIVO qualitative software, housed within a secure NHS server. A thematic analysis of the interview transcripts will be performed; thereby allowing the identification of themes and sub-themes within the data relevant to the research questions and current literature. The thematic analysis will be performed by Dr K Grailey, with review of the coding by Dr Murray and Professor S Brett to evaluate for agreement in coding and improve inter-rater reliability.

This data generated by the analysis will be stored within a secure folder on an NHS server. The only individuals who will have access to this original data will be Dr K Grailey and Professor S Brett.

Data and all appropriate documentation will be stored for a minimum of 10 years after the completion of the study, including the follow-up period, in accordance with Imperial College Policy.

8. REGULATORY ISSUES

8.1 ETHICS APPROVAL

HRA approval with the assessment of governance and legal compliance will be obtained for this study. In accordance with Health Research Authority guidance NHS REC approval is not required in this study given the participants are NHS staff members.

8.2 CONSENT

Informed consent to enter this study will be sought from each participant following the provision of a written information sheet and a full verbal explanation of the study. Time will be provided for consideration, and signed participant consent will be obtained prior to commencement of the focus group or qualitative interview. Separate written consent will be taken for both sections of the research study, even if the participant has been involved at another stage.

The right of the participant to refuse to participate without giving reasons will be respected. All participants are free to withdraw at any time during the research study without providing explanation. Voluntary participation in the 16PF assessment will be implied consent, however participants will be aware (through the provision of written materials) prior to participating in the 16PF assessment that their data from this will be linked to later qualitative interview transcripts (this data will be linked anonymised using a unique identifier).
8.3 DATA HANDLING AND CONFIDENTIALITY
The Chief Investigator will preserve the confidentiality of participants taking part in the study in accordance with EU GDPR. All participants will be allocated a unique study ID, and all data collected from the participants will be stored using this as an identifier. Once the purposive sample of participants has been drawn up, all workforce data and email addresses will be deleted from the system.

Only written consent forms will have personal information on them. These will be stored securely on an NHS site. Electronic copies will be made which will subsequently be stored within a secure NHS server. All paper copies will then be destroyed. Only the named researchers involved in this study, Dr K Grailey and Professor S Brett will have access to this data.

16PF written profiles will not have any written personal identifiers associated with them – they will be linked anonymised using the unique identifier allocated to each participant as they enrol in the study. All data will be held in a secure area on the hospitals secure server in a restricted folder to maintain confidentiality. No persons will have access to 16PF profiles, focus group transcripts or individual interview transcripts except the chief investigator and study coordinator. Once audio transcripts have been anonymised, received and checked all audio data will be deleted. Audio recordings (both focus group and interviews) will be transcribed by a UK transcribing company who have a contract with Imperial College. The company will remove any potential identifying data during the transcription process. Once the records are anonymised all personal data will be permanently deleted.

All data will be stored for 10 years in accordance with Imperial College Policy.

8.4 INDEMNITY
Imperial College London holds negligent harm and non-negligent harm insurance policies which apply to this study.

8.5 SPONSOR
Imperial College London will act as the main Sponsor for this study. Delegated responsibilities will be assigned to the NHS trusts taking part in this study.

8.6 FUNDING
This study is supported by a restricted educational grant from BUPA Cromwell Hospital in addition to departmental funds within the Critical Care Unit at Hammersmith Hospital.

8.7 AUDITS
The study may be subject to inspection and audit by Imperial College London under their remit as sponsor and other regulatory bodies to ensure adherence to GCP and the UK Policy Frame Work for Health and Social Care Research.

9. STUDY MANAGEMENT
The day-to-day management of the study will be co-ordinated through Dr K Grailey.
10. PUBLICATION POLICY

It is intended that the data from this study will be published in peer review journals, and presented at conferences. It is possible that in the written reports and manuscripts direct quotations from participants will be included (either from focus groups or interviews). These will be fully anonymised with any personal identifiers removed. Participants will be aware that direct quotes may be used prior to their involvement in this study. Data will be disseminated to participating sites and individuals in the form of presentation and published documents.

11. REFERENCES


APPENDICES
Appendix 1: Topic Guide for Focus Groups
Appendix 2: Topic Guide for Qualitative Interviews & 16PF Feedback
Appendix 3: Sample Mentimeter Survey Tool and Results
Appendix 4: Sample 16PF Written Report
Appendix 5: Participant Information Sheet
Appendix 6: Participant Consent Form – Focus Group
Appendix 7: Participant Consent Form – Qualitative Interview
Appendix 8: 16 Personality Factor Descriptors
Appendix 1:  
Focus Group Topic Guide

**Welcome**
- Thank participants for attending, refreshments offered.
- Scene setting and ground rules: the session will be a discussion, no right or wrong answers, that all views are of interest.

**Introduction**
- Purpose of research study
- Explanation that focus group will be recorded, and the audio files transcribed with all personal identifiers removed, storage of data and dissemination of results
- Written consent forms completed
- Confidentiality of participation emphasised.
- Due to audio recording, participants encouraged not to talk over one another
- Introductions of participants to each other and provision of simple background information.

**Opening Topic**
- General discussion regarding the types of clinical work that individuals face
- Exploration of the roles and responsibilities individuals have in their clinical environment

**Discussion**

**Stress at work**
- Experiences of stress at work – Do you find your working environment stressful? Is it always stressful?
- Do you enjoy the environment you work in?
- Coping strategies for stressful environments
- Identification of the “Top Ten” stressors in the workplace. Ask participants to volunteer examples of stressful scenarios – if more than ten are generated from the discussion then this can be refined through group discussion. Focus upon the clinical environment participants usually work in.

**Personality**
- Do you see differences in personalities at work?
- Does this have an impact on the team?
  - Positive and negative experiences
  - How do you manage different personalities within the team?
- Opinions on how personality influences job satisfaction.
  - Personal experiences
  - Observing others
- Opinions on using personality for recruitment.
  - Good idea?
- Would it be of benefit?

**Experience of speaking up**
- Do you think it is important that individuals are able to speak up and raise concerns in the clinical environment? Can expand on this as a discussion point.
- Do you think not being able to do this causes stress and contributes to error? Can explore causes of error in the clinical environment if time permits.

**Ending the discussion and Final thoughts**
Researcher to thank participants for their involvement
Appendix 2:
16PF Feedback and Qualitative Interview Topic Guide

Welcome

Introduction, overview of session
- Welcome, introduction of researcher and project aims
- Overview of plan for study:
  - A short interview which will be recorded, explanation regarding data handling and anonymisation of transcripts.
  - 16PF feedback: Results presented as a written report, individual will take away copy to keep. Explanation that this feedback will not be recorded.
- Review of PIS and completion of written consent form
- “Feel free to ask questions at any stage”
- “I may make notes so that we can return to a topic later in the interview”

Qualitative Interview

“We will now move on to a short interview to explore your opinions of stress within the working environment”

Here is a list of the top stressful clinical situations in the Emergency Department which were developed during the focus group stage of this research project.
- Can you rank them in order of which you find most stressful, by selecting each option from the drop down menu.
- Can you now rank the most stressful clinical situations in the Critical Care Department as developed in our focus groups, in order of which you find most stressful?
- Do you agree with these lists of stressful scenarios?
- What are your experiences of working under stress in the clinical department you work in?
  - Explore aspects of the participants personality that are both beneficial and detrimental
- Psychological Safety
  - Do you feel able to raise concerns within the team?
  - Do you think it is beneficial that all members of the team are able to raise concerns?
  - Please state whether you agree/ambivalent/disagree with the following statements, thinking about your experiences within your current workplace
    - “If you make a mistake on this team, it is often held against you”
    - “Members of this team are able to bring up problems and tough issues”
    - “People on this team sometimes reject others for being different”
    - “It is safe to take a risk on this team”
    - “It is difficult to ask other members of this team for help”
    - “No one on this team would deliberately act in a way that undermines my efforts”
    - “Working with members of this team, my unique skills and talents are valued and utilised”

*Stops Audio Recording for 16PF Feedback*
16PF Feedback
- Explanation of 16PF results by taking participant through written report
- Time for discussion and possible meaning of results

Sum up short qualitative interview and 16PF feedback
Provide opportunity for any questions or further discussion
Provide participant with the following information
- If you wish to follow any issues you have talked about, you can contact us (provide information)
- They can withdraw from the study at any point and their data will not be used

Thank participant for their time.
**Appendix 3:**  
**Example of poll using Mentimeter software:**

![Mentimeter poll](image-url)

- **Most Stressful Scenario in Critical Care**
- **1st**:
  - Transfers
- **2nd**:
  - Admissions
- **3rd**:
  - Cardiac Arrest
- **4th**:
  - Night Shift
- **5th**:
  - Short Staffing

Go to [www.menti.com](http://www.menti.com) and use the code 61 54 36
## Appendix 4:

<table>
<thead>
<tr>
<th>Sample</th>
<th>16PF</th>
<th>Written Report</th>
</tr>
</thead>
</table>

![16pf Profile Report](image)

**Bio Explorer | August 27, 2018 | Confidential**

**Core Personality Insights**

powered by [psi]
Introduction

Overview of the 16pf
The 16pf Questionnaire is a comprehensive measure of adult personality. Its results can be applied to many situations because it provides a full picture of the individual by measuring personality both broadly and deeply. This unique level of insight is supported by more than 60 years of research and application.

Overview of the 16pf Profile Report
The 16pf Profile Report provides practitioners with the fundamental elements of a respondent’s 16pf information for independent interpretation. Along with the practitioner’s judgement, the Profile Report provides comprehensive information about an individual’s whole personality, to help you feel confident that you are recruiting the right person for the job.

Use of the Report
Because the statements in this report are automated, they should be viewed as hypotheses to validate against other sources of data (e.g., interviews, work samples, simulation exercises, biographical data or references).

Treat the information in this report as confidential. It should only be shared with organizational members who have a need to know about it. It should be stored in a separate, secure file.

Keep these points in mind when using this report:
- The results reflect the respondent’s description of their own personality and behavior. They may not completely match the way other people see the individual. The accuracy of the results depends both on the respondent’s openness in answering the questionnaire and upon their level of self-awareness.
- Often, the value of personality assessment is in comparing a respondent to a larger population. These results describe how the person’s profile corresponds to other people who have completed the questionnaire.
- The report describes the respondent’s likely style. It does not directly measure foundational skills or knowledge. As a result, the statements should be compared to other information about the individual.

The results of the questionnaire are generally valid for 12–18 months after completion. They may be less useful if an individual undergoes major changes in their work or life circumstances.

Interpreting Midrange Scores
A person’s actual behavior depends on how demonstrating their personality characteristics is either facilitated or inhibited by specific situations. This is likely to be particularly true of 16pf trait scores in the midrange on the profile, those lying between stems 4 and 7, and especially those at stems 5 and 4. Interpretation of these scores can be one of the more challenging aspects of providing feedback. References to situational factors are used in the report narrative to remind the professional that interpretations of scores in the midrange may benefit from additional information gathered during a feedback session.

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Structure of the Report

The 16pf Profile Report comprises the following sections:

Response Style Indices
This section provides information on how the respondent has answered the questionnaire. It allows the user to review and generate hypotheses about the respondent's test-taking attitude.

Norm Group
The population against which respondents of the 16pf are compared. Using a norm group means a respondent's scores are considered in the context of the type of group they might belong to, rather than in isolation.

Profile Section
A graphical summary of the 16pf Global and Primary Factors, giving practitioners a concise overview of the respondent's personality profile.

Item Summary
This provides the respondent's specific item responses and summary statistics.
Response Style Indices

Summary: All of the response style indices are within the normal range; there is no indication that it is necessary to probe any of them further.

Impression Management

This individual has presented a self-image that is neither markedly self-critical nor overly positive.

Acquiescence

This individual has responded in a way that is not acquiescent.

Infrequency

This individual has endorsed most items in a way that is similar to other people; it is unlikely that they have responded randomly.

Norm Group

US General Population
Global Factors

- Extraversion: Stem 4, Introverted
- Independence: Stem 4, Accommodating
- Tough-Mindedness: Stem 6, Receptive
- Self-Control: Stem 4, Unrestricted
- Anxiety: Stem 5, Low Anxiety

Global Factor Definitions

- **Extraversion**: Social orientation, the desire to be around others and be noticed by them; the energy invested in initiating and maintaining social relationships.

- **Independence**: The role a person assumes when interacting with others; the extent to which they are likely to influence or be influenced by the views of others.

- **Tough-Mindedness**: The way a person processes information; the extent to which they will solve problems of an objective, cognitive level or by using subjective or personal considerations.

- **Self-Control**: Response to environmental controls on behavior; internal self-discipline.

- **Anxiety**: Emotional adjustment; the types of emotions experienced and the intensity of these.

(--) indicates a negative relationship between the Global and Primary Factor.

Contributing Primary Factors

- **Extraversion**
  - A: Warmth
  - F: Livelihood
  - H: Social Business
  - N: Privateness (-)
  - Q2: Self-Reliance (-)

- **Independence**
  - E: Dominance
  - H: Social Business
  - L: Vigilance
  - Q1: Openness to Change

- **Tough-Mindedness**
  - A: Warmth (-)
  - I: Sensitivity (-)
  - M: Abstractedness (-)
  - Q3: Perfectionism

- **Self-Control**
  - F: Livelihood (-)
  - G: Rule-Consciousness
  - M: Abstractedness (-)
  - Q3: Perfectionism

- **Anxiety**
  - C: Emotional Stability (-)
  - L: Vigilance
  - O: Apprehension
  - Q4: Tension

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### Primary Factors

<table>
<thead>
<tr>
<th>Trait</th>
<th>Score</th>
<th>Interpretation</th>
</tr>
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<tbody>
<tr>
<td>Warmth</td>
<td>A 5</td>
<td>Reserved</td>
</tr>
<tr>
<td>Reasoning</td>
<td>B 8</td>
<td>Concrete</td>
</tr>
<tr>
<td>Emotional Stability</td>
<td>C 4</td>
<td>Reactive</td>
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<tr>
<td>Dominance</td>
<td>E 5</td>
<td>Deferential</td>
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<tr>
<td>Livelihood</td>
<td>F 3</td>
<td>Serious</td>
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<tr>
<td>Rule-Consciousness</td>
<td>G 4</td>
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<tr>
<td>Social Boldness</td>
<td>H 5</td>
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<td>Sensitivity</td>
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<td>Vigilance</td>
<td>L 3</td>
<td>Trusting</td>
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<td>Apprehension</td>
<td>O 4</td>
<td>Self-Assured</td>
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<tr>
<td>Openness to Change</td>
<td>Q1 3</td>
<td>Traditional</td>
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<td>Self-Reliance</td>
<td>Q2 5</td>
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<tr>
<td>Tension</td>
<td>Q4 6</td>
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</tr>
</tbody>
</table>

- **Warm**
- **Analytical**
- **Emotionally Stable**
- **Dominant**
- **Lively**
- **Rule-Conscious**
- **Sociably Bold**
- **Sensitive**
- **Vigilant**
- **Abstracted**
- **Private**
- **Apprehensive**
- **Open to Change**
- **Self-Reliant**
- **Perfectionistic**
- **Tense**
### Item Summary

This page of 16pf scores is intended for qualified professionals only. Data on this page should be treated with utmost confidentiality.

#### Item Responses

<table>
<thead>
<tr>
<th></th>
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</tbody>
</table>

#### Summary Statistics:

- Number of Strongly Agree responses: 25 out of 155 (16%)
- Number of Agree responses: 30 out of 155 (19%)
- Number of Neutral responses: 47 out of 155 (30%)
- Number of Disagree responses: 21 out of 155 (14%)
- Number of Strongly Disagree responses: 32 out of 155 (21%)
- Number of missing responses: 0 out of 175 (0%)

#### Raw Scores

- A: 24
- B: 18
- C: 28
- D: 32
- E: 23
- F: 34
- G: 23
- H: 36
- I: 35
- J: 31
- K: 25
- L: 22
- M: 28
- N: 15
- O: 55

#### Missing Items

- 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

This report was processed using 16pf Sixth Edition Questionnaire US General Population norms.
Appendix 5:

Participant Information Sheet

V0.4 01/07/19

Study coordinators: Dr Kate Grailey (Imperial College Healthcare NHS Trust/Imperial College), Dr Eleanor Murray (Said Business School, Oxford University), Professor Stephen Brett (Imperial College Healthcare NHS Trust/Imperial College)

Chief Investigator Contact: Professor Stephen Brett, Consultant in Intensive Care Medicine, Dept of Anaesthetics and Intensive Care, Hammersmith Hospital, Du Cane Road, London, W12 0HS
T: (44) 0208 383 4521/3143 Email: stephen.brett@imperial.ac.uk

Contact: Dr Kate Grailey
Tel: +44 (0)7912563290 Email: k.grailey18@imperial.ac.uk

IRAS Reference: 263876

1. Study Title
The Influence Of Personality In Healthcare Professionals: A Mixed Methods Study
Exploring Perceived Stressors, Preferred Job Role And Psychological Safety

2. Invitation Paragraph
You are being invited to take part in a research study investigating the relationship between an individual’s personality type and their chosen job role. This study is also investigating the relationship between personality and response to stress and psychological safety in the clinical environment. Before you decide it is important for you to understand why the research is being done and what it will involve.

This is a mixed methods study, with two phases. You may wish to be involved in one, or both of the study components.

One component will involve being a participant in a small focus group, during which you will be involved in a discussion regarding your clinical role, and what things cause you and the team stress whilst at work.

The second component will utilise a personality assessment tool – the Sixteen Primary Factor Personality Questionnaire (16PF). This is an internationally validated tool that provides individuals with information about different components of their personality. This assessment is completed online. Once complete you will meet with one of the researchers to receive verbal feedback and receive a written report to keep. During this meeting, you will be asked to participate in a short qualitative interview exploring which scenarios (as identified in the focus groups) you feel are the most stressful. In addition to the interview you will also provide information about your job role, responsibilities and specialty.

Please read the following information regarding the research and what it involves. This will allow you to decide whether you wish to take part. Please ask if you require any further information about the study.

Thank you for reading this.

3. What is the purpose of this study?
This study will aim to answer several questions regarding the influence of personality in choice of professional role, and whether it affects how we manage stress at work. There are four key questions within this research:
- Are the predominant personality traits of healthcare workers similar, and as a group is this different to the general population?
- Does an individual’s personality type affect which clinical situations they think are extremely stressful?
- Is there a relationship between predominant personality types and the clinical role an individual chooses to fulfil?
Is there an association between predominant personality traits and whether an individual feels confident to speak up in the clinical environment.

It is well recognised that being able to speak up in the clinical environment has positive benefits for patient safety, as well as staff wellbeing and job satisfaction. The influence of personality on the ability of staff members ability to speak up or the relationship between personality and perceived stress is less well studied. It is hoped that by improving our understanding of the personalities of our team members and the potential impact of this, team leaders and managers may be able to support individuals in times of challenge, thereby improving teamwork and staff well-being.

This study is being conducted as part of a PhD research project.

4. Why have I been invited?
You have been invited to take part in this study due to your professional role within the NHS. Approximately 100 NHS staff will participate in the personality assessment/qualitative interview component of this study, and up to 80 in the focus groups (6-8 per focus group, with a maximum of 10 focus groups taking place).

5. Do I have to take part?
No. Taking part in this study is optional. There will be no detriment to working relationships if you decide not to take part in this study. You will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason. You can take part in one component or both components of this study.

6. What will happen to me if I take part?
Focus groups will take place in a quiet meeting room on hospital premises and are anticipated to last no more than 90 minutes.

The 16PF personality assessment tool will be completed in your own time – you will be sent an electronic link to the questionnaire. Once complete, you will meet with one of the research team in person to receive verbal and written feedback (this will be in the form of a report from the 16PF administrators). You will be able to keep your written report provided by 16PF. Semi-structured interviews will take place during the same meeting in which you receive your personality test feedback and will last approximately 15 minutes. All data will be stored under an anonymised identifier within a secure NHS server within Imperial College NHS Trust.

The focus groups and interviews will present a series of questions designed to evaluate how you feel personality impacts upon team work and how you and your colleagues manage stress at work. During the focus groups you will be asked to generate a list of clinical scenarios that are perceived as stressful. Subsequently, if you take part in the semi-structured interviews you will be asked to rank these scenarios, using electronic voting software. This software will not record any personal identifiers and will be anonymous.

The study sample will include health professionals from two main clinical areas – the emergency department and the intensive care unit.

With your permission, the focus groups and interviews will be recorded and transcribed, and qualitative techniques will be used to analyse the transcripts. Audio recordings will be stored within a restricted access folder on a secure NHS server within Imperial College NHS Trust. Once audio files have been transcribed and checked they will be permanently deleted. All personal identifiers will be removed to ensure participant anonymity. For the analysis stage, researchers will only have access to anonymised professional description (years of experience, role etc.), anonymised transcribed interview data and anonymised questionnaire scores. All data will be handled in accordance with EU General Data Protection Regulation (GDPR). Data will be initially analysed by Dr K Grailey, with review and input from Professor S Brett. Dr E Murray will not have access to any data or interview transcripts. Her involvement will be the review of analysed anonymous data and written manuscripts / reports. There will be no transfer of data out of Imperial College or Imperial College Healthcare Trust.
It is possible that verbatim quotes will be published, but all personal identifying information will be removed prior to their inclusion.

7. **What do I have to do?**
   Depending upon the phase of the study, a suitably convenient time will be arranged, either for participation in a focus group or for 16PF feedback and the qualitative interview. You will be asked to read and sign a consent form prior to commencement of the research study.

8. **What are the possible benefits of taking part?**
   You will receive a report detailing your scores on the personality assessment. By participating in this and the qualitative phase, we aim to improve our understanding of teamwork and the impact of personality. We hope that this will provide useful data to facilitate learning and improved teamwork within the healthcare environment in the future.

9. **Will my taking part in this study be kept confidential?**
   Yes. Personal details will not be taken from you during this research study and any information you supply will be treated anonymously. All participants will be allocated a study number by which they will be identified. You will be required to sign a written consent form – this will be stored securely within Imperial College.
   The 16PF personality reports will be stored under this unique study number and will not contain any personal identifiers. The focus groups and interview session will be digitally recorded. These transcripts will be transcribed by an approved UK company who will remove any identifiable information during this process. Once these transcripts have been returned to the research investigators all audio copies will be deleted. There will be no access to individual questionnaire data, except by the Chief Investigator and Study Coordinators. All information which is collected about you during the research will be kept strictly confidential.

10. **What if something goes wrong?**
    If you are harmed by taking part in this research project, there are no special compensation arrangements. If you are harmed due to someone’s negligence, then you may have grounds for a legal action. Regardless of this, if you wish to complain, or have any concerns about any aspect of the way you have been treated during the course of this study then you should immediately inform the Investigator (Dr K Grailey, contact details as above). The normal National Health Service mechanisms are also available to you. If you are still not satisfied with the response, you may contact the Imperial College, Joint Research Compliance Office.

    In the unlikely event that information provided during the focus group or interview indicates serious risk of harm to patients or unsafe practice, (either past or future) the study group would be obliged to inform a participant’s line manager of this information.

    It is possible that the interviews and focus groups may cover experiences that have previously been distressing to participants, especially if related to stressful experiences within the workplace. Information regarding support groups and services will be provided in this instance, and appropriate follow up undertaken by the research team.

    The study may be subject to inspection and audit by Imperial College London under their remit as sponsor and other regulatory bodies to ensure adherence to GCP and the UK Policy Frame Work for Health and Social Care Research. The study will be monitored by the Chief Investigator throughout its entirety.

11. **What if new information becomes available?**
    It is unlikely that new information becomes available during the study but if it does, this information will be distributed by the local contact in each unit.

12. **What happens when the research study stops?**
The data will be analysed, written up, and fed back to all participants through presentations in their clinical department and written reports. Each individual participant will receive their 16PF profile report.

13. What happens to the results of this study?
The results will be used as part of a mixed methods study that is examining the impact of personality on preferred job role and response to stress. The results may also inform further qualitative studies in this field, as part of the study coordinators PhD work.

14. Who is organising and funding the research?
Organised via Imperial College and funding provided by a restricted education grant from BUPA Cromwell Hospital.

15. Who has reviewed the study?
The study has been reviewed by the Investigational team in the research department and HRA. Approvals have been sought from the relevant NHS research and development departments.

16. Contact for further information
Please contact Professor Stephen Brett or Dr Kate Grailey (details above).

17. Transparency

Imperial College London is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. Imperial College London will keep identifiable information about you for 10 years after the study has finished in relation to data subject consent forms and primary research data.

Further information on Imperial College London’s retention periods may be found at https://www.imperial.ac.uk/media/imperial-college/administration-and-support-services/records-and-archives/public/RetentionSchedule.pdf.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally-identifiable information possible.

LEGAL BASIS

As a university we use personally-identifiable information to conduct research to improve health, care and services. As a publicly-funded organisation, we have to ensure that it is in the public interest when we use personally-identifiable information from people who have agreed to take part in research. This means that when you agree to take part in a research study, we will use your data in the ways needed to conduct and analyse the research study.

Health and care research should serve the public interest, which means that we have to demonstrate that our research serves the interests of society as a whole. We do this by following the UK Policy Framework for Health and Social Care Research.

CONTACT US

If you wish to raise a complaint on how we have handled your personal data or if you want to find out more about how we use your information, please contact Imperial College London’s Data Protection Officer via email at dpo@imperial.ac.uk, via telephone on 020 7594 3502 and via post at Imperial College London, Data Protection Officer, Faculty Building Level 4, London SW7 2AZ.
If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner’s Office (ICO). The ICO does recommend that you seek to resolve matters with the data controller (us) first before involving the regulator.

Imperial College Healthcare NHS Trust will use this information as needed, to contact you about the research study, and make sure that relevant information about the study is recorded and to oversee the quality of the study. Certain individuals from Imperial College London and regulatory organisations may look at your research records to check the accuracy of the research study. The people who analyse the information will not be able to identify you and will not be able to find out your name or contact details.

Imperial College Healthcare NHS Trust will keep identifiable information about you from this study for 10 years after the study has finished.

This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of health and care research.

**Appendix 6:**

**Consent Form – Focus Groups**

**The Influence Of Personality In Healthcare Professionals: A Mixed Methods Study Exploring Perceived Stressors, Preferred Job Role And Psychological Safety**

**Please initial each box to confirm your consent to each statement**

- I confirm that I have read and understand the participant information sheet for the above study. I have had the opportunity to consider the information and ask questions and these have been answered satisfactorily.

- I understand that my participation is voluntary and that I am free to withdraw at any time, without any reason, and without my legal rights being affected.

- I understand that my information collected during the study may be looked at by responsible individuals from Imperial College London & Imperial College NHS Trust or from regulatory authorities where it is relevant to my taking part in the research. I give permission for these individuals to have access to my records.

- I consent/refuse consent [please circle preferred option] for my job title to be used in the research study to provide context to the study information.

- I consent to the focus group being recorded. The audio recording will be deleted immediately following transcription and checking. Written transcripts will be anonymised and data handled in accordance with GDPR.

- I consent to take part in the above study.
• I consent to the use of direct quotations from my transcripts in future written manuscripts and documents, with the acknowledgement that any quotations will be fully anonymised.

____________________ _______________________
Name of participant   Signature    Date

____________________ _______________________
Name of interviewer   Signature    Date
Appendix 7: Consent Form – Qualitative Interview

The Influence Of Personality In Healthcare Professionals: A Mixed Methods Study Exploring Perceived Stressors, Preferred Job Role And Psychological Safety

Please initial each box to confirm your consent to each statement

- I confirm that I have read and understand the participant information sheet for the above study. I have had the opportunity to consider the information and ask questions and these have been answered satisfactorily.

- I understand that my participation is voluntary and that I am free to withdraw at any time, without any reason, and without my legal rights being affected.

- I understand that my information collected during the study may be looked at by responsible individuals from Imperial College London & Imperial College NHS Trust or from regulatory authorities where it is relevant to my taking part in the research. I give permission for these individuals to have access to my records.

- I consent/refuse consent [please circle preferred option] for my job title to be used in the research study to provide context to the study information.

- I consent to the data provided in this assessment being uploaded and analysed by PSI: 16PF. All uploaded data and written reports will be labelled with a unique participant code, not personal identifiers. Written transcripts will be anonymised and data handled in accordance with GDPR.

- I consent to the interview being recorded. The audio recording will be deleted immediately following transcription and checking. Written transcripts will be anonymised and data handled in accordance with GDPR.

- I consent to the use of direct quotations from my transcripts in future written manuscripts and documents, with the acknowledgement that any quotations will be fully anonymised.

- I consent to take part in the above study.

Name of participant ____________________ Signature ____________________ Date ____________

Name of interviewer ____________________ Signature ____________________ Date ____________
APPENDIX 8: High and Low Descriptors for each of the 16PF Personality Traits.

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<th>16PF Scale Names and Descriptors</th>
<th>Primary Scales</th>
<th>Descriptors of High Range</th>
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<td>Reserved, Impersonal, Distant</td>
<td>Warmth</td>
<td>Warm-hearted, caring, attentive to others</td>
</tr>
<tr>
<td>Concrete, Lower mental capacity</td>
<td>Reasoning</td>
<td>Abstract, Bright, Fast-Learner</td>
</tr>
<tr>
<td>Reactive, Affected by feelings</td>
<td>Emotional Stability</td>
<td>Emotionally stable, adaptive, mature</td>
</tr>
<tr>
<td>Deferential, Cooperative, Avoids conflict</td>
<td>Dominance</td>
<td>Dominant, Forceful, Assertive</td>
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<td>Serious, Restrained, Careful</td>
<td>Liveliness</td>
<td>Enthusiastic, Animated, Spontaneous</td>
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<td>Expedient, Nonconforming</td>
<td>Rule-consciousness</td>
<td>Rule-conscious, Dutiful</td>
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<td>Shy, Timid, Threat-Sensitive</td>
<td>Social Boldness</td>
<td>Socially Boie, Venturesome, Thick-skinned</td>
</tr>
<tr>
<td>Tough, Objective, Unsentimental</td>
<td>Sensitivity</td>
<td>Sensitive, Aesthetic, Tender-minded</td>
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<td>Trusting, Unsuspecting, Accepting</td>
<td>Vigilance</td>
<td>Vigilant, Suspicious, Sceptical, Wary</td>
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<td>Practical, Grounded, Down-to-Earth</td>
<td>Abstractedness</td>
<td>Abstracted, Imaginative, Idea-Orientated</td>
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<td>Forthright, Genuine, Artless</td>
<td>Privateness</td>
<td>Private, Discreet, Non-disclosing</td>
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<td>Self-assured, Unworried, Complacent</td>
<td>Apprehension</td>
<td>Apprehensive, Self-Doubting, Worried</td>
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<td>Traditional, Attached to Familiar</td>
<td>Openness to Change</td>
<td>Open to Change, Experimenting</td>
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<td>Group-Orientated, Affiliative</td>
<td>Self-Reliance</td>
<td>Self-Reliant, Solitary, Individualistic</td>
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<td>Tolerates Disorder, Unexacting, Flexible</td>
<td>Perfectionism</td>
<td>Perfectionistic, Organised, Self-disciplined.</td>
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<td>Relaxed, Placed, Patient</td>
<td>Tension</td>
<td>Tense, High Energy, Driven</td>
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<thead>
<tr>
<th>THEME</th>
<th>SUBTHEMES</th>
<th>SUPPORTING QUOTATIONS</th>
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| PSYCHOLOGICAL EFFECTS | Presence of psychological distress | “I think everyone’s quite bad now. I think everyone wants to be furloughed, basically.” Senior Sister, Emergency Department, July 2020  
“So, none of us have really had a breather” Senior Sister, Emergency Department, July 2020  
“So I really struggled coming out of the peak I think and going back to normal work and trying to live normal life I found really difficult. And I had nightmares and stuff for quite a long time. I’ve only just stopped really.” Physiotherapist, Critical Care, July 2020  
“All these really horrible dark vivid dreams, and I think just because I would think about people and worry about patients once they’re home.” Physiotherapist, Critical Care, July 2020  
“I felt mental exhaustion. That was the difference.” Senior Sister, Critical Care, July 2020  
“And I could see that was very much a grieving process going on” Senior Sister, Critical Care, July 2020  
“there was a lot of staff burnout and staff stress” Senior Physiotherapist, Critical Care, July 2020  
“Everyone was so negative and people were going for their break and just cry. I did that many times. It was just too much stress.” Staff Nurse, Critical Care, August 2020  
“I think the COVID has left everybody a little bit PTSD angry where they don’t really know what they’re angry about. They’re on edge. They’ve gone into that fear response. It was sustained for those three months and it’s been harder to get out of it, if that makes sense. I’ve seen that across the floor.” Staff Nurse, Critical Care, August 2020  
“There were people who were really stressed. Although without knowing it they were fantastic at not showing it.” Senior Sister, Critical Care, September 2020  
“I’d get home and be so utterly exhausted that I’d feel like I had nothing left, just so drained emotionally and physically.” Senior Sister, Critical Care, September 2020  
“We have all started seeing things a bit different I think on a personal level, professional level, but it’s the constant stress of that from the mask that we need to wear all the time” Registrar, Emergency Medicine, September 2020  
“And of course all of us, and regardless of professional role, are still trying to pick ourselves up after. So it’s just different types of stress. There’s some stress you don’t mind and there’s some stress that is just, like, this is crazy.” Staff Nurse, Critical Care, October 2020  
“Some people are just not ready to talk about it. They’re just not ready to talk about it. And I was originally one of those people, because it was just such a hard time. It was such, such, such a hard time. And I just don’t think people can always comprehend it. Sometimes it feels like you’re still there even though it’s a few months after.” Staff Nurse, Critical Care, October 2020  
“So, yes, it’s persistent. Some people they’re like, I’m still living it. I was speaking to my colleague yesterday. We were speaking about it. She was actually crying. It really brought home to me again how turbulent the pandemic was for intensive care.” Staff Nurse, Critical Care, October 2020  
“my mood did go down quite a bit” Staff Nurse, Critical Care, October 2020  
“I think morale is really low. The empathy is going, patience has gone a long time ago, people just don’t have... Yes, I think people are just exhausted and they just want to come in, do their work and leave and go home.” Senior Staff Nurse, Critical Care, November 2020  
“But a lot of people are just exhausted after the pandemic. The way that things are still at the moment, the conditions that they’re expected to work under, people have just had enough so they’re leaving.” Senior Staff Nurse, Critical Care, November 2020  
“I just feel like it was a bad dream at the moment.” Senior Staff Nurse, Critical Care, November 2020  
“but they’re just burnt out. They’re on the floor, they’re just exhausted.” Senior Staff Nurse, Critical Care, November 2020 |
"Normally in a shift, one or two people might be stressed at any one point in time but it's an unusual thing for everybody to have a heightened thing, maybe in the depths of winter or in a major incident. But it's not something on an ongoing basis where everybody's anxieties is elevated." Consultant, Emergency Medicine, July 2020

"Normally, it's quite a bubbly, chatty team and people were just like unbelievably negative. Everyone was so negative and people were going for their break and just cry. I did that many times. It was just too much stress." Staff Nurse, Critical Care, August 2020

"They brought a psychologist to come and speak to us and then everybody would just speak to him and cry. It was just really negative. People would talk to each other but it was just like, oh I hate this. When is it going to end? I can't deal with this. It wouldn't be a normal conversation that we would normally have." Staff Nurse, Critical Care, October 2020

"I think I need a little bit more TLC, and I got a little bit more help." Staff Nurse, Critical Care, October 2020

"I found it stressful. I think I learned to manage. And I found that during the COVID, it was very different, so it came, a side of me that I did not know before. But because I'm aware of it, I raised it straightaway, so I knew that I had to get certain help with something or discuss things as they were going along, because it just helped me out. I felt mental exhaustion. That was the difference." Senior Sister, Critical Care, July 2020

"So, all these things will happen, and then one small thing at the end will happen, and then I will just be really upset. And, look, that happened a couple of times to me, which had never happened to me at work before. So, I did have a couple of situations." Staff Nurse, Critical Care, July 2020

"During COVID it was absolute chaos. That would just increase my stress levels another level. I couldn't even find a 10ml syringe." Staff Nurse, Critical Care, August 2020

"Because I got put up in accommodation near the hospital, so it was being away from your family, your friends. And yes, my mood did go down quite a bit." Staff Nurse, Critical Care, October 2020

"I was on the verge of I can't handle it I need to go, and then the next minute it was just bang straight back into automatic pilot. It's so strange." Senior Sister, Critical Care, September 2020

"Absolutely, yes. Tiring, burnout and completely mentally devastated" Staff Nurse, Critical Care, July 2020

"I think I found it hugely stressful." Physiotherapist, Critical Care, September 2020

"So, I found that when I wasn't at work, actually was much more stressed and anxious. Because when I was at work I felt like I can control, I could make a difference, I could do something." Senior Sister, Critical Care, July 2020

"I didn't personally find it an enjoyable experience at all. I found it awful" Consultant, Critical Care, July 2020

"I know everyone in ITU is anyway, but on my first day, the numbers, I had three level 3s on quad strength Norad, all proned, and I just sat there crying, drawing up my Fentanyl." Staff Nurse, Critical Care, October 2020

"And I think it was a bit quiet among all of us. I don't know. It wasn't how we normally would be in the break rooms and things like that." Staff Nurse, Critical Care, July 2020

"probably the thing that struck me the most, was appreciating the increased stress in my colleagues, so across our staff, team. So, nursing staff as well as doctors, and their anxieties being more prevalent and just globally up." Consultant, Emergency Medicine, July 2020

"But we didn't know in the beginning. I think that was the heaviest burden." Staff Nurse, Critical Care, July 2020

Fear of COVID-19

"And I think that the pandemic meant everyone is going through their own problems related to knock-on effects of the pandemic." Staff Nurse, Emergency Department, October 2020

"Fear of getting COVID and is the PPE that we're using right" Consultant, Emergency Medicine, July 2020

"It was very much felt that the people who were going in could potentially be in harm's way" Senior Sister, Critical Care, July 2020
"And I was very aware of the idea that I was in an office round the back, and was not. I think, on reflection now, there were hundreds of us in this little tiny area. We were not socially distanced at all. Actually, we were all in a certain amount of danger and had a certain amount of risk." Senior Sister, Critical Care, July 2020

"There was a bit of personal stress because you didn't want to catch it or give it to your loved ones, but you could take steps to manage that." Consultant, Emergency Department, July 2020

"So, I think things that made it more stressful were, often, on intensive care, perhaps a protective mechanism, you can rationalise why you are not going to be in that critically ill situation. As in, I don't know, I don't smoke or I'm not old enough to have the disease you're in with or whatever. Yet, although it was biased towards a certain population group, there was still a lot of doubt how at risk we were." Physiotherapist, Critical Care, September 2020

"I think that you saw the bosses visibly shaken by it and ITU consultants, who obviously are hugely experienced, visibly shaken and anxious about it." Physiotherapist, Critical Care, September 2020

"One of them said to me, have you heard so-and-so's been admitted to A&E? Or I'd be in a safety briefing. Have you heard these people in their 30s are on non-rebreather bags in A&E? So, I think those things really stirred it up to a whole new level." Physiotherapist, Critical Care, September 2020

"I think when we were being redeployed from the wards we were being moved to other wards initially and I felt kind of safer in ICU than I did on the wards. Because even though you're in full PPE and it's stressful, but I felt I had more peace of mind working there as such." Staff Nurse, Critical Care, October 2020

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"everybody seemed to be aware that we were all vulnerable, we could fall ill, for example." Consultant, Critical Care, December 2020

"And obviously with Covid and lots of other personal things, it is interesting how people bring that to work, and even though she was seeing people, she couldn't, she didn't have the bandwidth to do her normal job role as a registrar. " Registrar, Emergency Medicine, July 2020

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"ITU were just not coming. We were calling and calling. They were just not coming. The Regis and consultants in the A&E were basically like, there's nothing we can do." Senior Sister, Emergency Department, July 2020

"I think the nurses got closer. And it's probably more of a nurse doctor division. But then there is more now of an A&E versus the rest of the world division. In the middle of Covid, it literally felt like A&E was the only place dealing with it. Because ITU just weren't interested in coming down. The wards were closed to Covid. So, the wards, they were closed. They weren't taking patients. We weren't doing an IV. So, we weren't doing half the treatment that we'd normally do for these patients." Senior Sister, Emergency Department, July 2020

"Secondly, I didn't see my family. I didn't see my friends. I did not see anyone. I just worked. I saw my work friends, obviously. And I'm very grateful that I was able to leave the house and do that." Senior Sister, Emergency Department, July 2020

"Sometimes you're in a room on your own and sometimes you're in a bay. When it started, you were in your room and you could be in there for four or five hours, because there weren't people to come and relieve you. But then as it started to get worse, in a way it got better. Because we went into recovery and that was so open that if you needed a hand or if you needed a break, there was somebody who would just watch your patient for five minutes." Staff Nurse, Critical Care, October 2020

**Feelings of isolation**

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"When we were still upstairs, you were just stuck basically. Even if you needed some help, you would have to wait." Staff Nurse, Critical Care, October 2020

"Ten minutes, because they didn't hear it. We were quite stuck on one side, and nobody on the other side came round because it was mid breaks on night shift. Nobody came, yes, not good. What else?" Staff Nurse, Critical Care, October 2020

"And she felt, there's no point in me being here. And she was vocalising this in front of lots of people, and said, there's no point of me being here. This is useless. Why am I here?" Senior Sister, Critical Care, July 2020

Indicators of moral injury

"it doesn't work every day, some days it just doesn't work. So we are trying but I find... I often finish the end of my week thinking, I just failed here, I really failed to create a good team spirit and making, feeling like I've had enough time at the bed space with the patients and with the nurses." Consultant, Critical Care, November 2020

"I mean whether or not that was the right thing to do, I don't know. But we had to do something" Senior Sister, Emergency Department, July 2020

"We looked after her, really, to the best of our ability. But it was just awful. Those decisions. And maybe there was more to it than that. But it didn’t feel at the time like there was more to it." Senior Sister, Emergency Department, July 2020

"Was that people were making really horrible choices. And to me, they didn’t always feel that they were based ethically. But, then again, nothing was ideal. Never, ever, ever have to make those choices." Senior Sister, Emergency Department, July 2020

"We did absolutely the best that we could possibly do, but it just in no way, shape or form was good enough. But we did what we could in the confines of our environment" Senior Sister, Emergency Department, July 2020

"people were doing what they could do and recognised that there were going to be things that just couldn’t be done." Senior Sister, Critical Care, July 2020

"But then you’re also like if you’re not going to do are you giving the same care that you normally did?" Senior Staff Nurse, Critical Care, July 2020

"It was just nuts, and you can’t do it. You can’t, even when they’ve all got the same disease. You can’t do it safely, much less anything with anything else." Consultant, Critical Care, July 2020

"I think there’s the sense that things were slightly out of control, and we were treating a disease we didn’t understand." Consultant, Critical Care, July 2020

"And the fact that you couldn’t give individualised care" Senior Staff Nurse, Critical Care, July 2020

"I think when everything was at its peak, I don’t know, everyone just felt very out of their depth." Staff Nurse, Critical Care, July 2020

"even if we don’t really agree with it or see eye to eye, that’s what the powers that be have in place, we just have to go with it, for the bigger picture." Registrar, Emergency Medicine, July 2020

"Actually, we don’t have this foresight, we don’t have that extra vision, and we’re now making decisions and we’re using our best clinical judgement at this point." Registrar, Emergency Medicine, July 2020

"Because it was so clear that we were all in exactly the same boat, having the same feelings. Are we doing the right thing? Should we be doing more? What do we do now? Where do go for help or are we asking for too much help?" Physiotherapist, Critical Care, July 2020

"I was like, oh my god, this is actually a disaster. I hate my life. I don’t want to do this anymore." Staff Nurse, Critical Care, August 2020

"There were days i didn’t even turn my patient once. That’s awful. That was disgusting. We all just thought if each of these patients could have one to one care, they would probably do a lot better than they would cohorted and not looked after in the proper way." Staff Nurse, Critical Care, August 2020

"Everyone felt like they weren’t looking after their patients properly. We weren’t." Staff Nurse, Critical Care, August 2020

"But I think it was the lack of being able to do anything." Junior Doctor, Emergency Department, August 2020
And so a lot of care I think got missed, a lot of generally, the monitoring that we usually do got missed. We had a lot more unexpected arrests.” Staff Nurse, Critical Care, August 2020

“I was completely lost as to what to do.” Senior Staff Nurse, Critical Care, October 2020

“but each week I come away feeling I failed again, so it’s hard.” Staff Nurse, Critical Care, July 2020

“I think difficulty with Covid was probably less that people didn’t know, but more that very, very difficult decisions had to be made.” Senior Sister, Emergency Department, July 2020

“And then when ITU eventually did come, it was a very horrible, actually, conversation about which patient do you actually take into ITU.” Senior Sister, Emergency Department, July 2020

“But there were some things that I couldn’t change.” Senior Sister, Critical Care, September 2020

“And I have two particular shifts that come to mind where all day, as long as I left and they were still breathing, that was the only thing I wanted.” Senior Staff Nurse, Critical Care, October 2020

“So when it first hit...I’ve not really reflected on this, so it’s a bit difficult, but about [inaudible]. But I think it was the lack of being able to do anything. People turned up with sats of 50.” Junior Doctor, Emergency Department, August 2020

“I don’t know, each shift I felt like oh, I don’t know what I’m doing. And when you feel like you don’t know what you’re doing, you feel more stress.” Senior Staff Nurse, Critical Care, July 2020

“And the fact that you couldn’t give individualised care, because you had two Level 3s, and you’re just jumping left, right and centre. And you might get mixed up with things, so situations have been like, someone is so stressed, they roll the patient, the patient is extubated accidentally. That happened during the COVID time.” Senior Staff Nurse, Critical Care, July 2020

“Yes, it was just too much to deal with. Normally, I work like, my last gas was at six, I will do one at eight. I’m very almost anal about things. Everything was a mess during COVID and I was like, I can’t even work in this space.” Staff Nurse, Critical Care, August 2020

“I definitely remember a day when I was in one of the bays and there was just a lot going on. And then I felt incredibly overwhelmed and I just remember wanting to get out of there as soon as possible. I was there to relieve everybody else.” Senior Sister, Critical Care, September 2020

“And obviously we were looking after more than one patient... I know when you’ve got a Level 3 intubated and that, it should be one to one, but we were having three to one at one point.” Staff Nurse, Critical Care, October 2020

“So I think sometimes it’s a double-edged sword, knowing what practice was before and the standard of practice before, and then of course, working through and adapting practice during...” Staff Nurse, Critical Care, October 2020

“‘They probably needed a proper psychologist or some form of counselling professionally’ Senior Sister, Critical Care, September 2020

“‘I think it did change. I think we became a much more of an emotional support. Probably, although technically yes, we were there, but I think emotionally we were supporting people with a lot of... Trying to relax and debrief them, let them talk about stuff to us as opposed to clinically trying to solve their problems.” Senior Sister, Critical Care, July 2020

“So, I think it was important, and then, I think, then that gave them the time to open up, when maybe they didn’t feel like they could or because we were so busy, and as such in crisis mode, that it gave them the opportunity that they could speak up.” Senior Physiotherapist, Critical Care, July 2020

“And I was becoming increasingly stressed and anxious and worried about all the staff that were clearly worried about getting COVID themselves, or their families. Or they’ve had to move into a hotel and can’t see their children, those kinds of concerns as well as work.” Senior Sister, Critical Care, September 2020

“I think everyone’s carrying that around with them, and it just calls for a little bit more empathy when somebody snaps at you or something.” Staff Nurse, Emergency Department, October 2020

“I suppose the only thing that I found during the pandemic is because I’m in that role anyway, and I offer a lot of pastoral support and stuff, I felt that I was taking a lot of it on as well.” Senior Sister, Critical Care, September 2020
"So, I guess that is sometimes difficult, you obviously had to listen to people, and we were very worried about staff burnout and staff stress, but we really did still have so much work we had to do, with much more spread out staff than what we usually would have."
Senior Physiotherapist, Critical Care, July 2020

"I don't think I particularly had a huge amount until COVID came along and there was this, yes, and then everything changed. But that was still, the stress that I felt was very much a stress of other peoples, taking on their worries and trying to support them."
Senior Sister, Critical Care, July 2020

As a function of the "unknown" nature of a pandemic

"but I think that was true for everyone that was there or that was redeployed or that was existing staff because I think it was just so... Everyone uses that word, unprecedented and I kind of hate that word now but it was so new, wasn't it?"
Physiotherapist, Critical Care, July 2020

"I think there was an element of stress because we were dealing with something new." Consultant, Emergency Department, August 2020

"I think it was, most of all, not knowing what was happening, not knowing how to make a patient better." Staff Nurse, Critical Care, July 2020

"I guess it was just not knowing exactly what the problem is. We all knew that, okay, there's coronavirus." Staff Nurse, Critical Care, October 2020

"I noticed, some of my colleagues had so many difficulties just dealing with the new things" Staff Nurse, Critical Care, July 2020

"Where sometimes you felt decisions were made a bit later because everyone was unsure on how to look after these patients."
Senior Staff Nurse, Critical Care, July 2020

"Managers tried to implement things, but they didn't really help, because it was unknown to everyone, what was going on." Staff Nurse, Critical Care, July 2020

"We didn't really know what was going to happen either. I think it was difficult and stressful for everyone." Senior Sister, Critical Care, July 2020

"We were handling a disease which we were not familiar with, and lots of things were different." Consultant, Critical Care, October 2020

"I think it was obviously in keeping with everyone's behaviour changing because we were all a bit like, this is new, for absolutely everyone here. No one's really experienced anything like this before." Physiotherapist, Critical Care, July 2020

"But in a way, that was also very liberating because you couldn't be expected to know what to do because nobody did, because it was evolving. And therefore, in a way, it was less stressful than sometimes..." Consultant, Emergency Department, August 2020

"I think before, because no one really knew what was coming, so you just had that mentality of, it's coming, we just get on with it, we just cope as best we can" Senior Staff Nurse, Critical Care, November 2020

Evidence of coping strategies

"sometimes you can go into the staffroom, it might be quiet, but during COVID it was always busy, loud, real positive environment. And we were all conscious of keeping each other's morale up." Senior Staff Nurse, Critical Care, July 2020

"And it's just all I did. Just went to work and I just did it. That's just pandemic response. Just go for it. And then, eventually, it would be finished." Senior Sister, Emergency Department, July 2020

"We adapted to whatever came so it was madness because there was no control about anything." Staff Nurse, Critical Care, July 2020

"I think in a sense, going through the pandemic and seeing that absolutely everyone is sometimes, in the same boat." Physiotherapist, Critical Care, July 2020

"So if the physio can't treat it, that's then my job and then I take a step back, and then it's not necessarily my responsibility to make the ultimate decision for the patient." Physiotherapist, Critical Care, July 2020

"Yes, I think now, I'm much more content in the knowledge that I'm good at my job and I'm doing okay and if you do something that's not right, you'll know about it" Physiotherapist, Critical Care, July 2020
"I knew that at some point it finishes. And that got me through and kept me quite calm through it. I was very calm through it." Senior Sister, Emergency Department, July 2020

"I can’t control this, this isn’t what I would have chosen, but then what can I control? I can control deciding to make this work." Staff Nurse, Critical Care, July 2020

"I think I went in with the idea that there were certain things I simply cannot control, and there’s no point in my becoming upset about things that I can’t control. That’s an aspect of my character, which I think I’m sometimes grateful for, and sometimes ashamed of, that I will just accept what’s happening and get on.” Senior Sister, Critical Care, July 2020

"You are sweating, your face is hurting. I think as well because I’ve been clinical and in charge on the ward and stuff. So, I think that experience did help me with organisng and saying you need to do this.” Staff Nurse, Critical Care, August 2020

"It’s always nice to be able to just smile. I tried as much as possible to insert a smile and just keep people going as much as we could, as did thousands literally.” Staff Nurse, Critical Care, October 2020

"maybe a little bit of displacement activity, or mentioning how in their day things were different” Senior Sister, Critical Care, July 2020

"So, where we would do a handover every day being really clear about what… Because PPE, different areas of department, our layout, things were changing constantly, it was the need to be myself up to speed, make sure that the top of the day, top of shift brief was done well.” Consultant, Emergency Medicine, July 2020

"And there were times when I’d probably snap or I’d hurry people on and say actually no I don’t have time for this, I’ll speak to you later on or whatever. And that’s just not how I normally would communicate with people, and I’d notice that I was getting stressed at that stage.” Senior Sister, Critical Care, September 2020

"So those are few people that were noticeably very stressed, and then other people would get stressed around them. And normally I’m the opposite and it’s okay, but there were parts when I’d get a bit like that.” Senior Sister, Critical Care, September 2020

"I was very calm through it!” Senior Sister, Critical Care, July 2020

"I spent a lot of time waiting and that really stressed me out I found, because I just felt out of control!” Physiotherapist, Critical Care, July 2020

"it was just too much to deal with. Normally, I work like, my last gas was at six, I will do one at eight. I’m very almost anal about things. Everything was a mess during COVID and I was like, I can’t even work in this mess. It was increasing the stress. I’ve already got two or three patients and I can’t even work in the space.” Staff Nurse, Critical Care, September 2020

"I think different people responded differently. And I think again, stress really changed that” Staff Nurse, Emergency Department, September 2020

"I think having other personalities that weren’t ITU nurses in the mix probably helped as well.” Senior Sister, Critical Care, July 2020

"I would say definitely, yes. I think probably that environment I think while people were stressed I think they just kind of got on with it kind of thing” Staff Nurse, Critical Care, October 2020

"I think so. I think because I’ve noticed with my colleagues, all of us have reacted in different ways. I get stressed. I did have moments when I was very stressed.” Staff Nurse, Critical Care, July 2020

"I was so sad when actually we had to split up and go back to our normal jobs.” Physiotherapist, Critical Care, July 2020

"many people, at least the ones that I’ve spoken with since then, found themselves really exhausted after the pandemic started slowing down.” Senior Sister, Critical Care, July 2020

"Everything came with a boom and left with a boom. All of a sudden, you got used to this, it’s going to be extremely busy, and you got used to the impact of it, and you’re just left with nothing happened.” Senior Sister, Critical Care, July 2020

"Yes, it has, and it’s nice. Everyone’s definitely happier at the moment” Senior Sister, Critical Care, July 2020
"Now the problem with that is that I think people were just pushing back a lot of the negative feelings and a lot of the stress that they were actually feeling at the time" Senior Sister, Critical Care, September 2020

"I feel a bit strange saying this, but I have mentioned it to a few people, I miss COVID a bit" Staff Nurse, Critical Care, October 2020

"Afterwards, it hit you like a tonne of bricks after, especially even after a shift sometimes. When you’re in it, you’re in it. You don’t have the time to reflect on how you’re feeling. But afterwards, you’re like, whoa." Staff Nurse, Critical Care, October 2020

"People that you see around and got to know during that time it was still really nice and felt more similar but it has definitely faded off. Towards the end it’s kind of tailed off and people just get used to the new norm which is weird" Physiotherapist, Critical Care, July 2020

"I think less so now, actually. I haven’t quite put my finger on it yet but there’s something about the pandemic which has changed the way that I think about work now" Physiotherapist, Critical Care, July 2020

"It’s a very different kind of stress. It’s not stress where you cannot manage everything. It’s stress where you’re like, oh my gosh, I have to suffer through another six hours of doing very little, because there’s nothing to do. There’s nothing to occupy myself with. Where are the patients? Or, I don’t really like this person that I’m working with, and I have to small talk with them for the next six hours because there’s no patients." Staff Nurse, Emergency Department, October 2020

"It’s just been a hard time. As I say, more so now. Like, we’re really getting back into the, you are not a COVID-19 robot, and now we’re getting back into, oh yeah, you’re [name]. We know each other now." Staff Nurse, Critical Care, October 2020

"I think it’ll eventually go back to business as usual when we have new personnel and it all just… And you don’t have that common ground anymore with new people so it’s very difficult to build those relationships in that way again." Staff Nurse, Critical Care, September 2020

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<tr>
<th>CHANGES IN TEAM DYNAMICS</th>
<th>Flattening of hierarchy, or changes in presence of hierarchy</th>
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<tr>
<td>&quot;It’s always been pretty easy, but the fact that nobody knew much about it, surely flattened the differences between the senior staff and the junior staff.&quot; Staff Nurse, Critical Care, July 2020</td>
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<td>&quot;Because no one knew what they were doing.&quot; Senior Staff Nurse, Critical Care, July 2020</td>
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<td>&quot;So, you just ask, which was nice to be able to have a more level field on that kind of thing.&quot; Senior Staff Nurse, Critical Care, July 2020</td>
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<td>&quot;Do I think it got flattened a bit? Not in a good way. It might have done but only because… I think the effect of it, to be honest, was probably that we were simply less able to provide the things that people do rely on us for and that they want the hierarchical relationship most of the time. They wanted to be able to dump stuff on us&quot; Consultant, Critical Care, July 2020</td>
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<td>&quot;So no, I don't think it did flatten it, really, and certainly not in a way that helped anything. I there's a slight sense that this was a different time, and it was a bit of [unclear]. I think that did flatten the hierarchy a little, and that was in a good way.&quot; Consultant, Critical Care, July 2020</td>
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<td>&quot;Maybe slightly flattened but not so much. I think the only reason why it flattened is we had people from different teams joining us, and they were already at their respected stages, so maybe that’s why it flattened&quot; Senior Sister, Critical Care, July 2020</td>
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<td>&quot;I think that, yes, there definitely was on the ground quite a flattening and a flattening between professions&quot; Staff Nurse, Critical Care, July 2020</td>
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<td>&quot;I think it was the same, to be honest, because the consultant, it didn’t really differ, because all of the patients were the same. So, all the treatment that all the patients were having was the same treatment. There wouldn’t be a difference in the leadership of that patient.&quot; Staff Nurse, Critical Care, July 2020</td>
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<td>&quot;Yes, I think it probably did, and I think, because where you had, maybe, people that were in a position of authority if you compare, like they were consultants, but they weren’t necessarily consultants that were specialists in critical care, they might have been more anaesthetic consultants. In that respect, I think, it was nice to recognise that, yes, you’re not medical, but actually, maybe, you do know a bit more about the day-to-day management of an ITU patient.&quot; Senior Physiotherapist, Critical Care, July 2020</td>
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“So, I think in that case, it probably did, and I think everybody, regardless of their banding and their grade, were happy to do whatever. So, I think it probably did flatten from that point of view, yes.” Senior Physiotherapist, Critical Care, July 2020

“I think they were really open to chatting to us. Especially the physios, I noticed. Whereas they can be a little bit dismissive of our weaning plans or treatment plans or something like that, but I did notice that, during that pandemic, they were very much like what do you guys think?” Physiotherapist, Critical Care, July 2020

“Yes, there was no hierarchy during COVID I don’t think” Staff Nurse, Critical Care, August 2020

“I think it’s probably changed for the better. I don’t know if it will stay that way. But certainly during the pandemic or during the surge, if you like, there was definitely less of a hierarchy in terms of patient care and priorities than there would be on a normal day.” Staff Nurse, Emergency Department, August 2020

“I think it was very flat in COVID” Consultant, Emergency Department, August 2020

“There was an opportunity each day for consultation about management plans and how to look after someone. So, there was a mixture of a slight flattening, but also a quite nice system where one of the consultants would come down and basically sit through a handover. That would be a time for the incoming consultant or whoever to ask.” Junior Doctor, Critical Care, September 2020

Morale and camaraderie

“But I saw at first-hand what was going on and it was brilliant, they were working more than a team, we were like a family and people just got on with it.” Senior Sister, Critical Care, September 2020

“I think the relationships, generally, was very good. I think, maybe, it’s heightened it, if anything, and I think the camaraderie was amazing, between the MDT.” Senior Physiotherapist, Critical Care, July 2020

“I think morale is really low” Senior Staff Nurse, Critical Care, November 2020

“Suddenly, there was an enormous amount of goodwill.” Consultant, Critical Care, December 2020

“it’s something that particularly came to light I think during COVID, how supportive people are of one another.” Senior Sister, Critical Care, July 2020

“So I’m grateful to have been in a supportive team because I think it would have been a big struggle otherwise.” Physiotherapist, Critical Care, July 2020

“And that was incredibly impressive and quite moving on occasion” Consultant, Critical Care, July 2020

“I think everyone really stepped up and I think we really just acted as one team. It didn’t really matter what your role was, it didn’t matter who you were, what your experience was, everyone was just there to help. So, I think that was something that’s really nice, I think” Senior Physiotherapist, Critical Care, July 2020

“looking back on it, it was a great team to work in and I wouldn’t have changed it for anything.” Physiotherapist, Critical Care, July 2020

“But I think generally as a team they kind of pulled together pretty well.” Staff Nurse, Critical Care, October 2020

“It was horrendous and we had to wear level three PPE all day, but everyone was in it together.” Senior Staff Nurse, Critical Care, October 2020

“I would say for the pre and post, what I noticed in my team is that the immediate stress was fine, actually, and pretty easy... Not easy to handle but quite bonding and energetic.” Staff Nurse, Critical Care

“said it was one of the most enjoyable times that they’ve had at work because of the atmosphere, the camaraderie, that can-do, let’s fix it, let’s stand together aspects of it. And that was incredibly impressive and quite moving on occasion, but there were significant downsides to COVID.” Consultant, Critical Care, July 2020

“I think the nurses got closer.” Senior Sister, Emergency Department, July 2020

“it’s something that particularly came to light I think during COVID, how supportive people are of one another.” Senior Sister, Critical Care, July 2020
"I became so much closer with loads of the doctors, the nurses. Whereas usually, people are kind of friends, but less so to the extent that it was during COVID. It was really great, it felt like a little family and I enjoyed coming in to work." Physiotherapist, Critical Care, July 2020

"That was pretty different and there were loads of people that I’d never met before but I think just because you spend so much time with them, yes we became so close." Physiotherapist, Critical Care, July 2020

"Especially that was exaggerated during COVID, because when things got difficult, if anything, we got more supportive as a team. And especially outside of the clinical area." Senior Staff Nurse, Critical Care, July 2020

"Right, great, loads of people have come to help, that’s amazing, let’s all crack on together. So, I think that potentially helped" Senior Sister, Critical Care, July 2020

"everyone made extra effort to help people around them." Senior Sister, Critical Care, July 2020

"if they were in PPE for six hours at a time you’d be like, okay I’ll watch your patient while you go on a half an hour break, it’s not a big deal." Physiotherapist, Critical Care, July 2020

"I think, maybe, it’s heightened it, if anything, and I think the camaraderie was amazing, between the MDT" Senior Physiotherapist, Critical Care, July 2020

"I think everyone really stepped up and I think we really just acted as one team. It didn’t really matter what your role was, it didn’t matter who you were, what your experience was, everyone was just there to help. So, I think that was something that’s really nice, I think." Senior Physiotherapist, Critical Care, July 2020

"My experience was that everyone was really in it together." Senior Physiotherapist, Critical Care, July 2020

"Yes, and I think because we had been together for three or four months longer than we would have been, we’d got over that part of getting to know each other and we were actually just really good friends. It was everyone was just quite candid with each other, and real. Yes.” Physiotherapist, Critical Care, July 2020

"I think the camaraderie was amazing. It was nothing I’ve ever experienced before.” Physiotherapist, Critical Care, July 2020

"I don’t think so because as we said, everybody had that comraderie, so people were quite willing to welcome me into that comrade point of view, from that perspective.” Junior Doctor, Critical Care, September 2020

"when it’s stressful because of the circumstances that is when people just sort of roll up their sleeves and just get on with it and that’s actually quite good in terms of the comradery and whatever” Staff Nurse, Critical Care, October 2020

"In that we did all just pitch in.” Staff Nurse, Critical Care, October 2020

"But the team, yes, there was like a good feeling of working together during COVID, for, you know, we’re all in this shit together kind of thing.” Staff Nurse, Critical Care, October 2020

"But I mean, everyone just pulled together and we made it in the end.” Staff Nurse, Critical Care, October 2020

"People were talking constantly, and there was a lot of communication, there was a lot of banter. Everyone seemed to be in really good spirits. Which was bizarre, but it was a really great time.” Senior Staff Nurse, Critical Care, November 2020

"but everyone was in it together. Everyone checked in, everyone was helping everyone else out” Senior Staff Nurse, Critical Care, November 2020

"Covid is very much for our team has really brought us together” Senior Sister, Emergency Department, July 2020

"My opinion is that the whole thing was run really, really well and it was a really difficult situation, but everybody put their best foot forward. I would say perhaps people stacked up even more.” Junior Doctor, Critical Care, August 2020

"I became definitely closer with the consultants through COVID than I did before.” Senior Sister, Critical Care, July 2020
Changes in relationships & breaking down barriers

"But then, at the same time, a lot of the doctors had come in, and we had to get doctors to cover ITU nurses and things like that for breaks, because there just wasn’t any cover. So, by the end of it, I think they realised that we really needed the help." Staff Nurse, Critical Care, July 2020

"Has that affected the teamworking? No, it hasn’t because nurses have a vast respect for the doctors and I think the doctors have a vast respect for nurses. Perhaps they respect them more now because they know nurses are in there just figuring it out by themselves and trying their best." Senior Staff Nurse, Critical Care, November 2020

"But I would imagine more experienced senior nurses in intensive care, I would imagine the doctors have more respect for them now because they carry more weight and they’re really supporting the juniors" Senior Staff Nurse, Critical Care, November 2020

"Some of them, I really, especially in the midst of PPE, no badges, I really didn’t know they were Band 8s. And we worked hand in hand together, fine." Staff Nurse, Critical Care, October 2020

"And then going, that’s because they were on the same [unclear], and so I think some quite close relationships were formed. And it’s helped clinical care, subsequently, as well. It’s much easier to get a sensible surgical opinion" Consultant, Critical Care, July 2020

"And so I think it also then made them more aware of what we do as physios as well. So then it was the feedback across working which was really amplified in that environment, more so than I felt before." Physiotherapist, Critical Care, July 2020

"a lot of the doctors would go in and relieve the nurses for their breaks. So when they were coming in to review the patients anyway they would stay there for the hour, and let the ICU nurse step out. And they’d stay there with the buddies and things. So I think they really valued that and felt part of a team." Senior Sister, Critical Care, September 2020

"I think definitely and it’s because you have that shared experience. " Physiotherapist, Critical Care, September 2020

"We’ve witnessed something together, but you can say, actually, I can completely depend on that person when everything is really terrible." Senior Sister, Emergency Department, July 2020

"But we all can recognise we’ve been through it, the team’s been through it and we’re at the other side now." Senior Staff Nurse, Critical Care, July 2020

"Because it was so clear that we were all in exactly the same boat, having exactly the same feelings" Physiotherapist, Critical Care, July 2020

"I don’t think it’s so much of a bonding experience, I think it’s an experience of exposure and I think we have that commonality in that we’ve gone through the experience of COVID. So it’s almost like a point of reference, like a badge of honour we’ve gone through this together." Senior Staff Nurse, Critical Care, November 2020

"I think in a sense, going through the pandemic and seeing that absolutely everyone is sometimes, in the same boat." Physiotherapist, Critical Care, July 2020

"This is part of a problem and part of a good thing. There’s a definite shift in the team. So, for a little while, there was a kind of pre-imposed ground fall [?] team. So, the nurses that were in ground fall are very tight. You can’t not be tight after something like that." Senior Sister, Emergency Department, July 2020

Influenced by having COVID-19 as a shared experience

"I think definitely and it’s because you have that shared experience." Physiotherapist, Critical Care, September 2020

"We’ve witnessed something together, but you can say, actually, I can completely depend on that person when everything is really terrible." Senior Sister, Emergency Department, July 2020

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"So in that sense, yes I guess so because you rely on these other people to get you through. And guess since you're all experiencing the same thing it's so hard to talk to other people about." Physiotherapist, Critical Care, July 2020

"Yes. Because it's something that you've all been through together, and we learned a lot about each other in that time. Everyone learned about the team a lot." Senior Staff Nurse, Critical Care, July 2020

"But again, it's quite, you know, when you're all facing a challenge together, the team kind of comes together." Staff Nurse, Critical Care, October 2020

"But the team, yes, there was like a good feeling of working together during COVID, for, you know, we're all in this shit together kind of thing." Staff Nurse, Critical Care, October 2020

"During the pandemic, it was like this is everyone's job. We all need to do things. It doesn't matter if you're a healthcare assistant or a consultant. We were all in it together." Staff Nurse, Critical Care, August 2020

"Yes. Because it's something that you've all been through together, and we learned a lot about each other in that time. Everyone learned about the team a lot." Senior Staff Nurse, Critical Care, July 2020

"Yes, I think it improved. It was like a trauma that we all went through together. And we knew that we were doing all we could." Junior Doctor, Emergency Department, August 2020

"100%, yes. And not even just their general experiences, so a specific emergency or a specific intervention that you provided that made a patient improve or deteriorate or whatever. It's those specific events and time that would have built that. If you don't have that with someone, then you don't have that common ground." Staff Nurse, Emergency Department, August 2020

"I think there was definitely a feeling of being more united in purpose and in everyone's going through the stress of dealing with this unknown disease." Physiotherapist, Critical Care, September 2020

"But again, like a shared purpose really helps" Staff Nurse, Critical Care, October 2020

"but by the same token, other things worked better, simply because we had a common agenda." Consultant, Critical Care, December 2020

Improvement in team dynamics during and post first wave

"I think the behaviour change has definitely stayed but I think also, you developed this bond with everyone there because you were now coming out the other side of it." Physiotherapist, Critical Care, July 2020

"I think it's just purely a function of PPE, honestly, so we came out of a lot of the PPE over the summer and things were returning back to normal and now we're back into putting it all on again and the same patterns of behaviour and habits." Consultant, Critical Care, November 2020

"And that changed how we worked. Obviously, we missed care and things like that, that was the downside to it, but also, I feel like our unit became more efficient with it." Senior Staff Nurse, Critical Care, July 2020

"Yes, I'm an emergency medicine registrar, and I deal with super-specialist things, which is handy to call a friend and say, listen, I need some help, I'm looking for some advice or a friend in surgery with X, Y and Z. And that has improved those relationships." Registrar, Emergency Medicine, July 2020

"during COVID, everyone worked so hard, and they really stepped up to the plate, and I think the teamwork was even better." Consultant, Critical Care, September 2020

"Yes, definitely, yes. Because I know now that we all work as a team." Senior Staff Nurse, Critical Care, November 2020

"Oftentimes it can be fantastic, particularly for example, during the pandemic surge, all this suddenly became a much more friendly, and more positive interaction. We all seemed to suddenly become angels, in trying to support each other." Consultant, Critical Care, December 2020

"in COVID everybody just relaxed slightly and realised that things just weren't achievable." Senior Sister, Critical Care, July 2020

"And actually I think it made people come across in a lot nicer way, and people were doing what they could do and recognised that there were going to be things that just couldn't be done." Senior Sister, Critical Care, July 2020
"Whereas normally the expectation is everything is done when you’re handing over, and it can cause an issue or friction if it’s not there. And actually that kind of just went." Senior Sister, Critical Care, July 2020

"And it felt like a huge team effort for a variety of MDT, whether they were redeployed as bed buddy and helpers or whether they were in their original roles" Senior Sister, Critical Care, September 2020

"The teamwork amongst the doctors, there were some quite good things I found in COVID, we had people from other specialties come and join and I actually quite enjoyed that, in having radiologists and surgeons and the team and that was quite a nice experience to have other people with other skills on the team, it could maybe kick in ideas and expertise, so that was quite nice," Consultant, Critical Care, November 2020

"And obviously when we’re in full PPE we didn’t want to leave every time after we got into full PPE, so we would go see the one patient that we were doing the prone on and then go help with all the rolls on all the others. And then even when I was going in to treat patients I would ask does anyone need anything? And in that sense it just felt like more of a team" Physiotherapist, Critical Care, July 2020

"And I think it just actually made me realise how many times when I was doing physio I would just go see the patient, do a quick chest treatment on them on ITU and then be like, okay great see you later. Or be like okay can we hoist this patient out to the chair? And actually realising what a big job it is. And it’s all the nurses that actually have to do all that bit back. And then I think it made me realise that very time now when I go and see a patient on ITU I’ll always ask is there anything that you need with this patient" Physiotherapist, Critical Care, July 2020

"Yes, I think so, I think so. Because everyone’s levels were stressed, like very high stress, I mean, that you had to kind of make sure you supported each other. Because no-one knew what to do, how to go about it, patients dying left, right and centre. You just had to work together." Senior Staff Nurse, Critical Care, July 2020

"I became definitely closer with the consultants through COVID than I did before. And I think that’s because we were emotionally supporting each other as well." Senior Sister, Critical Care, July 2020

"Because no-one knew what to do, how to go about it, patients dying left, right and centre. You just had to work together." Senior Staff Nurse, Critical Care, July 2020

"But yes, definitely some of the normal medical team that were there were incredibly helpful and they valued that a lot." Senior Sister, Critical Care, September 2020

"We always offer help. Especially during the pandemic, it was actually easier, because everyone new that you would definitely need it." Staff Nurse, Critical Care, July 2020

"But during the pandemic I suppose the team that were there had been there a while, and I think everybody just really pulled together. And it felt like a huge team effort for a variety of MDT, whether they were redeployed as bed buddy and helpers or whether they were in their original roles." Senior Sister, Critical Care, September 2020

"I think definitely having the proning teams, they moved, so they’re working much closer with the nurses, so I think that definitely strengthened that sense of team" Physiotherapist, Critical Care, September 2020

"we’ve always been a cohesive team, and I think Covid probably just laid the cement a little bit better." Registrar, Emergency Medicine, July 2020

"Yes, absolutely. And they even told me that they appreciated my presence. They were like, a lot of the doctors aren’t even here so the fact that you’re here makes a big difference to us." Junior Doctor, Critical Care, August 2020

**Incorporation of redeployed staff**

"Obviously, because I didn’t quite see myself as a critical care nurse, before the COVID, so when you start being deployed [unclear] intensive care, and they just think, okay, she doesn’t know what she’s doing." Senior Staff Nurse, Critical Care, July 2020

"Just in regards to when you insert new people into your group, they will automatically cling to one another because it’s all you recognise" Staff Nurse, Critical Care, October 2020

"But it was more difficult when I was just surrounded by people whose names I didn’t know, whose background I didn’t know." Staff Nurse, Critical Care, July 2020
"Except there was, are you an ITU nurse? Or are you a redeployed nurse? There was a lot of that. Then we had to wear badges that said ITU nurse. I didn't feel like it was the hierarchy, I just felt it was the easier thing." Staff Nurse, Critical Care, August 2020

"Many more people we didn't even know the names of, they were coming in and trying to help. But sometimes they didn't receive enough training before coming to intensive care. It was really, really difficult" Staff Nurse, Critical Care, July 2020

"It was mixed. I think it varied from one minute to the next, because I think everyone was in a state of not so much panic, but we were all tap dancing with the next net. So, we needed people who could help us, and when people arrived, my attitude was that we were so grateful to them for coming. Because they put themselves into a place where they didn't know anyone, or what they were doing, and were probably feeling very childlike in their parent/child continuum." Senior Sister, Critical Care, July 2020

"And I felt a certain responsibility or stress to help those who have come in to understand, this is not how we normally work." Senior Sister, Critical Care, July 2020

"You see some of them reacting well, and some of them struggling a lot. Particularly the senior nurses who are coming in, you can see them, their instinctive need to fix problems. You saw that coming across." Senior Sister, Critical Care, July 2020

"Yes, instead of asking you questions. I remember before that we would have non-ITU nurses from outpatients or something coming to help us. Then the consultant would start firing questions at them. I would be like, no, no, leave her alone. She is just here to help. Please don't scare her." Staff Nurse, Critical Care, August 2020

"But I think put you in a pressure cooker situation and you add 50 of those people into the mix, some people received it well and others didn't receive it well." Staff Nurse, Emergency Department, August 2020

"And then you'd have lots of extra staff that you're trying to organise and work out where they can work, what they can do, what their background is, are they working within their scope?" Senior Sister, Critical Care, September 2020

"I was supporting a surge nurse that had come from a surgical ward with seven years' experience. And I felt it was a bit like, how am I overseeing you and I'm newly qualified. It was that whole band hierarchy thing. But I mean, everyone just pulled together and we made it in the end" Staff Nurse, Critical Care, October 2020

"there was so many people up here that the kind of whole atmosphere changed significantly" Senior Sister, Critical Care, July 2020

"because also there was so many of them, new people as well, and you were just so grateful that they were there. We were just like thank you. They're not going to be ITU nurses in such a short amount of time with the training they had but we appreciate what skills they did have and what they could add to that." Senior Staff Nurse, Critical Care, July 2020

"And you were just grateful that there was someone there to help you roll, proning, all that sort of stuff, a lot of things take a lot of man power. There were people there that were willing to help and they were always, to me, when I asked for help, they were always enthusiastic to help, so that makes it a positive environment" Senior Staff Nurse, Critical Care, July 2020

"And at times you could sense that they were intimidated by the environment, so you felt like you took them under your wing a bit. You're like this is fine, we can do it and that sort of thing." Senior Staff Nurse, Critical Care, July 2020

"No, I think it helped, I think it very much felt like these people are coming to help and working. Right, great, loads of people have come to help, that's amazing, let's do all crack on together. So, I think that potentially helped." Senior Sister, Critical Care, July 2020

"And yet they still provided an enormous... Even though it's not their area of expertise at all, they provided an enormous amount of leadership in terms of resilience, coping, dealing with problems, and just generally keeping people cheerful. So we had two or three of the senior surgical registrars who were just fantastic, a real pleasure to work with" Consultant, Critical Care, July 2020

"We just embraced each other, it was just like, you have to be grateful they're coming to help you. So, we made sure that, even though it was stressful, you teach whatever you know, and if you don't know it, just say okay, can you ask someone quickly and then come back to me. It just made sure. Some of them actually, a lot of people stayed, after [overtalking] the COVID." Senior Staff Nurse, Critical Care, July 2020

"So they had some A&E staff in CDU. Some CDU staff in A&E, and actually, it was incredible. And I can't express how impressed I am at how quickly they changed the way that they worked." Junior Doctor, Emergency Department, August 2020

"I don't think we did, actually. I think there was on really good integrating of the... We had four, five doctors come in from elsewhere, but no nurses, and they were integrated really well. And the nurses almost excessively took them under their wing to show them how it worked. I think it's very sweet, really." Consultant, Emergency Department, August 2020
"And I definitely heard informal feedback from redeployed doctors and they felt that they were very well-supported." Consultant, Critical Care, October 2020

"Many more people we didn’t even know the names of, they were coming in and trying to help. But sometimes they didn’t receive enough training before coming to intensive care. It was really, really difficult." Staff Nurse, Critical Care, July 2020

"And then new people came. And we weren’t very good at assimilating new people" Senior Sister, Emergency Department, July 2020

"So, often I felt like we were constantly working and then we’d ask them when we needed something. So, a lot of the time maybe they didn’t have a role, they didn’t know what to do. So, they would stand there talking to themselves. So, you could think there was a bit of a divide there, but that wasn’t their fault. It all happened so quickly and we know what we’re doing and so we had to get on.” Senior Staff Nurse, Critical Care, July 2020

"think the only caveat I’d say to that is there were a couple who were very unhappy about having been redeployed, and that was noticeable. I don’t know that they necessarily affected the whole team, but they were definitely significant outliers.” Consultant, Emergency Medicine, July 2020

"Yes, sort of, yes. And some of them did not have a nursing background, some of them are just midwives, and to explain everything when you are so busy, became really complicated and more stressed as well.” Senior Staff Nurse, Critical Care, July 2020

"When you’re stressed, you tell someone to do something in a way that you would normally do. And I did notice that with quite a few people. I felt really bad for the redeployed nurses at some point, because they just were at the wrong place, at the wrong time.” Staff Nurse, Critical Care, July 2020

"I think when everyone came we were in such a state of a mess and so much stress and tension, that people were snapping a lot at the redeployed staff and I did it many times. Afterwards, I was like I'm really, really sorry. I didn't mean to snap at you.” Staff Nurse, Critical Care, August 2020

"We had a lot of medical staff redeployed to us as well. And a lot of people who were told you are here to help but we’re not really going to let you do anything because you’re not an anaesthetist or an ICU trained individual. So, I think they felt really useless” Staff Nurse, Critical Care, August 2020

"I think because it was all quite rush rush and it happened off the cuff, I think nobody was really prepared for... We didn’t know how long they were going to stay as well, so we didn’t know that they weren’t going to stay longer than three months because they only had a three month contract initially. So we didn’t want to put too much training into them at first because we thought they’re not going to be here long. And they didn’t really have an identity really, which was a shame for them.” Senior Sister, Critical Care, September 2020

"So I think actually to be honest they weren’t really incorporated into the team very well.” Senior Sister, Critical Care, September 2020

"But again those new nurses were assigned very sick patients that they probably didn’t have the skills to look after yet with machines they didn’t understand, and things like that. So the whole thing was just incredibly stressful” Senior Sister, Critical Care, September 2020

"But then there were obviously a lot of other doctors that were again redeployed so they didn’t know ITU, and they don’t understand ventilators, it’s not what they do. So they were a bit more reluctant to go in because they didn’t understand a lot of the questions that the nurses were asking.” Senior Sister, Critical Care, September 2020

"And we’re expected to work with people that didn’t know what they were doing. Like, you’d get someone to look after two of your four patients, or one of your four patients, and they’d say they are from a [unclear] and they can’t give drugs, and they’re not happy rolling. They just didn’t know what they were doing with the ventilator and that kind of thing. So, that was more stressful.” Staff Nurse, Critical Care, October 2020

"And bless them, they tried their best, but they obviously were more of a hinderance. To have to explain everything and make sure they were safe, when I had the patients to look after. And oh god, I don’t know how I got through that. My stress levels were through the roof.” Senior Staff Nurse, Critical Care, October 2020

"We had people redeployed to our unit who were not actually intensive care nurses. Sometimes, they weren’t even nurses. Of course, they were a huge help, but up to a certain point.” Staff Nurse, Critical Care, July 2020
"and the worst was that then you started to have the bed buddies. So the bed buddies will come and ask you questions, and you are already stressed." Senior Staff Nurse, Critical Care, July 2020

"So then it was really complicated for the ITU nurses to know what they could delegate to other people" Senior Sister, Critical Care, September 2020

"Yes, I definitely felt appreciated and useful. Particularly during the pandemic, to be honest." Physiotherapist, Critical Care, July 2020

"Yes, I've certainly been accepted and welcomed" Junior Doctor, Critical Care, September 2020

Breakdown in teamwork during and following first wave

"actually it's been off the back of the peak that we've seen the teamwork slightly breaking down just because I think people are mentally and physically exhausted. And so they don't have the time and the energy to be able to put in to do those extra things." Senior Nurse, Critical Care, July 2020

"it's been very difficult, and it is still difficult. So I think the whole teamwork thing has fizzled out a little bit actually." Senior Sister, Critical Care, September 2020

"I think, from a medical point of view, the teamwork is still pretty good, but the nurses are much more fragmented and I think they're struggling with that." Consultant, Critical Care, September 2020

"That's no one's fault. It's not that the teamwork has suffered, it's more that there's been so many obstacles put in the way of the teamwork. I think people are still motivated to work as a team, if that makes sense" Consultant, Critical Care, September 2020

"I would say the teamwork, the multidisciplinary teamwork has definitely suffered," Consultant, Critical Care, November 2020

"And we tried to look after each other, and we tried to do the job, and that was a huge change in attitude, and I wish we could have preserved it." Consultant, Critical Care, December 2020

"Unfortunately, not. I, and for someone who's very comfortable with having conversations with consultants, I don't really feel that difference anymore. I think there was a massive division, I haven't added a huge amount of stress to the unit." Senior Sister, Critical Care, July 2020

"No. I think, no. From a multidisciplinary team, they definitely didn't feel like this, we're all in this together type of, nobody knows what they're doing, let's just wing it. It definitely didn't feel like that here, unfortunately." Senior Sister, Critical Care, July 2020

"I don't think that sometimes that's been reflected on in quite a rosy way, and I'm not sure it was always that rosy, actually. I think that sometimes, the professions were not helping each other." Staff Nurse, Critical Care, July 2020

"It got worse because everybody had such a huge workload. Nobody really had the chance to support each other." Staff Nurse, Critical Care, July 2020

"I have read that other places were, wow, that's amazing we all worked as one massive team and I'm, wow that unfortunate, definitely didn't happen here." Senior Sister, Critical Care, July 2020

"But once it all got into gear and we had enough PPE I just started dragging them all in because there was that we've not got enough staff in there." Staff Nurse, Critical Care, July 2020

"We definitely had more people, and we were seeing far less of each other. Because normally, I would share several shifts with the same few colleagues. In that context, the team was more dilute. So, maybe I would go for a month without seeing one of my [unclear]. It could have been the shift patterns, or it could have been that I was off sick, and then maybe they were. So, it's all more dilute." Staff Nurse, Critical Care, July 2020

"You saw a little bit more separation and slightly less cohesion then we would normally see." Consultant, Emergency Medicine, July 2020

"So just overnight trying to get people to work in teams very differently to how they normally would was quite challenging, for everybody I think" Senior Sister, Critical Care, September 2020

"it sounds really stupid but the doctors would go off and get their own food and takeaway. And then the nurses would see them eating there, so you don't take away and either that you're not being included or they wouldn't sit with the rest of the nursing staff to have food. So, it was very much a group of doctors and the nurses over here." Senior Sister, Critical Care, July 2020
"And I think that's such a shame. I think for whatever reason, we really cocked that up as a whole team. That added a huge amount of stress." Senior Sister, Critical Care, July 2020

"So the model was a bit unclear, and there was, depending on what your relationship was with the individuals in those areas, it was more or less difficult to negotiate the situation. So that was quite unsatisfactory." Consultant, Critical Care, July 2020

"I'm not sure it was always that rosy, actually. I think that sometimes, the professions were not helping each other" Staff Nurse, Critical Care, July 2020

"I would say I think within different members of the MDT. So I think sometimes the nursing staff would get a bit frustrated" Physiotherapist, Critical Care, July 2020

"Especially if you've been to the ICU in [Location], there's some glass, and all of the nurses are entirely in view. And then, sometimes, some of the doctors would be outside, drinking their water through the glass, and they don't have to wear any PPE to go there. And I struggled with that. A couple of times I said to people, it's unfair for you to just be sat down at the desk, just hanging out. There's quite a few doctors as well, because there's redeployed doctors as well" Staff Nurse, Critical Care, July 2020

"I think we tried. Weirdly I think there was quite a barrier between the medical team and the nursing team." Staff Nurse, Critical Care, August 2020

"The nursing team being given the ultimatum of no you go in, you do eight hours and then you get a break when somebody can come and relieve you. And the medical team not feeling compelled to stay in there. I think it drove a bit of a wedge in between." Staff Nurse, Critical Care, August 2020

"I was writing about people that I've never seen or assessed before. If I was a nurse I would be furious and rightly so. It happens now. We have a pocket of airway generating procedures going on and doctors visit that part of the ward less" Junior Doctor, Critical Care, September 2020

"It was possibly, and the lockdown itself meant, that things we would do to decompress after a difficult day at work, were not available to us, i.e. go down the pub and have a chat. So, I wouldn't say that the team work disintegrated, that would be an over exaggeration, but I would say we were probably not as cohesive as we would normally be." Consultant, Emergency Medicine, July 2020

"maybe I had the psychological, idea that there was an invisible barrier between us." Staff Nurse, Critical Care, August 2020

"Yes, having a barrier I think is a real shame. I feel it really did happen." Registrar, Emergency Medicine, September 2020

"That was a source of a lot of friction, because it was a genuine barrier but it was also accompanied by an unwillingness to go in. That, of course, is a big source. I think that the nurses felt very unsupported in some areas by the doctors." Staff Nurse, Critical Care, August 2020

"waiting for decisions to be made because communication was so difficult." Senior Sister, Emergency Department, July 2020

"Calling in to bays, you're trying to bleep the doctors, trying to bleep anaesthetics because they hold the airways when you're proning patients. Trying to find out who's going to be pronounced when, and people go off for emergency scans or whatever. So yes, a lot of time waiting I think due to lack of communication." Physiotherapist, Critical Care, July 2020

"And we didn't really work enough, and still haven't, we didn't make much of the first six months since the first surge, to facilitate communication. For example, to have intercoms between bays, and between the staff bays, which would make it much more spontaneous, rather than having to dial a number and ring, bed space so and so, just having an intercom. So, yes, it was a hurdle but by the same token, other things worked better, simply because we had a common agenda. And we had a lot of goodwill, but communication was a problem, yes." Consultant, Critical Care, December 2020

"I mean, as everyone knows, it's been really hard in COVID times because you just don't have that same quality of interaction at the bed space, either because you're not at the bed space because you're doing a virtual ward round for most of it and then just popping by the bed side or because you've got masks and PPE and it's just so darn hard to communicate." Consultant, Critical Care, November 2020

"And we spent a lot of time waiting for anaesthetists to come and help us with the airway, or again communication between departments about who was going to help who and that made things a lot more difficult." Physiotherapist, Critical Care, July 2020
Changes in support (both received and ability to provide)

"They were kind of tied in to helping us but didn’t really want to, or wasn’t really sure from their big bosses.” Physiotherapist, Critical Care

"It made it tricky if you feel like someone’s not coming in.” Senior Staff Nurse, Critical Care

"I think our senior support was, from the physios, our physio senior support was amazing. Even the support from the nurses, the ITU nurses that were welcoming in all these new faces. Bed buddies and redeployed doctors, redeployed staff from all over the place, like PPE helpers…” Physiotherapist, Critical Care

"I think when we were being redeployed from the wards we were being moved to other wards initially and I felt kind of safer in ICU than I did on the wards. Because even though you’re in full PPE and it’s stressful, but I felt I had more peace of mind working there as such.” Staff Nurse, Critical Care

"Obviously, because I didn’t quite see myself as a critical care nurse, before the COVID, so when you start being deployed [unclear] intensive care, and they just think, okay, she doesn’t know what she’s doing.” Senior Staff Nurse, Critical Care

"They were kind of tied in to helping us but didn’t really want to, or wasn’t really sure from their big bosses. Or our big bosses. Or funding issues, about who’s going to pay who for these hours and equipment and stuff. And I think that made things a lot more difficult when actually I don’t know why people can’t just help.” Physiotherapist, Critical Care

"And again, they helped with morale because they didn’t don as much but they were in the staffroom a lot so people could ask things easily. And that made a positive environment and one of them would come round once or twice a day into the COVID area and see if there’s anything they could do to help. Which made a good effect.” Senior Staff Nurse, Critical Care

“But from a clinical perspective and for the more junior staff I would say it was less because the consultants just weren’t able to go in to the COVID areas because they were also responsible for patients in other areas” Senior Sister, Critical Care

"Because I felt so out of my depth with the lack of support.” Senior Staff Nurse, Critical Care

"So, especially with retrospect, I didn’t feel well prepared. I didn’t know where stuff was, who everyone was and then I didn’t have very basic things like ventilator training. So, my troubleshooting at the moment has been a bit slow really.” Junior Doctor, Critical Care

"So I’m grateful to have been in a supportive team because I think it would have been a big struggle otherwise.” Physiotherapist, Critical Care

"I feel like our matrons did a good job, they stepped up, they were present on the unit a lot, they changed their shift patterns so there was someone there every day of the week. And they were there, the long day shifts, 7:30 till 8.” Senior Staff Nurse, Critical Care

"accompanied by an unwillingness to go in. That, of course, is a big source. I think that the nurses felt very unsupported in some areas by the doctors.” Staff Nurse, Critical Care

"But I never thought that I had to battle with doctors to come in and support, if it was necessary. They were always very willing to do that.” Physiotherapist, Critical Care

"But generally, I was very well supported by senior [unclear] staff and then, the nursing staff and other health professionals were just amazing. They just got on with it.” Junior Doctor, Emergency Department

"And they are just telling us off in no little reason, if you were five minutes late, oh, blah blah blah.” Senior Nurse, Critical Care

"We all were supported in the way that we all help each other, despite differences. They behaved wonderfully.” Staff Nurse, Critical Care

"I think I’m lucky to be working where I am. Everybody was very, very supportive.” Junior Doctor, Emergency Department

"I think maybe because it was stressful for everyone, everyone made extra effort to help people around them. It was a different situation and a very different reality to what we normally experience. There was much more understanding and, I guess, mental support.” Senior Sister, Critical Care

"That’s all you can do, if you do your job to the best of your ability then I feel like I can always walk away and feel okay.” Senior Staff Nurse, Critical Care
"I wasn’t as experienced as a lot of other people were during the surge and stuff so I had to just step up." Staff Nurse, Critical Care

"We were expected to step up a bit more in terms of being able to be more confident in our own decision making because there were more patients to see." Junior Doctor, Emergency Department

"And at times you could sense that they were intimidated by the environment" Senior Staff Nurse, Critical Care

"But again those new nurses were assigned very sick patients that they probably didn’t have the skills to look after yet with machines they didn’t understand, and things like that. So the whole thing was just incredibly stressful." Senior Sister, Critical Care

"I wasn’t so supportive to new staff as I could have been because of the workload." Staff Nurse, Critical Care

"And they were thrown in a situation that was very difficult for them, to work with lots of new people that they don’t know, to try and train them up as well as looking after some really sick patients." Senior Sister, Critical Care

"And at times you could sense that they were intimidated by the environment" Senior Staff Nurse, Critical Care

"That [training] wasn’t happening. And that was all side-lined and that obviously impacts on their development in some shape or form." Senior Sister, Critical Care

"That’s been a thing where we’re aware that nurses have really struggled, and we’ve tried really hard to reverse that but it’s just really hard to do, to spend adequate time." Consultant, Critical Care

"But from a clinical perspective and for the more junior staff I would say it was less because the consultants just weren’t able to go in to the COVID areas because they were also responsible for patients in other areas. They weren’t putting on PPE and stuff, so the visibility of them in the clinical area and communication with the junior staff wasn’t how it is normally." Senior Sister, Critical Care

"I think so, yes. I think so. I got a lot of calls asking questions, and I would go in if they needed me, but there were definitely times when we troubleshooted things over the phone, and again that’s not something that we’d normally do." Senior Sister, Critical Care

"Normally, we’d just pop round the corner and, let me just check that, or I would just have a quick look at the sheet and stuff, so that’s the only thing that happened for us." Consultant, Critical Care

"I really, really acknowledge and am really sensitive to the autonomy of ITU nurses." Staff Nurse, Critical Care, October 2020

"the nurses on the bed side that were handling the acute situations that you would normally have your reg’s come in for" Staff Nurse, Critical Care, October 2020

"But then I guess it all just helped with the learning side of it too, I guess it got you in more of an autonomous role to, rather than relying on the doctors, we were like, oh no, we’ve got to do it ourselves now." Staff Nurse, Critical Care, October 2020

"Yes, definitely, yes. And I felt like got exposed, obviously the patients I would look after, they were really high acuity." Staff Nurse, Critical Care, October 2020

"Nobody heard the emergency alarm, the bed buddies didn’t know what it was, and it was four in the morning. It was my patient, and one of the nurses was bagging the patient for ten minutes before anyone came." Staff Nurse, Critical Care, October 2020

"No, normally twice a day we have a doctor’s ward round where they are physically on the unit, walk around and review the patients. But that stopped happening. And I suppose it was just the lack of medical presence on the floor, so literally if you had an emergency situations that you would normally have your reg’s come in for" Staff Nurse, Critical Care, October 2020

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and you called the emergency call bell, you had to wait for the medical staff to don up, come in whenever" Senior Staff Nurse, Critical Care, November 2020

"There wasn’t much medical presence, if I’m being honest, on the unit at the time. I think the nurses felt a little bit more like, we’re kind of here on our own dealing with it a bit more than in a standard situation because there’s more medical presence." Senior Staff Nurse, Critical Care, November 2020

"You are sweating, your face is hurting. I think as well because I’ve been clinical and in charge on the ward and stuff. So, I think that experience did help me with organising and saying you need to do this" Staff Nurse, Critical Care, August 2020

"And I think ITU nurses by their nature like to just do everything, they’re used to having one patient and just getting on with it. So it’s difficult for them to take a step back and realise they’ve now got four, which is different to normal, and then get other people to do stuff and to try and delegate that appropriately. That’s not the way they work." Senior Sister, Critical Care, September 2020

"It was strange, because you weren’t actually working with the team that you’re used to, because the ratio changed. So, you’d be the only ITU nurse in the area, and everyone else was redeployed from other areas. So, you don’t necessarily know everyone’s strengths, and a lot of people weren’t trained in critical care. You knew the medical team. They weren’t really inside. There was the inside and the outside. It was like through the glass. You’re in the PPE and there’s everyone outside. So, you’re a bit more on your own" Staff Nurse, Critical Care, July 2020

"So, in resus, just nurses with the sickest patients you have ever seen in your life" Senior Sister, Emergency Department, July 2020

"they were looking to me to provide the answers, even though they were more senior. So, I found that quite difficult" Senior Physiotherapist, Critical Care, July 2020

"That was so stressful. Another stressful factor was if my patient was deteriorating, the doctor in the room wouldn’t be an ICU doctor or an ICU trained doctor. I was like, oh my god, my patient is desaturating and I’ve got a surgical reg here!" Staff Nurse, Critical Care, August 2020

"It was strange, because you weren’t actually working with the team that you’re used to, because the ratio changed. So, you’d be the only ITU nurse in the area, and everyone else was redeployed from other areas." Staff Nurse, Critical Care, July 2020

"sometimes I would just do it on my own because there was nobody coming in. Nobody wanted to come in, or they wanted to come in and they couldn’t come in" Staff Nurse, Critical Care, October 2020

"There wasn’t much medical presence, if I’m being honest, on the unit at the time. I think the nurses felt a little bit more like, we’re kind of here on our own dealing with it a bit more than in a standard situation because there’s more medical presence." Senior Staff Nurse, Critical Care, November 2020

Changes in responsibility

"you could sense that they were under a lot more pressure. Their patient load went up a lot. Normally they’d look after 16 but at days they were looking after 32. Their workload doubled." Senior Staff Nurse, Critical Care, July 2020

"I felt very guilty and I felt like I had to support a lot of people through that, so that was quite difficult." Senior Physiotherapist, Critical Care, July 2020

"by redeploying so many physios into that team, I basically decimated my out of hours staff. So, then I went from having about 20, 25 people per rota, to five, and so covering that rota was very stressful" Senior Physiotherapist, Critical Care, August 2020

"I felt very guilty and I felt like I had to support a lot of people through that, so that was quite difficult." Senior Physiotherapist, Critical Care, July 2020

"I guess it was just the responsibility that I felt, having to look after so many people" Senior Physiotherapist, Critical Care, July 2020

"but when we were in the peak of the surge, as much as you wanted people to open up and debrief, there was a certain element was, well we’ve still got a lot to do, and we still need to get on with it!" Senior Physiotherapist, Critical Care, July 2020

"the other thing I found, during COVID, even though the teamwork may have been amazing, there were so many things that were not done to best practice because of how people were stretched. And I think I often had to bite my tongue quite a lot regarding things that were let slip, sadly, with the nursing staff. And as I said, I couldn’t blame them at all." Consultant, Critical Care, September 2020

"When it began, even the senior people were panicking and then all running up and down. Not really shouting. I'm not saying shouting, but we can see the stress on their face" Senior Staff Nurse, Critical Care, November 2020
"But I think the nurses that when they saw me come in they suddenly felt really relieved that I was there, and I just suddenly felt this overwhelming pressure like I don't even know what's going on." Senior Sister, Critical Care, September 2020

"And then everyone's looking at me and oh God I'm supposed to be really senior and I've no idea what's happening. And then I felt really overwhelmed and wanted to get out as quick as possible." Senior Sister, Critical Care, September 2020

"So, it's not always just the speciality, often it falls on me as the reg, or my colleagues who are senior, when there's not a consultant around to make that call. And especially, more so at the minute, because, obviously, there's nobody else around." Registrar, Emergency Medicine, July 2020

"There are people who are really generous with their time, but there are people I'm asking now and I'm a bit like is this something that I really should have got under control in the very early days?" Junior Doctor, Critical Care, September 2020

"For me, stepping into roles that I wouldn't normally do or things or decision-making I wouldn't normally do, there's a short burst of stress followed by an increase in capability." Staff Nurse, Critical Care, July 2020

"it might have been different from one bed space or one day to the next depending on the specific person in that bay at that specific time and their skill set. Had you have had a senior nurse as a junior doctor, your role and responsibilities might have been a lot more fluid than what they usually would be." Staff Nurse, Emergency Department, August 2020

"I think because if something happened with your patients, it was your responsibility to deal with that at the time, because other people there, you can't expect them to know what to do, because they're not trained in intensive care." Staff Nurse, Critical Care, July 2020

"obviously, as support staff, we were asked to support the hospital outside of our usual working roles," Senior Physiotherapist, Critical Care, July 2020

"The nurses were run off their feet. They were terrified. When their ratios changed from one-to-one, to one-to-two, before they got the bed buddies in, it was an absolute, unmitigated disaster." Consultant, Critical Care, September 2020

"I think it did change. I think we became a much more of an emotional support. Probably, although technically yes, we were there, but I think emotionally we were supporting people with a lot of... Trying to relax and debrief them, let them talk about stuff to us as opposed to clinically trying to solve their problems." Senior Sister, Critical Care, July 2020

"If I didn't have a handle on it, it would reduce, not just the trust the colleagues have, but actually increase their anxiety because they're looking to me for assurance and reassurance." Consultant, Emergency Medicine, July 2020

"But I'm afraid if you've got 32 or 64 patients that you are responsible for, just because you're off to one patient's bedside doesn't mean you're not at one of the other 63's." Consultant, Critical Care, July 2020

"Yes I think so, because it's so unknown, yes. Obviously no one really knows and you go looking for seniors and they don't know either so it's easier to talk about it as a group rather than someone having an issue, yes." Physiotherapist, Critical Care, July 2020

"I do think there was a change, but I think that was true for everyone that was there or that was redeployed or that was existing staff because I think it was just so... Everyone uses that word, unprecedented and I kind of hate that word now but it was so new, wasn't it?" Physiotherapist, Critical Care, August 2020

"100%, yes. I think there was also, even the people who were usually looked to for guidance were quite happy to admit that they didn't know because no one knew. And so it breaks that barrier of you should know, whereas they didn't and they weren't expected to almost. It was like a more informal, let's try this. What do you think? Is it that, or what do I do now?" Staff Nurse, Emergency Department, August 2020

"When Covid came, all of a sudden, nobody was an expert, but I had had some previous experience with something a bit similar. So, I felt more confident than even somebody who was more senior than me" Staff Nurse, Critical Care, July 2020

"Yes. Because no one knew what they were doing. And I like the research so I would be reading journals and I could ask the consultants. We never ventilate anyone APRV, we don't use it. Then I was seeing papers saying that maybe that works for COVID patients. So, you just ask, which was nice to be able to have a more level field on that kind of thing." Senior Staff Nurse, Critical Care, July 2020
"I think it was obviously in keeping with everyone’s behaviour changing because we were all a bit like, this is new, for absolutely everyone here. No one’s really experienced anything like this before. I think they were really open to chatting to us. Especially the physios, I noticed. Whereas they can be a little bit dismissive of our weaning plans or treatment plans or something like that, but I did notice that, during that pandemic, they were very much like what do you guys think?" Physiotherapist, Critical Care, August 2020

"But there might not be as much experience with just the whole situation, in general. Even if it was things about staff management or I don’t know, PPE or positioning or something like that, I do think that it was easier to vocalise, if there was anything" Physiotherapist, Critical Care, August 2020

"I think there was also, even the people that were usually looked to for guidance were quite happy to admit that they didn’t know because no one knew. And so it breaks that barrier of you should know, whereas they didn’t and they weren’t expected to almost. It was like a more informal, let’s try this. What do you think? It was that, or what do I do now?" Staff Nurse, Emergency Department, August 2020

Empowerment and improved psychological safety as a consequence of COVID-19

"Probably more so after COVID, yes. I think people are a lot more sympathetic I reckon, and more I guess maybe less judged for bringing up issues." Physiotherapist, Critical Care, July 2020

"Probably just from the whole MDT camaraderie point of view as well. People would kind of respect your opinion a bit more."

Physiotherapist, Critical Care, July 2020

"So, I think there was a facilitated broadening of responsibilities of care and opportunity for discussion. So, I think that was done quite nicely actually thinking about it" Junior Doctor, Critical Care, September 2020

"People certainly felt very free to contribute in a positive way and did so." Consultant, Critical Care, July 2020

Whereas now I think everyone is just slightly more aware that it is hard and it’s actually okay to have an issue." Physiotherapist, Critical Care, July 2020

"I feel more confident being able to speak up and being heard.” Physiotherapist, Critical Care, July 2020

"I think in that sense it then made me feel like actually it’s fine to ask those questions and to actually have the confidence to be like, can I see something new? Or if you do have a question about something that you might feel is ridiculous to ask, having the confidence to ask them because you know them." Physiotherapist, Critical Care, July 2020

"But I think after COVID I would definitely have more confidence to speak to the nurse in charge, to go find a registrar if I had a question about something. And just go into the doctor’s office and ask a question rather than speaking to the nurse first, or speaking and getting advice from my senior. I’d rather just go to where I knew the answer could be.” Physiotherapist, Critical Care, July 2020

"I think we were all so vocal and so open about how mad this whole situation was, that it left it all out there. There was nothing that was unsaid, if that makes sense." Physiotherapist, Critical Care, July 2020

"It was everyone was just quite candid with each other, and real.” Physiotherapist, Critical Care, July 2020

"So, in the case where we’ve been rehabbing a lot of long-term COVID patients, where there have been a lot of barriers to their progress, I would say it’s been a really open environment to raising concerns and suggesting new approaches. And I’ve never had any hesitation in doing so.” Physiotherapist, Critical Care, September 2020

"Yes definitely. I think there was a big barrier as well broken down I felt between the physios and the nursing team. Because we were proning we were there on night shifts with them, we were helping with repositioning.” Physiotherapist, Critical Care, July 2020

"I think because a couple of times the consultants would come around and then they’d change some things. And you’d have to say to them, look, I’m the only person here who, if something goes wrong with that change that you’ve made, can deal with it. I just need to be there when you’re making these changes, because I need to know. And they were respectful of that, to be honest, when they were doing their rounds.” Staff Nurse, Critical Care, July 2020

"I think so. Probably more so after COVID, yes. I think people are a lot more sympathetic I reckon, and more I guess maybe less judged for bringing up issues.” Physiotherapist, Critical Care, July 2020
"So, I think it was important, and then, I think, then that gave them the time to open up, when maybe they didn’t feel like they could or because we were so busy, and as such in crisis mode, that it gave them the opportunity that they could speak up.” Senior Physiotherapist, Critical Care, July 2020

“You could always talk to someone, because the patients that we were getting, they were sick, but everyone was the same” Staff Nurse, Critical Care, July 2020

“There was an opportunity each day for consultation about management plans and how to look after someone.” Junior Doctor, Critical Care, September 2020

“Lack of psychological safety during COVID-19 / New barriers to psychological safety created by COVID-19

“It definitely wasn’t during COVID, because there were mistakes that were made. Not major ones, but just in terms of the different stuff that we’re working with. And before and after, I don’t think it is really, but it was probably highlighted more in our safety briefings and things like that. Whereas previously I think it was rushed over.” Staff Nurse, Critical Care, July 2020

“During Covid, I found it more difficult to raise concerns because of the time constraints.” Staff Nurse, Critical Care, July 2020

“But it was more difficult when I was just surrounded by people whose names I didn’t know, whose background I didn’t know. I didn’t even know who was more competent than me doing what. If you are with people you don’t know much about, then it gets difficult.” Staff Nurse, Critical Care, July 2020

“Not necessarily the ward round but PPE was a good example. They didn’t feel PPE was good enough. If I had a question about the PPE and why it had changed, I’d go and speak to the Matron and be like what’s the new change? Whereas they felt they couldn’t and that created a bit of tension there.” Senior Staff Nurse, Critical Care, July 2020

“Sometimes there were comments from them that they felt they couldn’t raise concerns.” Senior Staff Nurse, Critical Care, July 2020

“I think with the stress of your role, even myself, I’m really not that person to speak to people” Staff Nurse, Critical Care, July 2020

“I think our structure and hierarchy, above my level, changed during Covid, and sometimes it wasn’t always clear who the right person was to go to.” Senior Physiotherapist, Critical Care, July 2020

“But it got to the point where nobody was speaking up because they didn’t have time to.” Staff Nurse, Critical Care, August 2020

“The reality was no one had time to ask anything and we were all on walkie talkies, behind masks, visors.” Consultant, Critical Care, September 2020

“I don’t think that environment was conducive to anything, to be honest.” Consultant, Critical Care, September 2020

“They felt they weren’t well received or they didn’t know who to speak to.” Senior Staff Nurse, Critical Care, July 2020

“I think raising concerns, and I think especially during COVID there were a lot of issues with PPE. And I think it was really difficult for people who were in the hospital every day, so like the nurses in charge organising everything on ITU, organising the amount of staff, and obviously knowing there’s not enough PPE.” Physiotherapist, Critical Care, July 2020

“So I think that sense of them raising the concern of something that has been an issue I think it did cause some tension. Because I think some of them weren’t there all the time, so when they were there they were like, oh well this is an issue, and then I think it was already seen as an issue. But I feel like until they sometimes raised the concerns nothing was done.” Physiotherapist, Critical Care, July 2020

“I think during COVID, people did raise concerns about the obvious things, but I think because we’re all in the same boat, it was quite difficult because you know that you’re having the same problem as everyone else.” Staff Nurse, Critical Care, July 2020

“And so, there were times when having a lot of voices was unhelpful in that we spent too much time airing views and debates about stuff which there wasn’t a right answer to. And really, what it needed was maybe less voices and also the boss makes a decision and we just get on with the day. Does that make sense?” Physiotherapist, Critical Care, September 2020

“It was just carnage. We lost control completely. I think it was only for about three weeks that it completely went. But it got to the point where nobody was speaking up because they didn’t have time to” Staff Nurse, Critical Care, August 2020
The reality was no one had time to ask anything and we were all on walkie talkies, behind masks, visors. Consultant, Critical Care, September 2020

**Difficulties in communication**

- "wearing all full PPE so you don’t know who everybody is" Senior Staff Nurse, Critical Care, July 2020
- "PPE communication got difficult, yes, not knowing who anyone was in PPE." Staff Nurse, Critical Care, August 2020
- "There’s quite a lot of me shouting instructions at people and then PPE communication got difficult, yes, not knowing who anyone was in PPE." Staff Nurse, Critical Care, August 2020
- "And I don’t know how much of that is because you’re behind a mask every day and some of that comes isn’t as good as it would normally be." Consultant, Emergency Medicine, July 2020
- "No, normally twice a day we have a doctor’s ward round where they are physically on the unit, walk around and review the patients. But that stopped happening. And I suppose it was just the lack of medical presence on the floor, so literally if you had an emergency and you called the emergency call bell, you had to wait for the medical staff to don up, come in whenever." Senior Sister, Critical Care, July 2020
- "I don’t see many people without their masks. Yes. You’re kind of closer, but you don’t really see each other." Physiotherapist, Critical Care, September 2020
- "I definitely rely on a nurse’s name being on the board by the patient’s bed or a name tag, and you don’t have that. You can’t even see their faces. Yes. It definitely makes it a lot harder." Physiotherapist, Critical Care, September 2020
- "FFP3, nobody could hear me." Registrar, Emergency Medicine, September 2020
- "And even people I knew, you’d be just talking to them for a few minutes and then you’d go, oh, hello, oh, it’s yourself, kind of thing. So, I think the PPE was a massive barrier, actually, in that respect, but there was nothing you could do about it, really." Consultant, Critical Care, September 2020
- "I wouldn’t say that much of a barrier, but there were times when I mistook someone just because we were in full PPE" Staff Nurse, Critical Care, October 2020
- "either because you’re not at the bed space because you’re doing a virtual ward round for most of it and then just popping by the bed side or because you’ve got masks and PPE and it’s just so darn hard to communicate." Consultant, Critical Care, November 2020
- "Difficult to know, it was a barrier, to go into a bay with COVID, obviously you had to put the whole gear on, so you tried to solve a lot of things on distance, over the phone or making signs, or putting a blood gas [?'] on a window. So, yes, there was a physical barrier, and hearing was very difficult, the voice gets very difficult to hear under an ffp3 mask, or a personal respirator." Consultant, Critical Care, December 2020

**Physical difficulties and the impact of wearing PPE**

- "And then feeling claustrophobic and stuff in all the gear, staying in for four hours, waiting around for people." Physiotherapist, Critical Care, July 2020
- "It was wearing PPE for six hours is hard. And, in the beginning, I remember it was half an hour, and we were getting upset. They were all so heavy. And then, by the end of it, wearing it for six hours. And I think it was a bit quiet among all of us. I don’t know. It wasn’t how we normally would be in the break rooms and things like that." Staff Nurse, Critical Care, July 2020
- "You are sweating, your face is hurting." Staff Nurse, Critical Care, August 2020
- "I don’t know. Maybe. We have all started seeing things a bit different I think on a personal level, professional level, but it’s the constant stress of that from the mask that we need to wear all the time" Registrar, Emergency Medicine, September 2020
- "I think it was probably more stressful being in full PPE all day long and what have you" Staff Nurse, Critical Care, October 2020
- "The thing is, the stress isn’t even just because of the patient load. It was wearing PPE for six hours is hard" Staff Nurse, Critical Care, July 2020
Shortages of PPE

"Yes, definitely, and in fact, the shortage of PPE made that a real problem, because I couldn’t just go and do that check-in with multiple people in multiple areas like I normally would do. And I really found that very hard, because actually there just wasn’t enough PPE, it wasn’t a good use of the available PPE. I didn’t mind putting it on and off. If there’d have been more of it, I’d have done it.” Staff Nurse, Critical Care, July 2020

"because I wasn’t going, oh, I really want to go, but if I do that, maybe there won’t be enough for the night staff.” Staff Nurse, Critical Care, July 2020

"Yes, definitely, for everybody, and that was one of the biggest problems the whole way through, that you’re constantly weighing up, is this reason to leave a room or go into a room worth the impact on PPE?” Staff Nurse, Critical Care, July 2020

"I think especially during COVID there were a lot of issues with PPE. And I think it was really difficult for people who were in the hospital every day, so like the nurses in charge organising everything on ITU, organising the amount of staff, and obviously knowing there’s not enough PPE.” Physiotherapist, Critical Care, July 2020

"But yes, I think there was definitely a stage where I don’t think we ever ran out of any PPE at [Name]. We got dangerously close to the last box of masks, and people stayed in a lot longer,” Senior Sister, Critical Care, September 2020

"But yes, definitely not having enough PPE was a problem at various points. It felt like I wasn’t an essential entity, I should leave that for a doctor that’s going in to review the patient or the proning team. I sorted that.” Senior Sister, Critical Care, September 2020

"And then if they’re working in the PPE, we didn’t have the right PPE all the time which was concerning” Staff Nurse, Critical Care, October 2020

"And then when the doctors were coming in and being like, oh well there are no masks. And they were like, there are no masks and masks fit tested poor, what are we going to do? And they’re like well yes none of the nurses, no one’s had the correct masks they’ve been fit tested for, for the last two week” Physiotherapist, Critical Care, July 2020

"I think the PPE did make it difficult, communication was sometimes very difficult, just hearing each other. And also, where PPE was so limited, where you might have said, oh I’ll come and help you with that patient, we had to basically… I was [unclear] clinical A&E at Charing Cross. So, if they weren’t on my side to treat, then potentially I couldn’t go to the other side, because I felt bad for wasting PPE. So, that was quite tricky.” Senior Physiotherapist, Critical Care, July 2020

"I’ll see the ones on this bay and that bay, you had to basically one bay and everybody in there to save PPE. So, I think that was quite difficult” Senior Physiotherapist, Critical Care, July 2020

"So, in that instance, for example, we would’ve just had a quick look, but every time, when somebody wants to have a quick look, they have to don PPE and there was already… We came down to the wire quite a number of times where there was no PPE left and where people were looking for gowns and finding them stored away in cardiology, or cath lab, or somewhere. And getting the site manager and saying, we have no more gowns or we have no more this, that and the other.” Consultant, Critical Care, September 2020

Barriers arising as a result of PPE

"Whereas they weren’t even coming in to do ward rounds because of COVID it was all done kind of via teams and most of the time without the bedside nurse at all.” Staff Nurse, Critical Care, August 2020

"they felt that it was the doctors if not also the healthcare assistants as well, who had not received any training at that time. So, they kind of blanket blamed us not themselves. But we did notice that the doctors were a lot more casual about the PPE at the time and it created a bit of a division between the nurses. I saw nurses wearing two sets of gloves, with the first set of gloves sticky taped to the gown, with the upper set of gloves able to be removed and replaced. I never saw any of the doctors do that” Staff Nurse, Critical Care, October 2020

"I didn’t see one doctor for at least four days” Senior Staff Nurse, Critical Care, October 2020

"I felt like they didn’t want to don that often” Senior Staff Nurse, Critical Care, July 2020

"Whereas a lot of the consultants wouldn’t often don and come into the COVID area” Senior Staff Nurse, Critical Care, July 2020
"it took a long time to get a doctor into that PPE area and I think that generated a lot of stress and anxiety for the nursing staff." Senior Sister, Critical Care, July 2020

"The physical barriers also, if you were going on for a shift, you would say, all right, I'm going to do. I'm going to go in. I'm going to go around, and then I'm going to get out and do the things that I can do away from the bedside. And the nurses certainly found that there was less doctor presence, generally. I'm not sure about consultant presence specifically, but the nurses certainly objected to that and rightly so, I think." Consultant, Critical Care, July 2020

"what I heard from the nurses, was frustration that when they'd ask for help it wasn't instantly there where it would normally be and there was a bit of a wait." Senior Sister, Critical Care, September 2020

"But, it did mean that our interaction with the nurses, I don't even know if they felt they saw us. Do you know what I mean? Because we would come in and you could be in there for two or three hours yourself. But, A, there were lots of agency, B, there were lots of people from ICU that we didn't know and, C, you could be anybody. There was this thing in writing with [unclear], changing an apron between patients, so you can't write it every single time." Consultant, Critical Care, September 2020

"there was kind of a little bit of discomfort between nurses and doctors." Consultant, Critical Care, October 2020

"Because, and they did raise this issue in one of the review meetings, that they felt that the trainees, especially the junior trainees, were not seen in the unit, in the red area." Consultant, Critical Care, October 2020

"I think there was a lot of issues with the medical team and the nursing team, because I think the nursing team felt very much that there wasn't a lot of medical presence on the unit" Staff Nurse, Critical Care, October 2020

"If anything, there was a massive divide between the nursing team and the medical team. Because the medical team weren't as visible and present on the floor and were doing their rounding from an office, so it infuriated the nursing staff. So there was a massive divide and a lot of animosity. There was a lot of complaints made about that." Senior Staff Nurse, Critical Care, October 2020

"I think they were possibly a bit more stand-offish in terms of medical support because physically they weren't present on the unit either half as much." Senior Staff Nurse, Critical Care, November 2020

"like the nurses felt quite abandoned, not enough doctors on the shop floor, hard to get hold of a doctor, not nearly so much time at the bed space with doctors because of all the PPE requirements." Consultant, Critical Care, November 2020

"I think the barrier became the nursing staff were in the red zone and they were in there all the time. And the doctors were coming in and out and I think that was an active barrier. So, there was a lot of stresses, especially during night shifts." Senior Sister, Critical Care, July 2020

"No, normally twice a day we have a doctor's ward round where they are physically on the unit, walk around and review the patients. But that stopped happening. And I suppose it was just the lack of medical presence on the floor, so literally if you had an emergency and you called the emergency call bell, you had to wait for the medical staff to don up, come in whenever" Senior Staff Nurse, Critical Care, November 2020

"So I think sometimes the nursing staff would get a bit frustrated as we would just come in and do proning and do rolls. And then we would be able to go away and get more of a break, and we didn't have to stand there and be in PPE for as long as they were. The longest we were ever in PPE for was three and a half hours, whereas the nurses were in there for five or six hours" Physiotherapist, Critical Care, July 2020

"You knew the medical team. They weren't really inside. There was the inside and the outside. It was like through the glass. You're in the PPE and there's everyone outside. So, you're a bit more on your own." Staff Nurse, Critical Care, July 2020

"I think it did, but they were pretty aware that that was a big barrier and so, there was never any issues with just picking up the phone. They were like, we're literally just in there, see what you think." Physiotherapist, Critical Care, August 2020

"But yes, definitely the physical barriers of [unclear] and PPE and stuff meant that it was difficult to access that immediate clinical support." Physiotherapist, Critical Care, August 2020

"Yes, so there was a shortage of PPE so we got told right at the beginning we got told only essential staff to go in. And that trickled down from the consultants to the teams that they were leading as you don't go in unless we need you. So, we didn't have a lot of space left up here. The nurses would quite often walk past the room that we crammed all the doctors into whilst they were on a break.
And the doctors would all be sat there doing nothing. And it felt like a disparity when in reality they were told not to come in.” Staff Nurse, Critical Care, August 2020

“It’s not even about presence, it’s the accessibility because we can’t walk to the doctor’s office or we can’t say, look doctor, come in here, I’m under pressure. We don’t have that luxury because it’s a bit of a mouthful to get all the PPE on before the medic can come in to us. So there is that physical barrier that has made it so the medic’s can’t be more present.” Senior Staff Nurse, Critical Care, November 2020

**CHANGES IN WORKPLACE**

**STRESSORS**

Impact of COVID-19 on workload and working environment

“"It was madness, absolute madness, but it was life and the tense situation. We adapted to whatever came so it was madness because there was no control about anything." Staff Nurse, Critical Care, July 2020

“But I guess there’s all that stuff that we don’t really think about that was going on. I think all the kind of structural, all that kind of stuff has made it more difficult.” Physiotherapist, Critical Care, July 2020

“eventually, we got more used to the disease and what the hell was happening and stuff. But, that very initial first weekend in April was pretty horrific.” Consultant, Critical Care, September 2020

“I just felt bad for the patients, because if you’re stressed, sometimes you can’t even look after the patients properly.” Senior Staff Nurse, Critical Care, July 2020

“Covid has added a whole new level to it. Previously, it wasn’t that stressful” Staff Nurse, Critical Care, July 2020

“everything went crazy, and we were dealing with a totally new disease in a totally new environment” Staff Nurse, Critical Care, July 2020

“Very stressful, yes” Senior Staff Nurse, Emergency Medicine, July 2020

“During COVID, definitely felt the stress a lot more,” Physiotherapist, Critical Care, July 2020

“During the COVID, each of them, more mental exhaustion. You’re dealing with patients that cannot see their families, they’re tubed. Some of them are very, very sick and might be dying, and you have to deal with someone over the phone. Especially that is the family that is also distressed.” Senior Sister, Critical Care, July 2020

“that was stressful because I had too much to do in very little time.” Senior Sister, Critical Care, July 2020

“And then, of course, we’ve had the pandemic, which is extremely stressful. That was a completely different level of stress that I haven’t really been through before.” Staff Nurse, Critical Care, July 2020

“I would say that everyone’s been working under a heightened background stress level for the last six months or so.” Senior Sister, Critical Care, July 2020

“So, it’s increased patient numbers, there was a lot of unknown, there was a lot of staff burnout and staff stress.” Senior Physiotherapist, Critical Care, July 2020

“It was pretty chaotic” Senior Physiotherapist, Critical Care, July 2020

“Obviously COVID was a whole different story. It all went to pot then.” Staff Nurse, Critical Care, August 2020

“I think ITU is a stressful environment anyway, but it doubled, tripled over the course of a few weeks." Senior Sister, Critical Care, September 2020

“So it’s an absolute domino effect, this pandemic, not only the pure COVID cases and the masks and all the other restrictions that we’re having.” Registrar, Emergency Medicine, September 2020

“COVID wise, obviously it was stressful for everybody” Staff Nurse, Critical Care, October 2020

“It was different. It was a different stress.” Staff Nurse, Emergency Department, October 2020

“obviously COVID was the most stressful time.” Staff Nurse, Critical Care, October 2020
"There was too many stresses at one time." Staff Nurse, Critical Care, October 2020

"God, everything was stressful." Staff Nurse, Critical Care, October 2020

"I went in, straight into the deep end with COVID and so yes, it was really stressful to be honest." Staff Nurse, Critical Care, October 2020

"The individual patient contact was more stressful because you had a greater awareness of how sick they were and the potential to deteriorate" Consultant, Emergency Medicine, July 2020

"And they were all six level-three patients that we were having, so you definitely felt it more than you normally would." Staff Nurse, Critical Care, July 2020

"Pre-pandemic, I normally don’t find work that stressful. It was stressful if I had a sick patient, but it would be easier. If there was one sick patient, no other patient would be as sick as them, so everybody would help out. Whereas during COVID, everyone was sick. Everyone was proned and on filter and on every infusion know to man. So, you helped each other but it wasn’t like before if that makes sense." Staff Nurse, Critical Care, August 2020

"All the patients were so unbelievably sick" Staff Nurse, Critical Care, August 2020

"We went from only having four or five really sick patients per shift to all of them are really sick. They’re all ventilated." Staff Nurse, Critical Care, August 2020

"that was absolutely horrendous, I was doubling two very sick patients. It was pretty gruelling." Senior Sister, Critical Care, September 2020

"Like, normally when you walk around the ITU Unit, if you saw, we have maybe a few very sick patients. And during COVID if you’d walked around, let’s say 16 beds, so part of the unit, it was like every single patient was what we’d normally call acutely unwell. So, that was one thing, you know definitely, all of them were acutely ill. And then it was just that we often had more than one patient that was our responsibility, which obviously adds to the pressure.” Staff Nurse, Critical Care, October 2020

"Anything... You get two Level 3s, and two ventilated patients, and it was just really, really stressful at the time." Senior Staff Nurse, Critical Care, July 2020

"There was things weren’t getting picked up not because they were not being noticed as in somebody would notice it and not say anything. It was not getting picked up because nobody noticed something was... Because everyone was running around like headless chickens going through one sick patient to the next. It just didn’t stop really" Staff Nurse, Critical Care, August 2020

"The speed in which we were expected to work. We had a lot of admissions very, very quickly." Staff Nurse, Critical Care, August 2020

"And everything had to be fast paced, but it was just a bit overwhelming." Senior Sister, Critical Care, September 2020

"During COVID, definitely felt the stress a lot more, and I guess you’re a lot more aware of your environment because it’s so crammed and all the PPE and stuff just makes everything so much worse. And you can’t just nip in and out and go and get things I think" Physiotherapist, Critical Care, July 2020

"Suddenly all the ventilators got changed, the anaesthetic vents, which I had no training or ever seen before, and the patients were really sick.” Senior Staff Nurse, Critical Care, October 2020

"The skill mix also got worse because, obviously, we had so many people off sick” Staff Nurse, Critical Care, July 2020

"But then, I think when everything was at its peak, I don’t know, everyone just felt very out of their depth. Managers tried to implement things, but they didn’t really help, because it was unknown to everyone, what was going on.” Staff Nurse, Critical Care, July 2020

"And then it was just that we often had more than one patient that was our responsibility, which obviously adds to the pressure." Staff Nurse, Critical Care, October 2020

"they’re trying to do so much at the one time” Consultant, Critical Care, September 2020
Stress caused by frequent changes in policy and protocols

"I think the morale is starting to drop a bit because no one can really work out these pathways. So now everyone’s being treated as a red even though you know that they possibly don’t have COVID."
Staff Nurse, Critical Care, October 2020

“They changed 20 minutes ago, and they’re going to change in another 20 minutes’ time. That was difficult I think for them.”
Senior Sister, Critical Care, July 2020

“So, I think they start off quite a high level of PPE and I know that, whenever they tried to decrease what we wore, people weren’t very happy. And people always assumed it was driven by supplies, rather than safety considerations, no matter how much you were reassured.”
Physiotherapist, Critical Care, September 2020

“Specifically now, given Covid, I think a lot of the stress is a lot of emotional, people’s anxiety, meeting expectations, currently having to just be able to adapt all the time, every time there’s a new guideline.”
Registrar, Emergency Medicine, July 2020

“All the planning around Covid was incredibly stressful for me.”
Senior Physiotherapist, Critical Care, July 2020

“What was good management this week would probably been seen as not very good management in two weeks’ time. That’s what, I think, was very stressful and difficult.”
Consultant, Critical Care, July 2020

“Currently having to just be able to adapt all the time, every time there’s a new guideline.”
Registrar, Emergency Medicine, July 2020

“Every day there’s a new rule, there’s something new added to the system, so we just have to adjust and play ball, and even if we don’t really agree with it or see eye to eye, that’s what the powers that be have in place, we just have to go with it, for the bigger picture.”
Registrar, Emergency Medicine, July 2020

“I think we had quite short notice on everything, like everybody did, so getting all the policies and procedures through.”
Senior Physiotherapist, Critical Care, July 2020

“That totally restricted us from our normal way for doing things, a lot of the coaching that they need to have done as part of the GPICS guidelines.”
Senior Sister, Critical Care, September 2020

“I think the morale is starting to drop a bit because no one can really work out these pathways.”
Staff Nurse, Critical Care, October 2020