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Question	**Response**
Additional Comments Please note any additional comments relating to this report or anything that has not been covered in any other section	Apologies to editorial team and reviewers, but we have had some significant Endnote library difficulties this week and so are submitting the Appendices (with its references) as a separate document to the Main report (to avoid major difficulties) - as supplementary files. But PLEASE make sure reviewers get both documents as the Covid literature review is in the Appendices document as well as another important material. Thank you.

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Care Under Pressure 2: A realist review examining causes and solutions to workplace psychological ill-health for nurses, midwives and paramedics

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Psychological ill-health; wellbeing; NHS staff; COVID-19; Realist; nurses; midwives; paramedics; stress; burnout; moral distress

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Abstract

Background

The NHS needs healthy, motivated staff but increasingly there is a high incidence of psychological ill-health in healthcare staff. Nurses, midwives and paramedics are the largest collective group of clinical staff in the NHS and have some of the highest prevalence of psychological ill-health. Existing literature tends to be profession-specific and focussed on individual interventions that place responsibility for good psychological health with nurses, midwives and paramedics themselves.

Aim

To improve understanding of how, why and in what contexts nurses, midwives and paramedics experience work-related psychological ill-health; and determine which high-quality interventions can be implemented to minimise psychological ill-health in these professions.

Methods

Realist synthesis methodology consistent with RAMESES reporting guidelines.

Data sources

First round database searching in MEDLINE ALL (via Ovid), CINAHL (via EBSCO) and HMIC (via Ovid), was undertaken February-March 2021, followed by more specific supplementary searching strategies (e.g., hand searching, expert solicitation of key papers). Subsequent database searches (December 2021) supplemented the initial searches, targeting COVID-19-specific literature and literature reviews.

Results

We built on 7 key reports and included 75 papers in the first round (26 Nursing, 26 Midwifery, 23 Paramedic) plus 44 expert solicitation papers, 29 literature reviews and 49 COVID-19 focused articles in the second round. Through the realist synthesis we surfaced 14

key tensions in the literature and identified five key findings, supported by 26 Context Mechanism and Outcome configurations (CMOcs). The key findings identified that: 1) Interventions are fragmented, individual-focused and insufficiently recognise cumulative chronic stressors; 2) It is difficult to promote staff psychological wellness where there is a blame culture; 3) The needs of the system often override staff wellbeing at work ('serve & sacrifice'); 4) There are unintended personal costs of upholding and implementing values at work; and 5) It is challenging to design, identify and implement interventions to work optimally for diverse staff groups with diverse and interacting stressors.

Conclusions

Healthcare organisations should: 1) rebalance the working environment to enable healthcare professionals to recover and thrive; 2) invest in multi-level systems approaches to promoting staff psychological wellbeing; 3) continue to reduce stigma by implementing long term plans and investment; 4) focus on staff essential needs in order of priority; 5) assume that staff are doing the best job they can in difficult circumstances, to counteract a blame culture; 6) enable the needs of staff to be prioritised, to challenge a 'serve and sacrifice' ethos; 7) identify and nurture future compassionate leaders; and 8) use a diagnostic framework such as the NHSE/I Health and Wellbeing framework to self-assess and implement a systems approach to staff wellbeing

Future work

Future research should implement, refine and evaluate *systemic* interventional strategies. Interventions and evaluations should be co-designed with frontline staff and staff experts by experience, and tailored where possible to local, organisational and workforce needs.

Limitations

The literature was not equivalent in size and quality across the three professions and we did not carry out citation searches using hand searching and stakeholder / expert suggestions to augment our sample.

(496 words)

Study registration

This study is registered on the international database of prospectively registered systematic reviews in health and social care (PROSPERO): J ill Maben, Cath Taylor, Karen Mattick, Daniele Carrieri, Simon Briscoe. Care Under Pressure 2: Caring for the Carers – a realist review of interventions to minimise the incidence of mental ill-health in nurses, midwives and paramedics. PROSPERO 2020 CRD42020172420 Available from: https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42020172420

Funding

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Plain English Summary

The NHS needs healthy, motivated staff to provide high quality patient care. Nurses, midwives and paramedics experience poor psychological health (e.g., stress/anxiety) because of pressured environments and the difficulties of healthcare work.

This study set out to better understand the causes of poor psychological ill-health in nurses, midwives and paramedics and find which interventions might help and why.

We analysed the literature, using a method called 'realist review' to understand how interventions work (or not), why, and for who. We tested our findings with patients, the public and nurses, midwives and paramedics in our stakeholder group.

We reviewed over 200 papers/reports and identified five main findings: 1) existing solutions (interventions) are disjointed, focus mainly on the individual (not the system) and do not recognise enduring stressors enough; 2) when there is a blame culture it is difficult to encourage staff psychological wellbeing; 3) the needs of the system often override staff psychological wellbeing at work; 4) upholding and implementing personal and professional values at work can have negative personal costs and 5) it is difficult to design, identify and implement solutions that work well for staff groups in different circumstances with varied causes of poor psychological health.

Healthcare organisations should consider: 1) changing (rebalancing) the working environment to help healthcare professionals rest, recover and thrive; 2) investing in multiple-level systems (not just individual) approaches to staff psychological wellbeing; 3) continuing to reduce stigma; 4) ensuring the essential needs of staff are prioritised (rest-breaks/hydration/hot food) as building blocks for other solutions; 5) addressing the blame culture, assuming staff are doing their best in difficult conditions; 6) prioritising staff needs, as well as patient needs. We will provide guidance and recommendations to policy-makers and organisational leaders to improve work cultures that tackle psychological ill-health and suggest new areas for research.

Executive Summary

Background

The National Health Service (NHS) is the biggest employer in Europe and the world's largest employer of highly skilled professionals with 1.6 million people. The NHS needs healthy, motivated staff to provide high quality patient care; however, in recent years increasing workload, due to societal demand for healthcare services, combined with increasing external scrutiny of their work, has been associated with a high prevalence of psychological ill-health amongst staff. Due to budget constraints and staff shortages, pressure is building in the health and care system and this is taking its toll on staff and patients. In 2016, commentators described staff as "running on empty" and the COVID-19 pandemic has only added to these pressures. The 2021 NHS staff survey reports that 47% of staff felt unwell because of work-related stress in the last 12 months, 55% went into work despite not feeling well enough to perform their duties in the last three months, 77% often felt they had unrealistic time pressures, 73% felt there were not enough staff to enable them to do their job properly and only 68% were happy with the standard of care provided by their organisation.

Nurses, midwives and paramedics are the largest collective group of clinical staff in the NHS, comprising 29.3% of the NHS workforce and over 56% of the clinical workforce. Although there is a large body of literature on interventions that offer prevention, support or treatment to nurses, midwives and paramedics experiencing poor psychological health, this literature tends to be profession-specific and focussed on individual interventions that place responsibility for good psychological health with nurses, midwives and paramedics themselves. There is a need for research that is sensitive to the complexities of psychological ill-health in nurses, midwives and paramedics and provides an understanding of the causes of poor psychological health in these three groups, thus identifying what is unique to each group or setting. Through this understanding, we will be able to design context-sensitive interventions that are more likely to address the pressing workforce problems faced by the NHS.

Aims

The overall aim of this research was to improve understanding of how, why and in what contexts nurses, midwives and paramedics experience work-related psychological ill-health; and determine which high-quality interventions can be implemented to minimise psychological ill-health in nurses, midwives and paramedics. Our specific aims were to: (A1) Understand when and why nurses, midwives, and paramedics develop psychological ill-health at work, and provide examples of where and how it is most experienced; (A2) Identify which strategies/interventions to reduce psychological ill-health work best for these staff groups, find out how they work and in what circumstances these are most helpful; (A3) Design and develop resources for NHS managers/leaders so that they can understand how work affects the psychological health of nurses, midwives and paramedics; and what they can do to improve their psychological health in the workplace.

Methods

A realist synthesis methodology based on the RAMESES reporting guidelines was adopted to search, identify, appraise and synthesise the literature (including primary and secondary empirical research, as well as editorials, theoretical and discussion papers, and key reports) to reach an ontologically deep understanding of causes and interventions to mitigate psychological ill-health in nurses, midwives and paramedics. A stakeholder group supported the project, meeting four times over the course of the project to confirm that our developing analysis was resonating with stakeholders and to make suggestions regarding important areas for improving understanding. The realist approach allowed us to synthesise evidence on organisational and structural contexts (e.g., community or hospital work) and profession specific working practices (e.g., types of shift work, team or lone-working) within each of these three professional groups, but also differences and similarities between the groups (e.g., by specialty, setting). By illuminating differences in organisational factors, context and working practices (service architecture), we anticipated how these might influence the development of psychological ill-health and the uptake and success or otherwise of interventions aimed at supporting psychological wellness within and between these staff groups. This feature of the approach is particularly appealing because the causes and solutions to workplace psychological ill-health are complex and multi-factorial.

Due to the broad mandate, and the potential for locating insights across a diversity of literature in nursing, midwifery and paramedic professions, in February – March 2021, we undertook a broad first round of database searching using MEDLINE ALL (via Ovid), CINAHL (via EBSCO) and HMIC (via Ovid), followed by more specific supplementary searching strategies (e.g., hand searching journals, expert solicitation of key papers). Subsequent database searches in December 2021 targeted COVID-19-specific literature, as well as literature reviews, to supplement that found in the first database search. We used reverse chronology quota screening to include a manageable, recent set of papers relating to each profession, and excluded literature focussing on physical health, students and patient wellbeing. All included papers were read multiple times and we extracted key information, including causes and interventions. We used an appraisal journaling technique to enable the multidisciplinary team to extract key insights, built on existing knowledge of the research literature and the NHS, and use these insights to formulate CMO configurations. Multiple rounds of analysis in consultation with stakeholders allowed us to crystallise the key findings, and generate insights into the tensions facing nurses, midwives and paramedics, as well as a range of interventions that might support their workplace psychological ill-health and wellness.

Results

We built on 7 key reports and included 75 papers in the first round (26 Nursing, 26 Midwifery, 23 Paramedic) plus 44 expert solicitation papers 29 literature reviews and 49 COVID-19 focussed articles in the second round.

We found that overall there are more similarities than differences in causes of psychological ill-health among nurses, midwives, and paramedics; and very few interventions were profession specific. Some causes may be more prevalent or exacerbated in certain professions, or roles within profession (rather than being profession-specific). In most cases it is the service architecture (organisational factors, context and working practices), that can increase risk rather than the profession itself. Our findings suggest that staff come into healthcare with high ideals, strong values and the desire to do a good job every day, yet many develop psychological ill-health as a result of their work.

Through the realist synthesis and by surfacing 14 key tensions in the literature, we identified five key findings, supported by 26 Context Mechanism and Outcome configurations (CMOcs). The key findings (and 14 key tensions) were that:

1) Interventions are fragmented, individual-focused and insufficiently recognise cumulative chronic stressors, with tensions between:

> T1: a focus on individuals versus a focus on systemic issues
>
> T2: a focus on acute episodes of trauma versus recognising and supporting chronic cumulative stressors.

2) It is difficult to promote staff psychological wellness where there is a blame culture, with tensions between:

> T3: a lack of collective accountability, which blames individual staff for errors, versus a team/system-based approach
>
> T4: needing to raise concerns to improve conditions and patient safety versus fitness to practice processes becoming an oppressive force
>
> T5: encouraging staff to speak up versus the 'deaf effect' response from managers and hearers.

3) The needs of the system often override staff wellbeing at work ('serve & sacrifice'), with tensions between:

> T6: a professional culture that promotes a 'serve and sacrifice' ethos, which persuades staff to prioritise institutional needs, versus a culture that promotes self-care
>
> T7: supporting existing staff in the context of staff shortages versus perceived coercion to fill vacant shifts beyond contracted hours
>
> T8: the lived reality of staff shortages versus the wish to deliver high quality patient care, which can result in moral distress.

4) There are unintended personal costs of upholding and implementing values at work and tensions between:

T9: the reality of healthcare delivery versus the taught theory and values, which can lead to guilt and moral and emotional distress

T10: the benefits of staff empathy to patients (ensuring quality care) versus the harms of staff empathy to staff (increasing risk of vicarious trauma or unhealthy/negative coping strategies).

T11: the excessive requirements for emotional labour inherent in healthcare practice versus the need to improve workplace psychological ill-health.

5) It is challenging to design, identify and implement interventions to work optimally for diverse staff groups with diverse and interacting stressors, with tensions between:

T12: making staff wellness interventions mandatory versus voluntary

T13: the need for spaces to debrief with managers/leaders so they hear and can thereby offer support versus the need for peer-led spaces for debriefing

T14: the need to act and offer support versus providing interventions that are ineffective because they are too soon, reactive and/or single timepoint.

Importantly, we identified that a multi-layered systems approach to psychological wellbeing is required; not a one-size fits all approach, but individualised, where everyday events as well as acute events, are acknowledged as impacting on staff psychological wellness. A psychologically safe culture, where good visible leaders enable and support staff to speak up and take accountability is needed to change the status quo. Initiatives such as the 'Freedom to Speak up Guardians' are promising but need adequate resources to learn from data, change culture and respond to concerns raised. Through the analysis, we learned that healthcare delivery and staff psychological health is a balancing act, with different considerations needing to be held in productive tension, such as needs of staff and the needs of patients. Our findings showed that nurses, midwives and paramedics tend to put patients first, often putting their own needs second, which can erode wellbeing in the face of intense and potentially traumatic work, and (counter-intuitively) actually serve to compromise high quality patient care. We identified that healthcare staff are selected and trained to hold strong professional values and codes of conduct, yet compassion and empathy can come at a high price for staff in terms of their own psychological health and

not being able to deliver care in line with their values can cause guilt and moral distress or moral injury. We also identified the significant challenges of designing and embedding complex interventions within large organisations that meet the dynamic needs of diverse groups of healthcare staff, for example considering who, when and how interventions are delivered, not just what they are. This implementation gap needs significant future attention in practice and research. Finally, the analysis of COVID-19 literature revealed that the pandemic had significantly impacted the psychological health of staff, in an almost entirely negative way, exacerbating and accelerating staff mental distress from already difficult pre-pandemic conditions. One of the few benefits that the pandemic offered was the focus on staff health and psychological wellbeing and adaptation and innovation of interventions to support staff, but many interventions had unintended negative consequences.

Unfortunately, whilst most editorials and commentaries tended to call for multi-level, systems approaches, most empirical papers focussed on single interventions, perhaps because these interventions are easier to design or evaluate. In other words, the practice and research effort seem to be focussing on what is easiest currently, rather than what is likely to be most effective. Therefore, in future, more attention needs to be paid to how the primary, secondary and tertiary levels can work together to provide a systems approach to preventing, mitigating, and treating psychological ill-health in staff. There is a focus on the traumatised (tip of the iceberg), rather than the essential needs of the majority and organisational prevention is under-represented. Some individual characteristics (e.g., ethnicity, sexual orientation and/or gender identity, and disability) deserve greater focus to improve understanding of causes and interventions. Our profession-specific analysis revealed a need for targeted interventions to support particular staff groups, especially minority groups and newly qualified staff, and at specific times when they may be at greater risk of psychological ill-health. Encouragingly, we also identified many 'informal' interventions, perhaps developed by frontline staff to plug gaps in current provision, some of which could be formalised.

The strengths of our study were the use of realist methodology that uncovered rich insights, the cross-professional analysis which provided unique perspectives, and the expertise

offered by the multidisciplinary research team, advisory group and stakeholder group. In terms of limitations, the literature was not equivalent in size and quality across the three professions, the literature synthesised was not comprehensive, although it was appropriate to the methodology, and we did not carry out citation searches since hand-searching and stakeholder / expert suggestions had proved an efficient way to identify papers.

Conclusions

Unequivocally our realist synthesis suggests the need to improve the systemic working conditions and the working lives of nurses, midwives and paramedics to improve their psychological wellbeing. Individual, one-off psychological interventions are unlikely to succeed alone. Psychological ill-health is highly prevalent in these staff groups (and can be chronic and cumulative as well as acute) and should be anticipated and prepared for, indeed normalised and expected. Our research has resulted in 8 implications for healthcare practice suggesting a need for healthcare organisations to:

1) rebalance the working environment to enable healthcare professionals to recover and thrive;
2) invest in multi-level systems approaches to promoting staff psychological wellbeing;
3) continue to reduce stigma by implementing long term plans and investment;
4) focus on staff essential needs in order of priority;
5) assume that staff are doing the best job they can in difficult circumstances, to counteract a blame culture;
6) enable the needs of staff to be prioritised, to challenge a 'serve and sacrifice' ethos;
7) identify and nurture future compassionate leaders; and
8) use an evidence-based framework to self-assess and implement a systems approach to staff wellbeing for example, the NHSE/I Health and Wellbeing Framework.

Future research examining psychological ill-health in nurses, midwives and paramedics should build on our synthesis and seek to implement, refine and evaluate *systemic* interventional strategies. We recommend that interventions and evaluations are co-designed with frontline staff and staff experts by experience and tailored where possible to local organisational and workforce needs. Future interventions and research should focus

on what is most needed, rather than what is easy to implement or evaluate, and significant attention should be paid to the implementation design and process.

(2335 words)

Study registration

Funding

Chapter 1: Introduction

The COVID-19 pandemic has rightly focused public attention on the extreme challenges of healthcare work and the often-consequent psychological ill-health that can ensue. Yet, whilst the pandemic provided an intense and risky working environment, psychological ill-health in nurses, midwives and paramedics has been a considerable problem worldwide for many decades, but whilst considered important to address, it has not been given a high priority. One rare benefit of the pandemic is that it shone a light on the critical significance of the psychological wellbeing of healthcare staff, particularly those working on the frontline, and the importance of supporting staff to care well.

The National Health Service (NHS) is the biggest employer in Europe and the world's largest employer of highly skilled professionals with 1.6 million people, three quarters of whom are women[1]. The NHS needs healthy, motivated staff to provide high quality patient care; however, in recent years increasing workload due to workforce shortages and societal demand for healthcare services, combined with budget restraints and increasing external scrutiny of their work, has taken its toll on staff as well as patients[1, 2]. In 2016, commentators described staff as *"running on empty"* and the *"shock absorbers in a system lacking [the] resources to meet rising demands"*[2] and the COVID-19 pandemic has only added further to those pressures.

The most recent (2021) NHS staff survey reports 47% of staff have felt unwell because of work-related stress in the last 12 months (this figure has increased for four consecutive years, now more than 8% higher than in 2017). In addition, 55% of staff have gone into work in the last three months despite not feeling well enough to perform their duties (presenteeism). Overall, 34% of staff said they feel burnt out because of their work, with paramedics (51%) and registered nurses and midwives (41%) the highest across all professions. Organisational factors (service architecture) are likely causes, with only 43% of staff reporting being able to meet all the conflicting demands on their time at work (at a five-year low), with 76.5% saying that they often have unrealistic time pressures and 73% that there are not enough staff at their organisation to enable them to do their job properly

(a significant increase from 62% in 2020). Only 68% are happy with the standard of care provided by their organisation, a decrease of more than 6% from 2020 (74.2%)[3]. Psychological ill-health is a major healthcare issue, leading to presenteeism, absenteeism and loss of staff from the workforce[1, 4, 5]. Multiple government and industry reports have highlighted the need to reduce stress and improve psychological health in NHS staff[1, 6-8]. A recent report examining NHS staff and learner's wellbeing highlights the high financial and personal costs of psychological ill-health and recognises that working and learning in the healthcare sector is like no other employment environment. Every day, staff are confronted with the extremes of joy, sadness and despair, with clinical staff retaining a collection of curated traumatic memories[9]p13. A rapid evidence review and economic analysis of NHS staff wellbeing and mental health[10] estimated that the cost of psychological ill-health to the NHS as at least £12.1 billion a year and that, by tackling this and reducing staff attrition, the NHS could save up to £1 billion.

High levels of stress and burnout among NHS staff can affect their ability to provide high quality care[11, 12]. Stress among healthcare staff is greater than in the general working population and explains more than 25% of staff absence[13]; while depression, anxiety, a loss of idealism and empathy are also reported by nurses[14-16]. It also has a significant impact on staff retention creating a vicious cycle of staff shortages potentially leading to more stress and burnout.

A word on 'mental ill-health' terminology

When we wrote the proposal for this study we used the term "mental ill-health" to build on the work of Care Under Pressure 1[17] (the term they used) and also to distinguish from the broader term 'wellbeing' which has become ubiquitous and something of a catch all term. We used a stakeholder meeting to discuss terminology with members noting the importance of language. Members suggested there was the possibility of 'wellbeing' becoming a less powerful term, with some 'wellbeing washing' seen in some organisations (a term that describes a superficial wellbeing strategy, which is 'all talk and no action'[18], one size fits all and superficial). One paramedic stakeholder felt that 'mental health' (used colloquially to mean mental ill-health) was stigmatising and was felt to be more about

patients with clinical diagnoses of mental illness, whereas many staff did not associate what they were experiencing with these diagnoses; another agreed that the term mental ill-health/mental health may be excluding those that do not relate to it. Burnout for example is recognised as an occupational hazard, rather than a form of mental illness, yet these forms of psychological distress are very serious for individuals and the broader healthcare system but may be missed if we framed our work as interventions to address mental ill-health. It was also felt that this risked attributing the distress to factors specific to the individual, rather than attributing a causal role to the broader context.

Others suggested wellbeing was very firmly embedded in the NHS architecture and was therefore useful and that 'psychological wellbeing' would make a useful distinction from physical wellbeing. Others preferred 'psychological distress' and 'vicarious trauma'. What became clear from the literature and the stakeholder group discussions was that there are pros and cons to any choice of terminology in this area[19, 20]. After this discussion and much consideration, we have chosen to use the terms 'psychological ill-health' and 'psychological wellness' throughout this report to distinguish between the broader wellbeing term that may also encapsulate physical health (important and inter-related though that is) and to distinguish from any pathologising of mental ill-health, and to remove any perceived stigma to appeal to as broad an audience of staff as possible.

Why nurses, midwives and paramedics?

Nurses, midwives and paramedics are the largest collective group of clinical staff in the NHS. In 2020, nurses and midwives (n=365,034) made up 27.9% of the NHS workforce and paramedics (n=18,000) made up 1.4%. Therefore, in total nurses, midwives and paramedics comprise 29.3% of the total NHS workforce and over 56% of the clinical workforce[4].

Specific issues that may impact on psychological ill-health for these three professions include, for example, issues of power and autonomy for nurses; fear of significant litigation for midwives; and physical isolation for paramedics, community nurses and midwives. These professions may also have prolonged exposure to patients over long periods of time, and regular exposure to traumatic incidents; shift work; and heavy workloads[21]. Paramedic

stakeholders told us they are exposed to unpredictable high stress caused by traumatic incidents which create potential flashpoints, and prolonged exposure can compromise psychological health with staff going through a rollercoaster of emotions in every shift. Unique challenges (not faced in other countries) include the strict response targets in a climate with increasing demands and efficiency drives as well as unpredictable finish times, long hours of driving and unpredictable breaks (also affecting many nurses and midwives)[22].

All three groups may be subject to verbal or physical assault, dealing with cognitively altered members of the public and patients with mental illness, which confers significant risk of PTSD[21]. Nurses are reported to be reluctant to report aggressive and violent incidents and emergency nurses considered violence to be part of their normal working day[23]. Amongst health professionals, the suicide rate is 24% higher than the national average, largely explained by the increased risk of suicide in female nurses (four times the national average) and in male paramedics [24]. Colleagues affected suicide are at greater risk of psychological ill-health and suicide ideation. Significant stigma around disclosing psychological ill-health is known to exist in nurses, midwives and paramedics[18, 25] and in the paramedics' culture in particular there is a narrative that once you're damaged, you're out, resulting in a culture of not disclosing mental health difficulties.

Nurses, midwives and paramedics faced with psychological ill-health are likely to either come to work when ill because they feel that they have to continue caring for patients in spite of their own difficulties (presenteeism); take sick leave (absenteeism) resulting in gaps in service and experience and leaving staff feeling guilty about the increased burden this places on colleagues; or leave the profession altogether (workforce attrition), either temporarily or permanently, creating more staff shortages. Nurses, midwives and paramedics have high rates of illness and sickness absence[26-28].

Discussions with individual nurses, midwives and paramedics suggested it is difficult to take breaks with little access to facilities, toilets, places for food and drink; that work can be lonely and isolating and, as autonomous workers, midwives fear litigation.

In terms of support, nurses, midwives and paramedics have the same access to NHS Trusts' HR and occupational health services as doctors, but they do not have access to the national 'Practitioner Health Programme' (a confidential self-referral service for doctors and dentists who are experiencing psychological ill-health or substance use difficulties). Participants at the Wounded Healer Conference (2018) noted *"as bad as support is for doctors, it's far worse for nurses, they are not allowed time off for treatment, not encouraged to seek help and don't have the means to seek private help"* [29]. Paramedics we spoke to echoed this with the provision of care for paramedics reported as poor with no consistency or support for paramedics with psychological ill-health. Some nurses felt they had no 'voice' and did not feel they could speak up if something was wrong. Finally, a nurse ward manager told us that the most important need was for proper psychological health training for managers and clear guidelines for what to do when a staff member reports mental health difficulty, a step-by-step guide that they can easily implement. Our study aims to develop and provide these resources.

Current interventions and evidence gaps

There is a large body of literature on interventions that offer prevention, support or treatment to nurses, midwives and paramedics experiencing psychological ill-health[25, 30, 31]. This literature tends to be discipline specific and focus on individual interventions placing responsibility for good psychological health with nurses, midwives and paramedics themselves[25, 32-34]. Addressing the wider professional, organisational and structural contexts that affect nurses', midwives' and paramedics' psychological ill-health is less prevalent[22, 25, 35, 36]. Therefore, there is a need for research approaches that are sensitive to the complexities and causes of psychological ill-health in nurses, midwives and paramedics, identifying what is unique within and between each profession and context.

This study builds directly on previous work: Care Under Pressure (1): a realist review of interventions to tackle doctors' mental ill-health and its impacts on the clinical workforce and patient care[17] sharing research team members (KM; DC; SB) across CUP-1 and CUP-2 to address the following aims, objectives and research questions.

Methods

Project Overall Aim: To improve understanding of how, why and in what contexts nurses, midwives and paramedics experience work-related psychological ill-health; and determine which high-quality interventions can be implemented to minimise psychological ill-health in nurses, midwives and paramedics**.**

Our specific aims are to:

- A1. Understand when and why nurses, midwives, and paramedics develop psychological ill-health at work, and provide examples of where and how it is most experienced;

- A2. Identify which strategies/interventions to reduce psychological ill-health work best for these staff groups, find out how they work and in what circumstances these are most helpful;

- A3. Design and develop resources for NHS managers/leaders so that they can understand how work affects the psychological health of nurses, midwives and paramedics; and what they can do to improve their psychological health in the workplace.

Objectives

We will undertake a realist review to test and refine programme theories to meet A1 and A2 above to identify:

- O1. How and why work has a positive or negative effect on the psychological health of nurses, midwives and paramedics and in what contexts these are most experienced and have impacted;

- O2. The mechanisms at individual, group and professional levels by which strategies and interventions prevent or reduce the impact of work on the psychological ill-health of nurses, midwives and paramedics; and explain why, for whom and in which contexts these are most beneficial for these staff.

Using evidence from O1 and O2 above and informed by evidence-based implementation theory and stakeholder involvement we will:

- O3. Develop a range of resources to support NHS managers/leaders to better understand how work affects the psychological health of nurses, midwives and paramedics and identify what they can do to improve their psychological wellness in the workplace.

Chapter 2 Methodology

Introduction to realist synthesis

This study used realist synthesis methodology[37-39] to scrutinise literature on workplace psychological ill-health for nurses, midwives and paramedics. Realist synthesis prioritises the development of explanatory theories postulating how, for whom and in which contexts interventions work to produce outcomes. The methodology is based in a realist philosophy of science which acknowledges that *"there is a [social] reality that cannot be measured directly (because it is processed through our brains, language, culture and so on), but can be known indirectly"*[40].

Using realist synthesis methodology this investigation goes beyond simple lines of questioning such as: 'do interventions to minimise psychological ill-health of nurses, midwives and paramedics work?' Rather, we sought to understand *how* efforts to mitigate psychological ill-health work, for which staff, which organisations, and in what circumstances. We also sought to achieve this depth of analysis in relation to understanding causes of psychological ill-health. The analysis recognises the interwoven variables that operate at different levels in organisations. The realist approach to data collection in this study was driven by retroductive theorising, which is the '*activity of uncovering underpinning mechanisms*' [41]. Retroduction entails a logic of inference which starts with that which is empirically observable and explains outcomes and events through identifying the underlying mechanisms which can produce them[42].

The literature retrieved in this synthesis (Care under Pressure 2 [CUP-2]) is based on theoretical prioritisation, in line with realist synthesis guidelines [37, 40] to further strengthen the context-mechanism-outcome configuration framework used in the analysis. A key component of the starting point for this theoretical prioritisation was the programme theory from CUP-1[43]. The search for papers for theoretical understanding has been inclusive of both primary and secondary empirical research papers as well as theory discussion and editorial publications, key reports on NHS staff wellbeing (particularly those that have focussed on nurses, midwives and/or paramedics) that have been published in the

last few years, and other non-traditional forms of data for realist synthesis. This is in line with realist synthesis methodology promoting the use of diverse forms of data to build ontologically-deep insights into the analysis[44]. Middle range theory documents were collected as an ongoing activity identified by team members and our own networks, through consultation with stakeholder group members, and through citations in included papers.

The realist approach has assisted in synthesising evidence on organisational and structural contexts (e.g., community or hospital work) and profession specific working practices (e.g., types of shift work, team or lone working) within each of these three professional groups, but also differences and similarities between the groups (e.g., by speciality, setting). By illuminating differences in context and working practices, we anticipated how they might influence the development of psychological ill-health and the uptake and success or otherwise of interventions aimed at supporting psychological wellness within and between these staff groups. This feature of the approach is particularly appealing because the causes and solutions to workplace psychological ill-health are complex and multi-factorial. Realist methodology is also pragmatically focussed on developing and testing programme theories that have more potential to be effective.

The context-mechanism-outcome (CMO) configuration[39, 45] is the central heuristic used in realist analysis and has been used in this review. The realist approach suggests that to infer a causal outcome (O) between two events (X and Y), one needs to understand the underlying mechanism (M) that connects them and the context (C) in which the relationship occurs[46] These are usually represented as Context (C) + Mechanism (M) = Outcome (O). For example, to evaluate whether an intervention improves psychological ill-health in nurses, midwives and/or paramedics (O), we identified underlying mechanisms M (e.g., the resources offered by the intervention and how might these effect changes in participants through reasoning/response), and its contiguous contexts C (e.g., are there local skill shortages impacting on access to the intervention?). We draw on the work of Dalkin et al[47] who discuss the importance of conceptualising mechanisms on an activation continuum, rather than a binary trigger (on/off switch). Theoretical explanations developed through realist review are referred to as "middle-range theories" which "...involve abstraction... but [are] close enough to observed data to be incorporated in propositions

that permit empirical testing" [48](cited in [40]) Table 1 provides a definition of terms of context, mechanism and outcome:

Category	Definition*
Context	Context includes elements of the background environment that impact on whether mechanisms in interventions are enabled to produce outcomes. These operate at different 'layers' including individual, interpersonal, organisational and intra-structural (e.g., the prevailing NHS culture).
Mechanism	Mechanisms are usually hidden, sensitive to variations in context, and generate outcomes. They are a combination of (i) the resources offered interventions and (ii) the reasoning and responses from people to these resources which lead to outcomes.
Outcomes	Outcomes are any intended or unintended changes in individuals, teams or organisational culture generated by context-mechanism interactions.

*Adapted from Maben et al[49]

Table 1. Context, Mechanism and Outcomes Definitions

Study Design

The design of CUP-2 builds upon similar prior work in CUP-1 with doctors only[17, 43]and adheres to our published protocol except minor deviations which are described in Appendix 1. An overview of the design is presented in Table 2 though note this was not a linear process as suggested by the table, with several different searches being folded into final analysis, as described further in the text.

Review Stage (as per project protocol)	Strategy	Description
Step 1a: **Locate existing theories**	Searching for middle-range theories and frameworks in key papers and reports	Searching key papers and reports to extract relevant middle-range theories and frameworks. Examining outputs from CUP-1 to explore transferable lessons and possible reusable conceptual platform.
Step 1b: Understanding key contextual features that may impact on psychological ill-health	Systematic and comprehensive synthesis of NHS workforce data	Comparative NHS workforce data for nurses, midwives, paramedics and doctors (in order to compare to CUP-1) in relation to demographics, service architecture, and wellbeing data.
Step 2: Searching for Evidence		
2.1 Database searches and screening	Searches of bibliographic databases and Reverse Chronology Quota (RCQ) screening	Establishing the number of papers to be retained in the round of screening; starting with the most recent publications, working in reverse chronology applying a screening tool until the established quota is met.
2.2 Supplementary Searching	Hand searching key journals when RCQ has not been met during database searching	Consulting key journals (e.g., British Paramedic Journal) to retrieve relevant papers that may have been missed by the database searching due to journals not being indexed.
2.3 Literature reviews and COVID-19	Inclusion of literature reviews and electronic database searches for COVID-19 insights	Literature reviews obtained in initial search were screened by two team members for inclusion and ten from each profession were retained (n=30); COVID-19 database searches were conducted separately for the three professions: 50 most recent results were screened and ranked according to relevance, with the top 10 retained in each profession (n=30).
2.4 Expert input	Inviting stakeholders and project team to suggest key papers/reports	Project team, stakeholder and advisory group members (including patient and public representatives) supplemented database searching by suggesting key papers and reports that may be missed using key word searching in the databases.
Step 3: Assessing Papers for Inclusion		
Developing and Applying exclusion criteria, including two-person inter-rater scoring	Selection tool development and application by two team members	Selection tool developed based on protocol and early theory sensitisation; two team members scored all papers using the selection tool and agreement compared; disagreements arbitrated by a third member of the team.
Step 4: Extracting and organising data		

4.1 Descriptive extraction and analysis	Understanding article contents	Capturing the type of papers (e.g., non-empirical/ empirical, methodology used; description of causes and interventions architecture).
4.2 Realist Appraisal	Appraisal Journaling	Creation of journal entries for each paper that addresses (a) the important insights described or inspired from the document in relation to the overall analysis and (b) team member journal-on-journaling to build co-productive analysis.
4.3 Realist data Extraction	Data Extraction	Selection of key data that demonstrate causal insights mapped to the research questions.
Step 5: Synthesising the evidence and drawing conclusions		
5.1 Analysing the literature in stages	Realist Analysis	Building ontologically deep analysis from appraisal journal content; re-reading papers and developing CMO configurations to produce the synthesis.
5.2 Stakeholder group contributions to analysis	Emergent analysis shared and discussed with stakeholders	Over the course of 4 meetings, findings were shared and discussed with stakeholders to check for relevance and importance.

Table 2. CUP-2 strategy mapped to stages of review as per project protocol

Step 1a: Locating Existing Theories

The goal of this step was to identify theories that explain how and why work has a positive or negative effect on the psychological health of nurses, midwives, and paramedics and in what contexts these are most experienced and have impacted most significantly. Also, to identify the theories explaining how and why interventions prevent or reduce psychological ill-health in nurses, midwives, and paramedics; and explain why, for whom and in which contexts these are most beneficial.

For interventions to be successful in moderating the impact of psychological ill-health it is necessary to understand the relationship between the development of psychological ill-health at work for nurses, midwives, and paramedics (the [causal] underpinning theory or theories), so that the interventions can be selected that may 'intervene' and minimise psychological ill-health. In realist terms, these are the programmes. Programmes are "theories incarnate" (not always explicit or visible) – that is, underpinning the design of

programmes or interventions, and include assumptions about why certain components are required and how they might work. These theories are often implicit; the designers of interventions have put them together in a certain way based on what needs to be done to get one or more desired outcomes. The realist researcher aims to make these more explicit and visible where possible.

The team began by building on the CUP-1[17, 43]final programme theory as the initial programme theory for this study, and then took a specialised, inductive approach to go beyond what was already known (reviews of individual interventions) and determine a path through the potentially vast literature (see below). We also wanted to learn from and draw upon the knowledge and expertise in our stakeholder group.

Thus, an initial theory sensitisation stage consisted of the following activities. Members of the CUP-2 team:

a) examined the CMO configurations and theories generated by our co-applicants (KM, DC, SB) in CUP-1[17]. Members of that project team (KM (PI of CUP-1), DC and SB) are also co-investigators in CUP-2. When drawing on their findings in early discussions we identified some of the similarities and differences across professions. These led to the identification, extraction and comparison of nationally available data for demographics, service architecture (ways of working) and wellbeing outcomes for doctors, nurses, midwives and paramedics to underpin this work[4], see Step 1b below;

b) drew upon on PI (JM) previous HS&DR funded study exploring patients' experiences of care and the influence of staff motivation, affect and wellbeing (HS&DR-08/1819/213) and extended our understanding of psychological ill-health at work and the impact of staff psychological ill-health on patient care;

c) drew on PI's (JM/CT) realist expertise from their previous HS&DR funded longitudinal evaluation of Schwartz Center Rounds as an intervention for enhancing compassion in relationships between staff and patients (HS&DR-13/07/49) – considering its findings in the context of other interventions for the improvement of psychological ill-health in nurses, midwives and paramedics;

d) consulted with experts representing multidisciplinary perspectives in our Stakeholder Group (including our nurses, midwives, paramedics and PPIE representatives);

e) considered findings from NIHR HTA project – Facilitating return to work of NHS staff with common mental health disorders: a feasibility study (HTA-15/107/02) in relation to the role of occupational health in supporting staff with psychological ill-health;

f) drew on key reports published by advisory and steering group members: Michael West's King's Fund report[30] and Gail Kinman and Kevin Teoh SOM report[25]); along with additional informal searching to identify causal explanations about how the programmes impact on staff mental health/wellbeing. Contextual factors (at different levels, e.g., individual, organisational, economic, social) that related to risk of psychological ill-health were extracted and synthesised, and preliminary CMOcs developed (see Appendix 2 for an example).

This early activity allowed the team to explore the possible theoretical underpinnings including structural features of work (which we called "service architecture"), on which programmes are based, in order to map out the conceptual and theoretical landscape of psychological ill-health causes and intervention outcomes and how they are supposed to work, for nurses, midwives and paramedics. This informal searching differs from the more formal searching process in Steps 1b and 2 in that it is more exploratory and aimed at quickly identifying the range of possible explanatory theories that may be relevant.

Step 1b: Understanding key contextual features that may impact on psychological ill-health

The research team brainstormed key contextual features (important contributors to psychological ill-health for nurses, midwives and paramedics) and compared these to each other and to doctors, based on our own expertise and knowledge. We shared drafts of these demographic, service architecture and wellbeing features with our stakeholder group on two occasions requesting comments on their importance and to identify any omissions.

Feedback suggested that the features we identified provided a useful summary of key statistics that could inform attempts to improve workforce wellbeing.

To understand the service architecture better we next searched for whole NHS workforce data (focussing on hospital and community health services staff) where possible using NHS Digital NHS Workforce Statistics) and/or NHS England-related sources based on the whole NHS hospital or community services workforce in England. We prioritised the sources where data could be separated by the three professions of interest and compared with doctors. We found limited data for the primary care workforce, so focussed only on hospital and community health service settings in England. Sources were rated for their strength/accuracy of evidence, and comparability across professions and a summary of the key demographic, service architecture (structural features of work) and wellbeing indicators was produced[4]. See Chapter 4 and Appendix 3 for full publication.

Step 2: Searching for Evidence

This step involved searching bibliographic databases, supplementary searching in profession-specific UK journals and input from stakeholder and team member experts.

2.1: Database Screening

Reverse Chronology Quota sampling (RCQ) was applied to database screening by starting from the most recent date of publication and working backward chronologically, applying a screening tool until a certain quota of papers had been met. *Note: this strategy was used in conjunction with capturing literature by expert input through the stakeholder group and research team experts*. RCQ was used in this study for several reasons:

a) To create roughly equal quotas (n ~30) in the initial database search for each of the professions and thereby a similar size body of evidence for each profession, thus not giving undue weight to one profession over another. This allowed us to capture the most up-to-date evidence, theories and frameworks with cross-comparisons across the professions and prevented nursing literature dominating over the smaller research fields in midwifery and paramedic science. We decided to limit the initial

search to ~90 papers to allow adequate time for data immersion knowing that more papers would be searched in subsequent rounds (see Section 2.1.1). The quota strategy aimed to retain ~30 papers in each of the professions as an approximation only. The final number of papers was determined by the combination of RCQ, eliminations of papers not relevant after full-text read, and the inclusion of additional papers through expert solicitation and purposive sampling at later stages of the analysis. The final number of papers and breakdown is presented in PRISMA flowchart (Chapter 3).

b) To capture the most recent literature and thereby ensure that the most recent aspects of context were analysed (realist methodology prioritises a context-sensitive understanding of evidence). Thus, outdated aspects of NHS context in literature undertaken in the last 10 years were eliminated. This review also sought to collect and analyse a diverse array of intervention architectures related to workplace psychological ill-health (i.e., organisational, team-based and individual-level interventions). Taking the most recent papers meant locating the latest innovations given the proliferation of psychological ill-health interventions and the rapidly changing context (e.g., COVID-19 pandemic) in the current context of health service delivery. However, older seminal papers/reports were included through supplementary searching, and team and stakeholder expert input.

c) Initial pilot searching revealed that the literature on psychological ill-health in healthcare staff, especially in the nursing literature is vast. Given the large scope of the research design and finite timeframe, screening a large volume of papers would have been extraordinarily time consuming and inefficient. Reviewers of this grant proposal previously observed that "*the research is very ambitious in its scope and the amount of work required seems to be considerable for a 20-month project*" and we responded that we would need *"take a pragmatic approach to the scope of data included in our review. As realist reviews can include a multitude of different data sources, deciding when we have 'enough' data will be of critical importance".* Setting limits on the number of papers to be selected in iterative rounds of searching brought clarity on the boundaries of the review, shortened the time needed during screening which in turn allowed for more time for data immersion and analysis.

2.1.1 Initial Database Searching

The CUP-2 database searches were managed and executed by our information specialist (SB). Three rounds of searching were conducted during the review. This included (1) a search across all three professions; (2) an expanded paramedic search due to a dearth in the initial search of all professions; and (3) a COVID-19 specific search. CUP-2 was funded pre-pandemic and so the additional contextual factors caused by the pandemic in relation to causes and interventions were not considered within our protocol. Whilst we recognised the limitations of focussing 'only' on the COVID-19 literature (e.g., in terms of extraordinary contexts, and poor quality of evidence) we felt it important to include this literature but as an additional component. The methods are therefore explained in this chapter, but findings presented in the Appendices (Appendix 4).

The search terms and method for searches (2) and (3) are described later (see Section 2.3). For the search across all professions, initial search terms describing psychological ill-health and outcomes of psychological ill-health were taken from CUP-1[17, 43] . Additional search terms were added to retrieve papers relevant to nursing, midwifery and paramedic practice. Three databases were searched: MEDLINE ALL (via Ovid, which includes MEDLINE In-Process), CINAHL (via EBSCO) and HMIC (via Ovid). These three databases were selected because they covered the core health science literature (MEDLINE ALL), nursing and allied health professional literature (CINAHL) and grey literature (HMIC). The search strategies included terms for the populations of interest (nurses, midwives and paramedics), common psychological ill-health problems (e.g., stress, anxiety, depression) and outcomes of psychological ill-health (e.g., sick leave and burn out). Anticipating a large volume of returns (especially in nursing) and to maintain the study's relevance to the UK's NHS context, we limited our initial search to UK-based literature. To accomplish this, a published UK geographic search filter was added to the MEDLINE search [50]. CINAHL did not have a UK filter option; however, a function within the database was used to limit studies to the UK geographic region. The HMIC database, which is published by the UK Department of Health, the Nuffield Institute for Health (Leeds) and the King's Fund Library [51] has a mainly UK focus. With filters applied where they could be, three searches were conducted for each of the professions, and these were exported to Endnote X9 reference management libraries

for screening. The exclusion criteria we applied to literature captured in this initial search is presented in Table 3.

Exclusion Criteria	Rationale
Healthcare staff physical health (i.e., not about psychological health)	Papers reporting exclusively on the physical ill-health of healthcare staff is beyond the remit of this review
Undergraduate student context	Papers reporting predominantly on the undergraduate experience of healthcare trainees is outside review scope
Not UK context	Papers reporting research outside the UK context may lack relevance to the specific realities of working in the NHS; definition of midwife and paramedic varies world-wide
Papers reporting COVID-19 (excluded from the initial search)	Papers reporting on the psychological health of staff during the COVID-19 pandemic were initially excluded as it was assumed such papers would overwhelm the RCQ process, particularly in nursing, and the included set may contain only papers on COVID-19. A separate second search for COVID-19 papers was completed later (see Section 2.3)
Patient wellbeing (not health professional)	Papers reporting exclusively patient psychological ill-health were outside the scope of this review
Literature Reviews	Literature reviews were set aside to be revisited at a later stage (see Section 2.3).
Publication date older than 2010 OR papers beyond the 30 most recent relevant papers (whichever comes first)	Older papers will begin to lack relevance to the most recent developments in the UK healthcare setting.

Table 3 Screening Stage Exclusion Criteria

The initial searches were run in MEDLINE and CINAHL on 12th February 2021 and in HMIC on 26th February 2021. Appendix 5 describes the search process and results in detail.

After screening, the initial database search for paramedic papers yielded a dearth of studies (n=7). For this reason we ran an additional search with more sensitive search terms, informed by paramedic stakeholder and research experts and a published search filter for the paramedic field[52]. The revised search included a wider selection of MeSH terms and free-text terminology than the initial search, including terms such as 'first responder' and 'emergency personnel'. Using these modifications, the second search for paramedic literature was undertaken in all three databases on March 31st 2021. Results from those searches are presented in Table 9 in Appendix 5.

Titles and abstracts for the total number of papers retrieved through the database searches were: 1,304 for nursing; 88 for midwifery; and 79 for paramedics. These were exported to word files and filtered through a screening and selection process, described in Step 3.

2.2 Supplementary Searching

The initial database search was exhausted before we achieved the rough quota (n~30) for midwifery and paramedics. Therefore, to meet the quota estimate, an additional 11 papers in midwifery and 23 papers in paramedics were identified through supplementary hand searching in relevant profession-specific UK journals. We selected this search method as it became apparent from contact with stakeholders that the database searches had not retrieved several papers that met our inclusion criteria, which were all published in a small number of midwifery and paramedic journals. There were a few possible explanations for this, including that (a) the CINAHL UK geographic filter erroneously excluded them, (b) the 'outcomes of psychological ill-health' terms did not pick them up; and (c) several of the papers did not have abstracts (e.g., commentaries, opinion pieces) which makes them harder to retrieve; (d) several may not have been indexed in the databases. After pilot testing the approach, we considered that the most efficient way of identifying relevant papers was to hand search the back issues of these journals. Starting from the most recent edition and using the same exclusion criteria, we searched the British Midwifery Journal, the Journal of Paramedic Practice, and the British Paramedic Journal. The PRISMA flowchart (Chapter 3) presents the numbers of identified papers (see also Table 8, Appendix 5). Two team members (JJ) and (CT) independently screened all papers for inclusion, with disagreements arbitrated by a third team member (JM).

2.3 Second round of database searching and selection: Literature Reviews and COVID-19
Literature reviews:

Thirty of the most recent literature reviews identified (but set aside) in the initial database searches were included in this second round. Team members (CT) and (JM) read and selected from the title and abstracts of the reviews to retrieve the most relevant reviews based on their knowledge of the literature and the potential for additional insights. Given the rich data found in the initial sample of papers, an additional 30 literature reviews was considered adequate to supplement the existing dataset (particularly as some key reports also contained recent systematic reviews or summaries of such reviews). The number of

literature reviews in the quota was deliberately small, because secondary analysis in the included literature reviews contained fewer rich insights (thin data) for realist analysis in contrast to data found in the included primary literature, and most of the literature reviews were international (some not including any UK primary evidence), perhaps impacting relevance.

COVID-19:

A second round of database searching was conducted on 7th December 2021, to supplement the on-going work in building the synthesis with papers focussed on COVID-19 and psychological ill-health in nurses, midwives and paramedics. The initial screening and selection of ~90 papers excluded papers on COVID-19 because we anticipated that the number of COVID-19 papers in the last 2 years might have 'overwhelmed' the RCQ screening particularly in nursing. We also anticipated that COVID-19 papers may not contain the range or depth of service architecture insights related to the causes and solutions to workplace psychological ill-health which have been in existence for many years prior to the pandemic.

Once a first draft of the analysis of the initial sample of included papers was complete (see below), the information specialist (SB) ran a second search for COVID-19 papers across three databases (MEDLINE ALL, CINAHL and HMIC), separately for the three professions. This search used the same professional and psychological ill-health terminology as the initial search, but replaced search terms for the outcomes of psychological ill-health with COVID-19 search terms developed by the UK Health Security Agency library services team (https://ukhsalibrary.koha-ptfs.co.uk/coronavirusinformation/). We applied a UK filter to the MEDLINE search but not to the CINAHL search, in view of shortcomings identified in the initial searches (see above, where some UK papers were missed by the CINAHL UK filter); however, we did prioritise inclusion of papers from the UK through the ranking system used for selection (explained below).

2.3.1. COVID-19 Two-Step Identification Stage Inclusion/Exclusion Criteria

The exclusion criteria for the COVID-19 papers are presented in Table 4. The Covid papers were appraised differently given the aim to draw out COVID-19-specific causes rather than just exacerbation of known existing causes; and/or novel interventions and innovations. The search strategies used for each database are presented in Appendix 5.

The search for COVID-19 papers involved a two-step process. The initial step searched 50 most recent COVID-19 papers in each of the professions to capture relevant information on the impact of the pandemic on psychological ill-health. The second step was a ranking process to select the top 10 papers in each of the professions for a total of 30 papers. As we anticipated, many COVID-19 papers reported only the acute negative state of psychological ill-health descriptively, rather than insight into the solutions developed in the context of the pandemic. The two-step selection process is described in Table 4.

Step one exclusion criteria:	Rationale?
Healthcare staff physical health (i.e., not about psychological ill-health)	Papers reporting exclusively on the physical ill-health of healthcare staff is beyond the remit of this review
Undergraduate student context	Papers reporting exclusively on the undergraduate experience of healthcare trainees is outside review scope
Patient, not professional psychological ill-health	Papers reporting on patient psychological ill-health during COVID-19 pandemic is outside review scope
Papers beyond the 50 most recent relevant papers	In the first stage, we retained 50 COVID papers for each of the professions
Step two exclusion criteria: ranking for inclusion.	
5 points	Paper cites a middle range theory important for our analysis
4 points	Paper is about COVID-19, UK based, shows potential to make an important contribution to our current analysis regarding service architecture innovations (*only interested in papers ranked 4 and above unless there are less than 10 4 point papers, in which case the 3 point papers were re-reviewed and best selected*)
3 points	Paper is about COVID-19 but descriptive (about how bad circumstances are), lacks insight in service architecture, but UK-based or is about an underrepresented profession
2 points	Paper is about COVID-19 but descriptive, lacks insight, not UK based, not profession specific.

Table 4. Exclusion criteria for COVID papers

Step 3: Assessing Papers for Inclusion

As outlined above (and shown in Appendix 5: Tables 4 and 5) the database searches yielded a large literature for nursing and a smaller pool in midwifery and paramedic literatures. Reverse Chronology Quota (RCQ) screening was applied to the sample, which meant that the most recent literature was prioritised over older literature.

Two members of the team (JJ) and (CT) used Excel spreadsheets to record their independent judgments about inclusion/exclusion of all papers/articles and these decisions were compared. In almost all cases, discrepancies between JJ and CT were easily resolved, on three occasions, a third team member (JM) arbitrated on final inclusion. Appendix 6 provides a sample of the Excel sheet used with the inter-rater scoring process exemplified.

Step 4. Extracting and Organising Data

4.1 Descriptive extraction and analysis

In a realist review, due to the ontological depth it seeks to reach – aiming to go beyond simply empirical observations and insights[46] - the whole paper counts as 'data', including, for example, the introduction and discussion. As such all included papers provided evidence of causes and potential interventions because in a paper focused on describing or evaluating intervention(s) the authors are likely to argue for the need for the intervention(s) by describing the problem (causes of psychological ill-health) that the intervention aims to mitigate; and in a paper identifying, describing and/or measuring causes, the authors are likely to discuss potential 'solutions' or interventions.

4.1.1. Included literature for description of causes

In relation to causes, the existing evidence base, based upon numerous general or profession-specific reports of psychological ill-health in NHS professionals, has predominantly focussed on quantitative survey-based measures of sources of job stress (thereby limited to what can be "measured" empirically). The theoretical insights that we aim to achieve with a realist synthesis places equal importance on qualitative and grey

literature (such as commentaries and editorials) and as such may offer different and/or expanded insights to the current evidence base. We therefore included all included literature except COVID-19 literature which is presented separately (Appendix 4).

4.1.2 Included literature for description of interventions

Whilst most of the included literature included mention of interventions/solutions to psychological ill-health (even if the predominant focus of the paper was to describe/explain causes), this descriptive exercise focused on including those sources most likely to inform our understanding of interventions that may have benefit, and thereby included:

1. Papers from the initial search cycle where either the purpose was to evaluate an intervention (n=10/75) or was an editorial or commentary that aimed to discuss what was needed to mitigate psychological ill-health in nurses, midwives and/or paramedics (n=29/75). This thereby excluded 36 papers from the initial search that: a) solely or primarily focused on assessment or description of causes of psychological ill-health, or on experiences of work (n=27); or b) 'other' types of papers including discussion articles that did not include specific focus on solutions/interventions (n=3[53-55]); conference abstracts (n=2[56, 57]); study protocols (n=1[58], CPD/Education resources (n=2 [59]and presentations (n=1[60]).

2. Key reports (n=7) and literature reviews (n=24), excluding 5 that did not include interventions[21, 23, 61-63].

4.1.3 Data extraction

All included papers and reports (as described above) were read in full and any mention of causes and/or interventions was extracted to a study-specific spreadsheet that captured the type of paper, key focus of the paper (causes, interventions, or both), and for empirical papers, the methodological approach, method/design (including sampling), and overall results; and for interventions, the description of the interventions(s).

4.1.4 Descriptive analysis

Causes were described firstly using categories/language from the source paper and were also coded against the relevant domain(s) of the HSE management standards (https://www.hse.gov.uk/stress/standards/index.htm): Demands, Control, Support,

Relationships, Role and Change. The HSE management standards were chosen as a framework for categorising the data due to their robust evidence base, being derived from syntheses of features of work relating to psychological ill-health across many occupations, including healthcare [64]. In addition to using this framework, data that contributed to an understanding of 'who' was most at risk of psychological ill-health (particularly focussing on work environment/role factors, rather than simply demographics), and 'when' psychological ill-health was most likely to develop was extracted, to plug the gap in the identified limitations of previous reviews). Following this first layer of categorical analysis, the causes were read and re-read, and a coding framework was developed to thematically group the specific causes described in each paper. The data on causes were coded independently by two members of the team (NK and CT), going back to full manuscripts to supplement the data extraction where coding was uncertain or differed. The data on risk factors ('who' is at risk and 'when') were similarly collated thematically. This analysis was not intended to systematically extract every instance of a "cause" in each paper but focussed more on gaining a nuanced understanding of causes and providing data to compare and contrast within and between the three professions. For example, we acknowledge that most papers included mention of the high demand, low control/support being causes, as already known in the pre-existing evidence base, but have only cited exemplar sources for this.

Interventions were categorised according to:

a) their aim/focus: Following the methods for categorisation used by previous reports[25, 30], interventions were categorised as primary, secondary, tertiary (or multifocal where they straddled two or more of these levels). *Primary interventions* aim to eliminate or reduce risk of psychological-ill health by intervening at the source of the risk and thereby target the healthcare work environment, often at a structural level. Such interventions usually target whole organisational, employer (e.g., NHS-wide) or wider societal levels. *Secondary interventions* aim to delay or reverse the harmful impact that exposure to 'risky' work environment factors may have by modifying how staff respond when exposed (e.g., mindfulness training), manage their work environment (e.g., time management training), or develop competence/confidence in specific aspects of their job. The target of these interventions is usually the individual worker. *Tertiary interventions* aim to intervene once harm has been identified to reduce or minimise the

impact and allow the worker to return to normal functioning. As well as including psychological interventions such as counselling and therapy, this category also includes initiatives such as return to work programmes. Interventions that straddled more than one category (e.g., primary and secondary) were labeled as *multifocal interventions*.

b) Whether the interventions were single discrete interventions or were multiple combined interventions (e.g., a programme)

c) Whether the intervention(s) was formal or informal (or mixed). We defined formal interventions as those with a defined structure or plan, often designed for replication and evaluated, whereas informal interventions were those without formal structure or definition, nor necessarily aimed for replication/evaluation, often staff-led and ad-hoc. We acknowledge that for some interventions there is a fine line between formal and informal, and that some informal interventions could easily be 'formalised', but felt it was important to capture the interventions that are being recommended/stated to be required/beneficial, even if they did not have a specific formalised structure or description.

Once causes and interventions had been categorised as described above, analysis according to type of paper (empirical vs. non-empirical), and across the three professions (nurses, midwives and paramedics) was conducted to understand the similarities and differences according to type of data source/paper, and profession; and also conducted a preliminary analysis of 'fit' between causes and interventions.

4.2 Realist Appraisal and Appraisal Journaling

An initial analysis including CMO configurations was drafted from a subsample of retained papers (n=49) and reviewed by all team members. Papers were folded into the analysis in stages. All papers were read, and details entered into an appraisal journal (see below) by the team. On occasion a paper was eliminated (or moved to a different part of the project, e.g., literature reviews or COVID-19) after reading the full text, due to not meeting inclusion criteria that were applied at screening. This occurred when we screened papers without abstracts and had to read the full-text paper to know whether the paper met our inclusion criteria.

Realist synthesis appraisal involves an assessment of relevance and rigour of included evidence in the synthesis[37]. Pawson suggests that relevance in realist appraisal means adjudicating content of articles to determine how and in what ways they are relevant to the research questions and theoretical framing of the inquiry. An included primary study in a realist synthesis need not be appraised in its entirety, but rather the specific parts of the paper should be subject to scrutiny[37]. Therefore, we searched articles for causal insights that could be retrieve anywhere in the publication. These insights were extracted to the appraisal journal and reviewed by the whole team. Appraisal journaling was introduced to the team by co-author (JJ) for this study as a step to be conducted before the full analysis involving context-mechanism-outcome configurations. A general process for the appraisal journaling included the following steps:

1. The full paper was first read and annotated.

2. A new MS Word document was created for the journaling exercise. Title and abstracts for papers were imported into that document.

3. Using a free-write approach, one member summarised any important insights from the paper along with additional thoughts in a reflexive manner after reading the full text.

4. The wider team then added their own free-thinking insights, expertise and NHS experience, providing challenge and counter arguments. This second-layer 'journaling-on-journaling' became an on-going written dialogue amongst team members and served to build the analytic process, including notes to link theory and ideas from papers. An example of a journal entry is found in Appendix 7.

5. Subsequently parts of the journaling were progressed to an analysis document, including key direct quotes from papers and from there CMO configurations were drafted. Links across papers were made at this stage, with a specific focus on building ideas around tensions in the healthcare delivery architecture (see below).

6. After journaling, full-text papers were revisited as needed, to investigate whether insights were fully captured and to test developing analysis against new or different insights.

4.3: Data Extraction

Extraction of important insights began in the journaling which informed our analytical thinking alongside journaling content. The first draft of the synthesis was based upon a small sample of the papers (n=15, 5 for each profession) and included CMO configurations built from data extractions and insights from the journaling process. Subsequent papers were journaled in batches and then folded into the existing analysis. Team members (JJ and CT) read and re-read papers in tandem with the emerging analysis to ensure that papers containing causal insights were not missed on the first read. Second and third reading of papers was beneficial over the course of building the synthesis to identify and sometimes fill gaps, in particular in looking across the three professions.

Step 5. Synthesising the Evidence and Drawing Conclusions

The literature synthesis began in the journaling stage (as described above). The journal entries were incorporated into the analysis document by: (a) editing the free writing to improve quality; (b) removing extraneous text; (c) incorporating important journaling insights from multidisciplinary team members; and (d) re-visiting primary literature for further reflection, and possible data extraction. Through team discussions, co-produced appraisal journaling and expertise in psychological ill-health and realist methodology, the team agreed to look for 'tensions' in the healthcare service architecture to understand the causes and solutions to workplace psychological ill-health.

This idea was then advanced from initial insights drawn from the papers (key findings, possible interpretations of findings and rival explanations) triggering further team contributions leading to confirmation, challenge, and new rival theories. We then studied all papers to reveal the (sometimes hidden, sometimes explicit) tensions in the health service architecture that were associated with healthcare staff psychological ill-health and extracted all instances in which a tension was identified. This helped reach an ontologically deep understanding of the causes and thereby solutions to workplace psychological ill-health and to meet the expectations of a realist synthesis to go beyond a surface view of the evidence.

We continued to build, revise, and at times consolidate CMO configurations, using this theoretical framing to provide analytical clarity on the complex evidence in the dataset. At our third key stakeholder meeting in January 2022, we introduced a sample of these 'tensions' to receive expert feedback and member check the analysis. Key stakeholders provided endorsement and expressed enthusiasm for the approach. Refined and revised tensions were then shared at the fourth stakeholder meeting in May 2022, where feedback from group members was that these were important and resonated with their experiences.

5.1 Analysing the literature in stages

After the initial set of papers had been synthesised from the database search, subsequent journaling and analysis of reports (n=7), literature reviews (n=29); and middle-range theories (n=14) was undertaken. As more content from papers was added to the analysis, the headings were re-organised and CMO configurations expanded and modified to account for full range of data entered to the analysis.

The COVID-19 papers were also journaled using the appraisal journal technique and drafted into a separate analysis (Appendix 4). The aim of this work was to extract key insights in relation to the abrupt changes brought on by the 2020 global pandemic. In terms of the health service architecture, the COVID-19 analysis reflects considerable changes in service architecture, such as the sudden surge in intensity of healthcare delivery, sharp changes in resources and protocols, and new interventions to improve conditions for nurses, midwives and paramedics given the difficulties of pandemic-era health service delivery.

5.2 Stakeholder Group contributions to analysis

Four stakeholder meetings were held during the review (December 2020, June 2021, January 2022 and May 2022). All meetings were held virtually (using zoom) and included some core research team members (at minimum CT and JM) and Diana Bass, a psychotherapist whose role in the study was to provide psychological support to stakeholders should it be needed. Overall, these meetings provided confirmation that our developing analysis was resonating with stakeholders and provided suggestions regarding important areas to extend or improve our emerging analysis. Some alternative theories and

challenges were also shared, which aided our thinking. All meetings (except the first where personal stories were shared) were recorded (with permission from all attendees), and meeting conversations and entries into the 'chat' function and on online whiteboards (Padlet, enabling anonymous contribution) were transcribed and reviewed in relation to the analysis to enrich and provide further support or challenge to the analysis. All stakeholders provided permission for their contributions to be used in this way and contributions have been paraphrased and included anonymously in this report. Stakeholder meetings comprised a mix of presentation from the work-in-progress analysis as well as participants sharing stories and insights from their personal experience (see Table 5).

Meeting# (Date)	Number of attendees	Composition N=nurse; M=midwife; P=paramedic	Activity relevant to data collection and/or analysis
1 (Dec 2020)	20	Stakeholders: 20 - 10 staff by experience (5N, 3M, 2P) - 1 lay member - 9 other (e.g. Royal Colleges, Regulators) +Diana Bass	Three of the Stakeholders (a nurse, midwife and paramedic) shared their own particular poignant and traumatic experience story about *'The day I questioned why I had chosen my profession.'* The rest of the group shared their reflections on the stories including common themes that they felt linked them in relation to causes of poor psychological ill-health and any specific issues related to the individual professional groups. This included: unpredictable/unexpected events; lone working; and wearing a professional 'mask' to protect self.
2 (June 2021)	24	Stakeholders: 24 - 10 staff by experience (5N, 3M, 2P) - 1 lay member - 13 other + Diana Bass	Subsequent to providing a progress update, including feedback and analysis of the stakeholder group contributions from meeting 1, the emerging 'tensions' were presented to the group for discussion. We also discussed the emerging findings about the existence of both "formal" and "informal" Interventions and asked stakeholders to think about and tell us: what has worked for you and why and how? In relation to wellbeing support.
3 (Jan 2022)	19	Stakeholders: 19 - 7 staff by experience (3N, 1M, 3P) - 1 lay member - 11 other + Diana Bass	Subsequent to providing a progress update, a short reminder regarding realist methodology was provided followed by an updated revised analysis of the 'tensions' presented as five key dilemmas – including draft C-M-O's. Attendees also asked to help us with diversity in our group (age, gender, ethnicity, disability etc).
4 (May 2022)	17	Stakeholders: 17 - 9 staff by experience (3N, 2M, 4P) - 1 lay member - 7 other + Diana Bass	Discussion on (a) the importance of terminology regarding psychological ill-health of healthcare staff; (b) key findings to date including a focus on three of the key tensions; including discussing the lack of intersectionality present in the literature, including menopause. Support for resonance and importance of uncovering the tensions. (c) comment on ideas for translating findings into recommendations and resources. Ideas were presented and discussed.

Table 5 Summary of Stakeholder Meeting Activity

Developing Outputs

Our study outputs are in development, but we have developed recommendations for research, practice and policy (see Chapter 7). We worked with our stakeholder and advisory groups to turn our findings into recommendations and turn recommendations into practical guidance. This work is ongoing and due to be reported in December 2022. We held two advisory groups, during the study (September 2021 and August 2022) and members provided academic input, lived experience and project oversight and governance. At our final advisory group in August 2022, we built on the responses from our stakeholder group in May 2022 to our suggested resources and presented refined ideas for comment and critique which aided further refinement (see Chapter 7). We have also used the Consolidated Framework for Implementation Research[65-67] to identify and attempt to mitigate implementation challenges in relation to the resources.

Ensuring rigour

Analytical rigour was supported by a number of strategies within the review process. This included:

a) the inclusion of empirical papers, grey literature, editorials and commentaries, reports and stakeholder as data sources to triangulate findings and create a robust analysis;

b) use of the RAMESES reporting guidelines (see Appendix 8) to ensure rigour in the conduct and reporting of this realist synthesis;

c) whole-team appraisal engagement in reading papers, journaling-on-journaling that identified and confirmed the most important insights regarding tensions in the healthcare architecture to inform data analysis; and built on healthcare psychological ill-health knowledge and expertise in the group, resulting in incorporation of wider relevant literature and middle-range theory;

d) a rigorous audit of the analysis conducted by team members (JM) and (CT) to ensure transparency from original source documents to the emergent tensions, including cross-checking consistency of key messages with the quotations/extracts used to

inform analysis and CMO configurations, and searching across nurse, midwife and paramedic sources to ensure analysis was supported within the included literature;

e) consulting with the CUP-2 advisory and stakeholder groups on the relevance and richness of the analysis and receiving strong consistent messages from these groups that the analysis was relevant, important and provided new and needed insights.

Summary

Realist methodology was used to search, identify, appraise and synthesise the literature in relation to our aims to reach an ontologically deep understanding of causes and interventions to mitigate psychological ill-health in nurses, midwives and paramedics. Due to the broad mandate of this review, and the potential for locating insights across a diversity of literature in nursing, midwifery and paramedic professions we used reverse chronology quota screening for the first round of database searching followed by more specific supplementary searching strategies including hand searching journals and inviting expert solicitation of key papers. This was supplemented by literature reviews, and separate searches focussed on COVID-19. The appraisal journaling technique permitted the multidisciplinary team to extract key insights, build on existing knowledge of literature and the NHS, and use these insights to formulate CMO configurations. Multiple rounds of analysis in consultation with stakeholders, generated insights into a wide range of tensions facing nurses, midwives and paramedics and a range of interventions that might support their workplace psychological ill-health and wellness.

Chapter 3 Results: Characteristics of included literature sources

The searches described in Chapter 2 resulted in inclusion of a total of 204 papers through cycles of searching and synthesis as described in the Methods chapter and illustrated in the PRISMA flowchart (Figure 1).

This included 75 papers in the first cycle of electronic database searches: 26 Nursing; 26 Midwifery and 23 Paramedic; 7 key reports; and 29 literature reviews (Appendix 9) and 49 COVID-19 focussed papers, reports and literature reviews (Appendix 4).

Of the 75 papers included in the first cycle of searches, 35 were empirical papers (*18 nursing, 10 midwifery and 7 paramedic*) and 40 non-empirical (e.g., editorials, commentaries and other types of papers and grey literature) (*8 nursing, 16 midwifery, and 16 paramedic*). Across all 75 papers, 15 focussed predominantly on causes (*6 nursing, 4 midwifery, 5 paramedic*); 38 on interventions (*12 nursing, 16 midwifery, 10 paramedic*); and the remaining 22 papers focussed on both causes and interventions (*8 nursing, 6 midwifery, 8 paramedic*).

The included literature reviews were a range of different types of review, including systematic, narrative, integrative and scoping reviews (Appendix 9).

Step 1A: key reports

Key Reports identified through experts	
Retained	7

Step 2a: searches for non-COVID literature; including

supplementary searching and expert input

Database title and abstract screened using RCQ			
	Nursing	Midwifery	Paramedics
Captured	1304	88	79
Screened	235	59	70
Retained	30	19	7

Title and abstract screened using hand searching key journals			
	Nursing	Midwifery	Paramedics
Screened	0	59	70
Retained	0	11	23

Totals after RCQ using database and hand searching			
	Nursing	Midwifery	Paramedics
Retained (n=75)	26	26	23

Literature Reviews	
Retained	29

Additional papers included from Expert Input (n=44)	
Retained	44

Step 2b: searches for COVID-specific
literature (See Appendix 4 for COVID-19 results and tables)

COVID-literature	Nursing	Midwifery	Paramedics	General
Captured	1505	85	2713	
Screened (title/abstract)	80	85	158	
Retained (after full text review)	7	8	5	
Transferred from initial searches	1	0	2	1
TOTAL from electronic searches	8	8	7	6
Expert input	4	0	0	15
TOTAL n=49	12	8	7	22

Title and abstract screened for COVID-19 search

Total included papers/reports	
Step 1a	7
Step 2a	75+29+44
Step 2b	49
TOTAL	204

Figure 1. PRISMA Diagram for CUP-2 Screening and Selection of Papers

Chapter 4: What are the causes of psychological ill-health in nurses, midwives and paramedics? A descriptive analysis

Introduction

This chapter reports on the 'causes' of poor mental health in nurses, midwives and paramedics, based upon descriptive analyses of the included literature. The overarching aim of our study was to understand 'when' and 'why' nurses, midwives and paramedics develop psychological ill-health at work and identify which nurses, midwives and paramedics are particularly affected ('who') in which specific contexts. This chapter is intended to provide descriptive analyses of the causes evidenced in our included literature to provide context for the Realist Synthesis of the included literature (Chapter 6).

Our approach to understanding the causes of psychological ill-health is bio-psycho-social-cultural. We acknowledge that work-specific causes are only one part of the explanation for the development of psychological ill-health but they are the focus of this project, due to their potential power in explaining the excess levels of psychological ill-health in nurses, midwives and paramedics compared to the general population.

Decades of occupational stress research has confirmed the relevance of demand, control and support at work, as well as relationships, role clarity and how organisations manage change [64, 68, 69]. These features of work predict job stress in many different occupational settings, cross-culturally and internationally, and in turn job stress is a strong risk factor for psychological ill-health at work. The strong evidence supporting the relationship between these features of work and psychological ill-health led to them underpinning the UK Health and Safety Executive Management Standards on Stress, which provides resources for risk-assessing and reducing work stress[70]. It is therefore not surprising that, in the literature about causes of psychological ill-health in nurses, midwives and paramedics, there is much discussion of these features. To advance our understanding still further and account for contextual differences, including within and between the different health professions, various authors have highlighted the need for research that takes different working environments into account (e.g., [25]). In this chapter we have attempted to address the limitations of previous systematic reviews and reports to:

a) describe the differences in demographic, structural features of work (service architecture), and wellbeing indicators between nurses, midwives and paramedics, and also compare to doctors to build on previous work (CUP-1[17]);

b) provide a more detailed and nuanced understanding of why psychological ill-health develops in nurses, midwives and paramedics;

c) examine the literature to understand better 'who' is at risk and 'when' including identifying the differences within and between our three professions of nurses, midwives and paramedics, going beyond demographic and individual characteristics to also consider the impact of different work environments.

Please see Chapter 2, Section 4.1.4 for the methods.

Results

Aim a) to describe the differences in demographic, structural features of work (service architecture), and wellbeing indicators between nurses, midwives and paramedics, and also compare to doctors

We extracted and compared key demographic, service architecture (structural features of work) and wellbeing indicators for nurses, midwives and paramedics, as well as doctors. See Chapter 2, Step 1B for methods of the critical review we undertook, and Appendix 3 for the full publication[4]. Key differences that we found between the professions, that may be important to fully understand causes and interventions to mitigate psychological ill-health include:

- **Demographic:**
    - Gender: Nursing and midwifery are female-dominated, whereas doctors and paramedics are more balanced. Various social and economic factors (e.g., being more likely to take on caring roles, live in poverty and experience domestic abuse) can put women at greater risk of psychological ill-health.
    - Age: Nursing, midwifery and paramedic science have ageing populations – this 'demographic timebomb'[71] means many experienced professionals will be leaving the profession in the coming years.

- o Ethnicity: There is greater diversity among doctors and nurses than midwifery and paramedic science. Those with lower diversity have higher vacancy rates.
- **Service architecture:**
  - o Turnover and retention remain problematic in all professions.
  - o Nearly half of doctors were consultants, but much smaller proportions of staff held high grade/band roles in nursing, midwifery and paramedic science.
  - o Salaries were higher for doctors. There are significant gender and ethnicity pay-gaps across all professions.
- **Wellbeing:**
  - o All reported high job stress, particularly midwives and paramedics.
  - o Sickness absence rates for nurses, midwives and paramedics were three times those of doctors, and presenteeism nearly double.

We concluded that socio-cultural factors known to increase risk of psychological ill-health may explain some of the differences between professions and that these factors should be considered when designing strategies to improve wellbeing. Other key recommendations are included at the end of this chapter, and in Chapter 7.

Aim b) to provide a more detailed and nuanced understanding of why psychological ill-health develops in nurses, midwives and paramedics

In this section, we consider each of the HSE domains in turn, describing the nuanced causes that sit beneath each domain.

Demands

The 'demand' causes identified in the literature were analysed and synthesised into nine distinct (albeit overlapping) 'demands' that were present across nursing, midwifery and paramedic literature (Table 6). Unsurprisingly this included the well-reported *staff shortages and high attrition* in the professions (as reported above, within aim a), which could have knock on implications. For example, one nursing paper focussed on newly qualified nurses[72] highlighted that this can mean working regularly with temporary staff (bank or agency staff) and/or being moved to other units (impacting on teamwork and

collegiality as well as knowledge of the systems and patients), and that such shortages can often mean being the only registered nurse on a shift, leading to feeling "*vulnerable, and their units unsafe*"[72](p3). Another commonly cited demand is having an **unmanageable workload**, relating to staff shortages and plugging gaps, but also from increased demands for care. This is 'measured' more easily in some settings than others, for instance for paramedics there has been a well-documented increase in call volume over recent years [73, 74]. In one review, the pressured decision-making and delivery of sometimes complex interventions in this context was cited as a key cause of psychological ill-health[35]. In a narrative review of impact of power and hierarchy on staff safety maternity services, one of the key themes was '*dangerous workloads*' (p432) being linked to exhaustion, inflexibility, lack of breaks, low morale, poor communication, and poor management[75].

Relevant to all three professions is the increasing move to **working long shifts** (12-hour shifts being increasingly the norm), and these long shifts were reported to often include very few opportunities for breaks (and/or unpredictable break patterns and times). Workplace culture means nursing and midwifery staff "*tend to miss their breaks because of feelings of guilt, responsibility to colleagues or a sense that they are being most effective if they skip breaks*" [30](p55). The nature of paramedic work frequently means unpredictable finish times, long hours driving and unpredictable breaks[22]. However, literature reviewed by Ejebu et al[63] suggests nurses often prefer working longer shifts attributing this to a greater work-life balance, higher numbers of days off and opportunities for greater continuity of care. Cull et al[76] found likewise for midwives], though Ejebu et al[63] concluded that despite this the shift patterns were "*often organised in ways that are detrimental to nurses' health and wellbeing, their job performance and the patient care they provide*" (p1), reporting that whilst days off might mitigate the adverse impacts of shift working, the impact varied according to personal characteristics and circumstances of the nurse. **Inadequate work-life balance** was reported across all three professions, being a key impact on recruitment and retention of community adult nurses in one review[61] impacting on family-life in a paramedic review[77], and cited as a key stressor in the Work, Health and Emotional Lives of Midwives (WHELM) report[78]. Recent literature tended to focus more on arguing for the need for 'time' (for individual self-care and/or family activities) and thereby work-life balance is implied rather than explicit. The culture of **'serve**

and sacrifice' (see Chapter 6) was highlighted within all three professions, described in one midwifery review as a "*culture of giving 100% …is a positive attribute but can be used negatively to persuade compliance to institutional needs*" [79](p3), and in a nursing paper as "*Nursing guidance, policies, reports, the media and nursing colleagues instilled the notion that patients take priority. Whilst this was important for the role of a nurse, it was often interpreted in isolation without consideration of the nurse's own needs, which were pushed aside in favour of others*".[80](p2).

It was perhaps not surprising that **repeated exposure to trauma** was mentioned in nearly all paramedic papers, but exposure to trauma and distressing incidents was also highlighted in many midwifery and nursing papers, and was the focus of a narrative review regarding secondary traumatic stress in emergency nurses[81] (see Table 6). In one of the paramedic papers this exposure was described as an expected part of the job[33] and in another, that there was "*no way to avoid seeing sights that are difficult*"[82](p225). One literature review reported predictors of post-traumatic stress disorder (PTSD) including the frequency and type of trauma exposure (e.g., proximity), and whether the threat to the worker was direct or indirect[21]. Arguably a sub-component of exposure to trauma, although this could also be considered a separate stressor, is **'experiencing death'** mentioned in papers for all three professions. Again, the impact of 'death' is often minimised due to being an expected part of the job and often only acknowledged as requiring support when it is unexpected (e.g., in the case of neonatal death) or particularly traumatic, or in the case of students or newly qualified staff when it may be their first experience of death and so not yet normalised[83, 84]. The **cumulative experience of stress** (rather than just acute traumatic episodes), and the **emotional labour** of healthcare work caused by having to regulate emotions and remain 'professional' (called 'wearing a professional mask' in our stakeholder group) were cited as causes of psychological ill-health cited within papers across all three professions (Table 6) and discussed in more detail and with a realist lens in Chapter 6.

Profession-specific "demand" causes

There were some demand-related causes that were perhaps more profession-specific. One of these was **working "on-call"** (with unsociable hours), reported in a midwifery paper[85] and a review article [86], the latter reporting findings from a Cochrane review of flexible

working hours[87] that found although negative experiences of 'on call' were reported, the midwives who worked on call had lower burnout scores. The authors attributed this to midwives 'caseloading', which provided opportunities for continuous care, building relationships with women and having autonomy over their work schedule. On-call working is common in medicine, but across our three professions is more likely in midwifery and - to our knowledge- not a model commonly used in nursing or by paramedics, though the role of the paramedic is rapidly expanding to many settings including general practice, minor injuries units, and accident and emergency departments (#not all paramedics wear green[88]), where on-call working may be more common. The impact of working 'unsociable' hours is relevant across all three professions due to the inherent need for healthcare delivery to be 24:7.

A feature of work highlighted as a cause of psychological ill-health (or at least work stress) was the *lack of continuity* of knowledge about patients' health/wellbeing after being involved in their journey. This was specifically mentioned in a nursing paper about Liaison Psychiatric Nurses[89] but is the nature of the job for paramedics who may care for and transport patients to hospital but not know the patient outcomes beyond this point. One paramedic paper also reported that the high numbers of *unnecessary call-outs* they have to respond to as a negative component of work, meaning that they cannot be elsewhere where they may be in greater need[56]. Another paramedic paper described "*heavy cognitive load*" due to the need to make rapid decisions, leading to a reliance on stereotypes and implicit bias[90], which whilst not mentioned in nursing or midwifery papers, is likely to be similar in other fast paced 'critical care' environments such as labour ward for midwives, and A&E/critical care nursing. Indeed, in a recently published framework of nursing work, cognitive labour is one of four types of nursing work (alongside physical, emotional and organisational labour)[91]. Paramedic-focused papers referred to feeling physically and emotionally drained because of their working conditions and environment[92, 93], and also the *high risk of sustaining a work-related injury* (e.g., physical or psychological abuse, and concerns about the financial and psychological implications of sustaining an injury)[94]. One of the nursing papers mentioned the Francis Report and nursing being a *"profession under scrutiny"* [95] as an aspect of the culture of nursing/healthcare that places additional pressure on individuals. Whilst not present in any

midwifery or paramedic literature in this review, the recent Ockenden Review (midwives,[96]) and the media focus on the consequences of growing ambulance waits[97, 98] makes it unlikely that this is a stressor unique to nurses.

Control

As expected, lack of control or autonomy was a key 'causal' factor in many of the included papers across all three professions, with nurses[99], and midwives[75] described as experiencing "powerlessness"[99](p285) and "helplessness"[75](p432). Autonomy is one of the three core work needs in the ABC framework proposed by Michael West in a report about how to support high quality care delivery by nurses and midwives[30]. When health professionals can control how they spend their time/how much time spent with patients, how they organise or control their workspace, and/or control over access to patients, this in turn can often relate to work satisfaction and staff being able to deliver the quality of care they want to deliver. Some also cited feeling controlled as causal factors of psychological ill-health – both by the 'politics' of the organisation in which they worked or the wider healthcare system (i.e., administration, excessive paperwork, bureaucracy, inflexibility), and also by individuals (most often managers): "*I felt very much under the control of management*"[34](p27). n one midwifery paper[100], having autonomy regarding how to manage their midwifery unit was highlighted as a key protective factor, supporting earlier work (e.g., [101]), and midwifery papers also highlighted a preference for midwifery-led models of care (where midwives have a caseload of women and can provide continuity of care[102]. Across all three professions, the lack of control over working hours and shift patterns was regularly cited as problematic, with papers describing the subsequent impact on friendships, family life and hobbies/interests (e.g.[30, 76, 77]). There were no profession-specific 'control or autonomy' features emergent in the literature.

Support

Not feeling supported and/or valued was a key cause highlighted in papers across all three professions. ***Lack of support*** related mostly to poor support *from* leadership/managers and organisational-level support, with one paramedic paper stating that it was a lack of confidence in support from employers that led paramedics to self-refer to their

regulator[103]. However, one nursing paper highlighted the lack of support *for* leaders (senior nurses): *"[it is] quite lonely at the top when you have no one to speak to"* [104] (p8), and a paramedic paper described the culture as sometimes being unsupportive if a colleague was struggling, referring to the military background of the profession and that there was consequently a very low tolerance for low standards amongst peers[105]. In one midwifery paper, midwives described feeling invisible and not being acknowledged[75] and another referred to the harsh mentorship they had received and lack of kindness from managers/mentors[106], with a third describing how midwives felt *"scrutinised rather than supported by management"*[76](e553). However, that same paper also describes how midwives in senior positions gain satisfaction from supporting others.   Across all three professions, the lack of support when undergoing investigation or complaints processes was also highlighted [see Chapter 6 where this is discussed in more detail].

A relational-cultural cause mentioned in papers across all three professions was the ***stigma*** around talking about psychological health difficulties and accessing support. This was particularly prevalent in paramedic papers where it was stated that "*disclosure of vulnerability in such a culture was perceived as a weakness*" (p9) and that the macho culture perpetuated not talking about mental health[18]. One paper talked about the bravado or stigma attached with the job "*we all like to think we are infallible. We are there to support the public in [their] time of need, but we tend to not ask for help ourselves*"[82](p226). All three professions described their concern that disclosing mental health difficulties may have a negative impact on their careers. One report highlighted that staff were particularly unlikely to access support services if situated in their own place of work and have concerns about confidentiality where staff are unable to self-refer[25]. A common theme in the midwifery and paramedic literature (as they were more likely to discuss exposure to trauma) was the ***lack of space and/or time to debrief*** after experiencing trauma (or generally having inappropriate support for this). One nursing paper[84] described 'disenfranchised grief' for the way nurses may be made to feel after the death of a patient – that it was not their 'place' to feel loss or to grieve. Together with lack of spaces and/or time, across all three professions ***the lack of attention paid to basic 'hygiene' needs*** was highlighted (e.g., parking, food, water, bathroom breaks)[9, 30, 34, 76], with one report[78] stating that this "*appears to have become an accepted part of everyday practice*".

Profession-specific "support" causes

Lone working was a specific (negative) feature of work mentioned in three nursing papers that focussed on specific types of nurses (Clinical Nurse Specialists for chronic conditions[107]; Emergency Nurse Practitioners based in minor injuries units[108]; and Children's Community Nurses based in rural or remote areas[109], but this "cause" is also relevant to any nurse, midwife or paramedic that works predominantly on their own (e.g. Critical Care Paramedics who may spend most of their shift in a car on their own except for when attending incidents with other crews on scene; and nurses and midwives in rural/remote areas with a community caseload who may not often see their team members).

Relationships

Having **poor relationships with colleagues** and/or incivility and bullying was highlighted in papers across all three groups as being a causative factor for psychological ill-health [e.g., [9, 34, 75, 110]. In one midwifery review, they referred to the "*cultural normalisation of dysfunctional relationships*" [75](p433) to describe how such relationships have become expected and normalised rather than resolved. Such poor relationships can be within or between staff groups: in the midwifery literature, there was reference to challenges in multi-professional relationships within teams or clinical areas in particular their relationships with obstetricians[76], as reflected in several high profile maternity reviews[96, 111], and in the nursing literature one paper described tensions between palliative and non-palliative staff[104].

Profession-specific "relationship" causes

With regard to relationships with patients, whilst the nursing and midwifery literature was more likely to refer to the emotional impact of having empathic relationships with patients (e.g. [112]); in the paramedic literature the focus was on **fear of assault and/or abuse** from the public including physical abuse, intimidation, and sexual harassment. One paper described the physical and emotional stresses being common occupational hazards for

paramedics[93]. This aspect of work was also reported in a paper focused on nursing in secure forensic units[113], and emergency nurses in A&E departments[23].

Role

Newly qualified staff were a main 'at risk' group, identified particularly in the nursing and midwifery literature. The transition from being a student to being newly qualified is described as a **"transition shock" or "reality shock"** [114, 115]. One paper[72] refers to nurses being uncertain about their competence, unrealistic expectations from managers and not wanting to make mistakes; and another[116] describes feeling unprepared. A related theme in the nursing and midwifery literature is **values incongruence** (also described as a 'theory-practice gap'): whereby the work environment does not enable staff to practice how they thought they would and want to (e.g.,[30, 117, 118]). Issues in relation to **role boundaries or clarity** were mentioned across all three professions, some referring to lack of understanding of role by others generally (e.g., lack of understanding of nursing work by others[119]; unclear boundaries between midwives and colleagues[120]; or in relation to particular sub-specialisms such as emergency nurse practitioners feeling they had blurred role boundaries with doctors and advanced practitioners[108]; prison nurses being a new /young specialty and describe feeling invisible: "*literally hidden away from the world. This physical 'hiddenness' appears to translate into a professional 'hiddenness'*"[53](p163). In the paramedic literature, a conference abstract referred to the conflict that managers feel between their varying roles as "*manager, clinician, peer, referrer, adjudicators, parent figure, appropriate person and challenger*"[57](p44), and the tension between performance management and staff support roles. **'Role Intensity'** was described in a nursing-focussed literature review[121] to capture the stress of work that goes beyond quantitative workload e.g., satisfaction with workload, impact of disease acuity. In a blog, one midwife stated: "*Many times I have cared for someone and thought 'this is edging the limits of my training here'*"[122](p398) describing the intensity caused by increasingly complex care needs due to the changing maternity population (e.g., women having babies later in life, high prevalence of obesity and associated health conditions, and women with more severe pre-existing health conditions having babies). There were no profession-specific 'role' causes evident in the literature.

Change

Organisational changes in healthcare provision, and in particular poor management or communication in relation to change – as well as the constant and rapid changes – was a cause of psychological ill-health reported across all three professions. This included the frequent changes in clinical practice reported in neonatal settings, due to medical advances[123]; the need for greater involvement in change implementation – particularly in more junior frontline staff - to reduce sense of 'powerlessness' and aid successful implementation of changes in acute mental health wards[89]; and for paramedics, the ongoing changes to the scope of their role, and organisational and management changes having key impacts on psychological wellbeing[22]. In the King's Fund report[30] the hierarchical structures in healthcare were described as inhibiting "*voice and influence*" (p37), and in the WHELM report[78] management were described as making changes as "*knee jerk reactions to problems*" and "*not listening to the staff … and valuing the resources that they have in their collective knowledge, skills and care that they give to women and each other*"[78](p24).

Risk factors for work-related stress (HSE Management Standards*)	Specific 'cause'	Exemplar papers where cause has been cited	Profession-specific causes N = Nurses; M = Midwives; P = Paramedics
Demands (workload, work patterns, work environment)	Staff shortages and high attrition	[9, 22, 30, 34, 72, 78, 117]	Working on-call (**M**:[85, 86] Lack of continuity of care (**N**:[89]Liaison Psychiatric Nurses, and **P**) Unnecessary call-outs (**P**:[56]) Heavy cognitive load/rapid decisions (**P**: [90] and **M** labour ward/home delivery; **N** emergency and critical care) High risk of sustaining injury (physical and psychological) [**P**:[94], likely to be similar in **N**:forensic/mental health settings and emergency nurses [23]) Being a profession under scrutiny [**N**: [95]]
	Pressure of work in service in which demand continues to increase/unmanageable workload	[35, 63, 73, 75, 80, 95, 99, 102, 119, 124]	
	Working long shifts with no/few breaks	[9, 22, 56, 63, 73, 76, 79, 102, 120, 125, 126]	
	Inadequate work-life balance	[61, 75, 77, 78]	
	Serve and sacrifice	[79, 80, 82, 84, 127]	
	Exposure to repeated episodes of trauma	[21, 33, 59, 63, 81, 82, 84, 108, 112, 120, 122, 128-130]	
	Experiencing Death	[83, 84, 123, 131]	
	Prolonged/cumulative stress	[35, 77, 81, 132, 133]	
	Emotional labour	[77, 84, 104, 113, 134]	
Control (how much say in the way you work)	Lack of control/autonomy	[30, 34, 63, 75-77, 86, 99, 100, 102, 124, 132]	
Support (encouragement, sponsorship and resources provided by org, line managers and colleagues)	Not feeling supported/valued	[75, 76, 79, 95, 103-106, 117, 135]	Lone working (N:[107-109]- community/remote; P: Critical Care Paramedics)
	Stigma	[18, 25, 82, 95, 103, 135-138]	
	Not having space/time to debrief after trauma or having inappropriate support	[9, 30, 73, 82-84, 120, 129]	
	Not having basic 'hygiene' needs met	[9, 30, 34, 78]	

Relationships (promoting positive working to avoid conflict; dealing with unacceptable behaviour)	Poor relationships with colleagues / incivility / bullying	[9, 25, 30, 34, 75, 76, 79, 84, 104, 110, 117]	Fear of assault/abuse from public/patients (P: [93] but also N and M in some settings, e.g. emergency nurses [23]; secure forensic [25, 113]
	Challenging relationships with patients, public, clients	[23, 83, 93, 94, 112, 113, 123, 139]	
	Not feeling able to speak out	[9, 75, 77, 79, 103]	
Role (clarity, not conflicting)	Transition shock/Reality shock (newly qualified)	[25, 58, 60, 72, 79, 95, 116, 140]	None found
	Values incongruence/theory-practice gap; moral distress	[30, 63, 79, 117, 118]	
	Unclear role boundaries/clarity	[25, 53, 57, 63, 108, 120, 141]	
	Role intensity	[22, 108, 121, 122]	
Change (organisational change management and communication)	Not being involved in change	[22, 25, 30, 32, 78, 89, 123, 142]	None found

*HSE Management Standards https://www.hse.gov.uk/stress/standards/

Table 6. Causes of psychological ill-health for nurses, midwives and paramedics

Aim c) to examine the literature to understand better 'who' is at risk and 'when' including identifying the differences within and between our three professions of nurses, midwives and paramedics, going beyond demographic and individual characteristics to also consider the impact of different work environments

Who is most at risk?

Individual characteristics

There have been many quantitative observational studies that have attempted to measure risk factors for burnout/psychological ill-health including individual predictors such as demographic factors. Methodological differences in measures and poor-quality studies make these challenging to synthesise but in general it is accepted that demographic variables are poor predictors of work-related psychological ill-health (e.g., [25]).

The exception to this is ***ethnicity, sexual orientation and/or gender identity, and disability***: there is now increasing evidence, not least from the NHS Staff Survey and recent COVID-19 pandemic, that healthcare staff from ***ethnic minority groups*** have greater exposure to aspects in their work that place them at greater risk of psychological ill-health. This includes that they are more likely to report experiencing physical and verbal abuse (from patients and relatives, have higher presenteeism rates, and are more likely to report working additional hours, as well as other inequities such as pay and promotion[9, 25, 126]. The HEE NHS staff and learners' mental wellbeing commission[9] reported that additional risks for psychological ill-health existed for ***LGBT+*** and **disabled staff**. For staff identifying as LGBT+ the commission reported a wide disparity of experience, with staff in some Trusts facing hostility and discrimination that severely impacted their psychological health, and that many staff hid their sexual orientation for fear of bullying. A specific service architecture feature highlighted was the impact of rotational placements and/or lack of permanent team structure that exists in much healthcare provision, leading to staff having to constantly decide if/when/how to disclose their orientation[9]. Disabled staff are also more likely to report bullying/harassment from colleagues than other staff, and in the WHELM report[78, 118] midwives identifying as having a disability had higher levels of burnout.

Aside from mention in the reports cited above, we found no papers that focussed specifically on ethnicity, sexual orientation, gender identity or disability; highlighting a major gap in our understanding of causes and interventions to mitigate psychological ill-health in these staff.

Professions and or sub-specialties that may be at greater risk of psychological ill-health

In the included literature, there are several sub-groups of the three professions that are presented as being at 'high risk'. However, it should be noted that there are lots of articles written from the perspective of a particular profession/specialty, making the case for specific challenging features of their profession/specialty (possibly to justify publication), though as can be seen in Table 6, few of the 'causes' identified are unique and can be applied across all three professions. Below are the some of the role/job related risk factors that have been identified in this review that may be worthy of further attention, particularly in relation to interventions.

Newly qualified nurses/midwives/paramedics

As mentioned earlier in this chapter, various papers discuss the 'transition' or 'reality' shock of being newly qualified and leaving student status behind and becoming a qualified health professional (Table 6, e.g., [79, 116]). In part this is due to a 'theory-practice gap' (see early in chapter and Chapter 6)([79, 118]), as well as a lack of confidence to speak out (when encountering bullying, lack of support, feeling out of control)[79]. One review describes newly qualified nurses only becoming 'insiders on the team' (e.g., accepted/valued) when they are viewed as capable[110]. Whilst many articles focused on the 'newly' qualified (first year or two of practice), evidence suggested that risks of psychological ill-health associated with being 'less experienced' continue for up to 10 years from qualification (e.g.,[86]).

Location: Hospital versus Community

There was a suggestion in some of the literature that working within a hospital setting placed staff at greater risk of bullying, harassment, abuse[85], but this contrasted with other literature that highlighted the social and professional isolation that professionals in the community may experience together with the distinct environmental risks from providing

care in the home or other non-clinical environments such as schools and thereby having fewer safeguards in place[109, 127].

Being a 'leader'

The issue of managers requiring support as well as undertaking the role of providing support was highlighted in a few papers (e.g.[104])

Working in an 'orphan' specialty (distinct, young or neglected)

There were several papers focused on individual specialties that highlighted the distinct nature of their work and often their feelings of 'invisibility', where there has perhaps been less research or policy attention. This included district nurses[127] and children's community nurses in rural/remote areas[109]. There are also 'new' professions (including paramedic science, existing since 1970s) or distinct sub-specialties such as prison nursing where there has been much less research. Prison nursing has various unique features, not least the need to balance caring versus custody, lack of understanding of the role by others, and poor visibility of the profession both within nursing and to the wider public[53]. There are likely to be other such 'orphan' sub-specialties omitted from the literature, and a gap-analysis should be undertaken to inform future research regarding causes and interventions.

Working with a 'high risk' patient group

Several patient groups were positioned as being particularly 'high risk' in relation to causing stress and psychological ill-health. This included:

- ***adult critical care nursing***[143] and ***end of life care***[84]: due to the emotional toll of exposure to death
- ***paediatric versus adult nursing***: evidence here was conflicting, but several papers described the greater impact of paediatric care. For example one paramedic paper describing a failed resuscitation attempt on a child saying "*certain calls would affect me more than others*"[82]; and a nursing literature review[126] describe paediatric nursing as positioning nurses at greater risk due to the high potential for empathic engagement and complexities in relationships with families[126] and a review of neonatal nursing also describing this emotional labour as being a key part of what

makes it a higher risk environment to work in[123] due to advances in medicine leading to longer hospital stays (greater emotional support for parents) and more ethical dilemmas relating to end of life care resulting in moral distress.

- *Mental health nursing*: papers focussed on nursing in mental health inpatient settings describe the volatile, fluctuating environments with highly distressed patients as distinct stressors[72, 99] and thereby higher risk of psychological-ill health. One paper focussed on burnout in high secure forensic psychiatric units, found rates to be comparable or lower than community or non-secure mental health nurses[144], suggesting perhaps that it is less about patient acuity and more about environmental factors linked to staff safety and support. However, a review of nursing in secure forensic mental health settings highlighted a unique feature of the environment relating to 'gender and sexuality': that although locked wards were single-sex, they had both male and female staff, which can sometimes leave female staff feeling vulnerable and marginalised[113]. Liaison Psychiatric Nurses[89] may also have distinct features that place them at risk due to exposure to people with high levels of distress in the context of pressure for quick turnaround, multiple interfaces, liaison with gatekeepers, and little or no continuity after discharge.

- *Chronic illness:* nursing provision for patients with chronic illness (for example inflammatory bowel disease[107]) was identified as a risk factor due to the increasing complexity of the treatment and management of patients, the emotional labour of the long-term relationship with patients, and lone working if they are the only specialist nurse in the hospital/setting.

- *Emergency nurse practitioners (ENPs):* Risk factors include[108] exposure to trauma, not being taught to deal with death (unlike doctors), blurred role boundaries and identity and being expected to practice beyond their scope. ENPs may also feel geographically isolated if they work in a minor injuries unit that are distant from a hospital.

'When' are nurses, midwives and paramedics most at risk of psychological ill-health?

Several timepoints were identified when nurses, midwives or paramedics may be at increased risk of psychological ill-health. As well as when newly qualified (covered above), this included:

After trauma exposure

Several papers, particularly in the paramedic and midwifery literature, focussed on the need for support and/or intervention after exposure to traumatic events or incidents (see Table 6). This is not surprising given the impact that such exposure is likely to have on staff and has been a major focus of some interventions (See Chapter 5). The priority placed on this, perhaps at the expense of a focus on cumulative 'lower grade' stress, is discussed in the realist synthesis chapter (Chapter 6). There is also discussion in some papers about the timing of such intervention and following NICE guidance[145] to ensure that intervention does not risk intervening with the natural process of recovery (risking development of Post-Traumatic Stress Disorder).

When under investigation and/or during complaints

The significant impact on staff psychological wellbeing of being under investigation or during complaints processes is described in a number of papers (e.g., [146];[147, 148]) and the role of the organisation and regulatory bodies in supporting staff versus ensuring safe patient care is described in depth in Chapter 6 where the tension between promoting staff wellbeing within a blame culture that focuses on the individual rather than collective responsibility.

Key Findings

- There are more similarities than differences in causes of psychological ill-health among nurses, midwives and paramedics.
- Some causes may be more prevalent or exacerbated in certain professions, or roles within profession (rather than being profession-specific). In most cases it is the service architecture that can increase risk rather than the profession itself.
- Some individual characteristics deserve greater focus in the literature to ensure greater understanding of causes and interventions. This includes ethnicity, sexual orientation and/or gender identity, and disability. Multi-level systems approaches

are required that consider intersectionality and structural differences between professions.

- There is a need for targeted interventions based on specific workplace settings/service architecture, to support particular staff groups, and at specific times when they may be at greater risk of psychological ill-health.

Chapter 5: Strategies and Interventions proposed for mitigating psychological ill-health in nurses, midwives and paramedics: A descriptive analysis

Introduction

This chapter reports on a descriptive analysis of the interventions that have been evaluated and/or are recommended to mitigate psychological ill-health in nurses, midwives and paramedics in our sample of included literature. Our aim is to provide an overview of the interventions in the included literature, and to provide a contemporary update on the focus of intervention research in nurses, midwives and/or paramedics in recent years. There have been many systematic and comprehensive reviews of workforce wellbeing interventions [e.g., [25, 149]], so the aim of this realist review was to build on that work and take a wider lens by including grey and non-empirical literature, which may identify different types of interventions and/or help explain why the existing evidence-based interventions are not yet making sufficient difference to the psychological ill-health of the workforce. Akin to Chapter 4, this chapter provides an overview and context for the Realist Synthesis of the included literature (Chapter 6) and starts to answer a key aim stated in our protocol: *To identify which strategies/interventions to reduce psychological ill-health work best for these staff groups, find out how they work and in what circumstances these are most helpful*.

See Chapter 3 for the methods.

In this chapter we aim to:
1. Describe the interventions that are evaluated and/or recommended in the literature, according to:
    a. their intended level of action: primary, secondary or tertiary (or multifocal).
    b. whether they are formal or informal interventions.
2. Compare the types of interventions evaluated and/or recommended in the literature according to 'type' of paper, and professional group (nurse, midwife, paramedic).
3. Assess the 'fit' of available interventions to the key causes identified in Chapter 3.

Results

The interventions were categorised according to their intended level of action (primary, secondary or tertiary) and whether they were formal or informal, though it was sometimes hard to attribute to these categories with confidence (Tables 7-10).

In addition to the data presented in Tables 7-10, some of the papers described 'negative' or dysfunctional solutions to workplace stress including leaving the profession[83, 147] or even suicide[82, 83, 122, 133]. Many also included mention of need for interventions for students/pre-qualification (e.g., [9, 34, 103, 150]), including the need for universities and NHS to work collaboratively to reduce the theory-practice gap[79] (see Chapters 4 and 6). Student wellbeing is outside the remit for this study, so these interventions are not included here, though are acknowledged as being an important focus for any strategy to mitigate mental ill-health in the healthcare workforce.

Very few papers described interventions that did not work or should not be used. This is not surprising given the likelihood of publication bias (negative findings being much harder to publish) but such studies would be extremely helpful. Commentaries and editorials were mostly focussed on what needed to be actioned and happen. Ineffective interventions included Critical Incident Stress Debriefing (CISD), reported as "*neutral at best and harmful at worst with respect to preventing PTSD*"[18]p2 due to interfering with natural recovery; and Psychological First Aid, which has been shown to have impact on raising awareness of psychological wellbeing, but not effective at changing behaviour[25], and argued to be simply "*not enough*" due to the multifocal approach required to tackle the systemic issues[119]p1. There was also debate regarding the utility of Occupational Health in being part of the solution, being described as "*rarely utilised and is seem by most members of staff as being for extreme cases*"[120]p21, and the SOM report acknowledged the low uptake (and need for more clarity about their role and processes) and called for occupational health staff to have "*training, resources and tools to meet the needs of staff*"[25]p8.

Aim 1: Describe the interventions that are evaluated and/or recommended in the literature

A total of 115 different types of interventions were either evaluated and/or recommended in the included literature. These spanned primary (n=52), secondary (n=46), tertiary (n=6) 'levels', and multifocal (n=11) interventions. A total of 71 of these were classified as being 'formal' interventions (including all tertiary and multifocal interventions) and 44 'informal' interventions (Tables 7-10).

Note: virtually all empirical reviews of interventions (and key reports) concluded with strong caution about the limitations of the evidence-base, being based upon studies that had weak designs and/or measures (e.g., lack of control groups, measures that had low reliability and/or validity) and inability to synthesise due to heterogeneity between studies.

The interventions are presented in Tables 7-10 and discussed according to their intended level of action below.

Primary Interventions

Formal

Formal primary interventions (Table 7) included several interventions with a pre-existing evidence-base that were **whole systems/healthcare models**, including the Buurtzorg Model[30, 119] (originating in the Netherlands, aimed at providing a devolved holistic care system where nurses have a flat hierarchy and autonomy to provide person-centred care across health and social care boundaries), and US Magnet Recognition Scheme, currently being evaluated in the UK[30]. Several papers also included reference to service/pathway models that enabled continuity of care and were associated with better staff wellbeing such as the 'Caseload' model in maternity[30, 86, 151]; and three 'good practice' organisational interventions aimed at addressing inequality[30]. Several sources across the nursing, midwifery and paramedic literature referenced **frameworks, toolkits or standards** to be used/followed/implemented in order to mitigate psychological ill-health. Some were profession-specific, such as a work-life balanced code of practice proposed by the now defunct, Larrey Society (Ambulance Service Think Tank, est-2017)[152] and others were NHS-wide, including the NHS Health and Wellbeing Framework[9, 25, 153].

Primary interventions also included those focussed on improving or changing **working conditions**, including tackling retirement barriers (e.g., reducing retirement age, allowing phased/partial retirement[82, 86], and financial barriers to recruiting/retaining the workforce[154]; and interventions that supported flexible working and/or gave workers more control over their work schedule[77, 86]. Several sources also referenced the benefit of or need for **policy level intervention**, including the Assault on Emergency Workers Bill[83] and "zero tolerance"[110] (to support safety of staff at work). In relation to **support and/or career progression**, several sources across all three professions described the provision of formal mentorship/community practice schemes[104, 109]; Only one training course was categorised at **'organisational' level** and that was 'Implicit Bias Training' recommended in an editorial focussed on tackling racism in healthcare provision and wider society[90]. At a **societal level**, two paramedic-focused editorials mentioned World Mental Health Day/World Suicide Prevention Day campaigns as ways of raising awareness of psychological ill-health in staff and/or encouraging action [83, 137].

Informal

There were many different 'informal' primary interventions recommended in the included literature (Table 7). By their informal nature, these usually lacked clarity regarding definition or content. These included recommendations for **culture change**: for the NHS to take responsibility as an employer for staff wellbeing; to create a supportive and/or positive workplace culture; for systemic change (including calls for changes in attitudes towards mental health, meaningful recognition of the importance of staff wellbeing, and systemic approaches to development and provision of initiatives that support better staff wellbeing and welfare) and role modelling, for example about the importance of self-care[95]. 'Good' leadership was a key recommendation or intervention in many included sources, with 'good' being described variously as collective, shared, compassionate, person-centred, authentic, relational, or sympathetic. Whilst leadership training could be a formal intervention, and formal leadership courses exist for NHS staff e.g., HEE NHS Leadership Academy[155], and Kings Fund compassionate leadership training[156], no such 'formal' interventions were specially recommended or described in the included literature. In relation to **frameworks**, one high profile report[25] described the need for organisations to have a policy for managing stress/staff mental health with an action plan and strategy for implementation,

highlighting the numerous previous 'recommendations' that have not been implemented as intended (or at all).

In the nursing and midwifery literature there were various recommendations for changes to **working conditions**, including the introduction of minimum standards for facilities and working conditions[75]; rotas based on realistic forecasting[30]; and the development of alternative roles to support nurses and midwives (e.g., admin support staff, maternity support workers)[30]. One paper (examining nursing staff experiences in high secure forensic mental health settings[113] argued for need for planned "*time-out of the setting*" [p2904] with high-frequency of violence/aggression, a suggestion that would be likely be equally applicable to other professions such as paramedics and adult dementia care. Having planned 'time out' as an intervention is not new, being common to medical training[157]. In relation to **support/career progression**, several sources described the often-overlooked role of the chaplaincy service in supporting staff wellbeing[35, 84], and the importance of supporting the development of social and professional networks at work[158]. One paper specifically mentioned the need to ensure that additional support and/or mentorship was put in place for what they described as 'critical moments' for example when newly qualified, exposed to trauma, or subject to investigation/complaint[34]. The importance that managers were provided with emotional support was highlighted in a further report[78].

A key report[30] recommended that **learning and education** in relation to mental health and wellbeing should be a feature throughout careers, and several sources recommended that training staff to recognise and act upon early signs of psychological distress was important[35, 81, 103, 136, 152]. Two sources, both paramedic-focused, explicitly acknowledged the role of family, friends and loved ones in identifying, signposting and supporting staff impacted by experiences at work, and that they too should be offered such training[77, 103]. There were also several interventions aimed at wider wellbeing: diet and exercise focussed[31]. Finally, at the **societal** level, one paramedic-focused editorial[142] acknowledged the positive impact of the general public showing kindness and compassion on emergency healthcare workers wellbeing (in relation to the Grenfell Fire major incident).

Formal	Informal

Formal	Informal
SYSTEMS/HEALTHCARE MODELS +/- CULTURE CHANGE **Buurtzorg model**[30, 119] **Magnet Recognition Scheme**[30] **Continuity/person centred care models e.g., Caseload model** (midwifery)[34, 86, 151] **Collaborative Care Model**[31] **Rainbow Badge Project (LGBTQ+)**[9] **Creating just cultures (Mersey Care NHS Trust)**[30] **EDI (NE London NHS Trust) inc reverse mentoring**[30] **FRAMEWORKS/TOOLKITS/STANDARDS** **NHS England's Healthy Workforce Framework**[103] **Safe Staffing Monitor and Planning**[154] **RCN Healthy Workplace Toolkit**[25] **RCN Caring For You campaign**[159] **NHS Health and Wellbeing Framework**[9, 25] **NHS workforce wellbeing guardians and leaders**[9, 31] **Adoption of Larrey Society "work life balance code of practice"**[152] **Adoption of 'Thriving at Work' (2017) mental health core standards**[9] **Implement Boorman 5 whole system changes: identification/response to local need; engagement of all staff; involvement, visible leadership and upskilling of management and board staff**[31] **WORKING CONDITIONS** **Tackle retirement barriers**[82, 86, 113] **Flexible working/plan own workload**[77, 86] **Remove Pay Cap/restraints**[154] **Ensure Student Bursary remains**[154] **Assault on Emergency Workers Bill**[83] **Zero tolerance policies**[110] **Workplace social capital**[31] **Mutual Aid approach to flexible staffing**[30] **SUPPORT/CAREER PROGRESSION** **Mentorship**[32, 73, 79, 106] **CPD/Career Progression Programme for senior Children's Palliative Care Nurses** [104] **Community of Practice Clinical Network**[109] **EDUCATION/TRAINING** **Implicit Bias Training**[90] **Various diet and exercise related intervention programmes e.g., Treatwell 5-a day campaign; wellness programme (walking)**[31] **SOCIETAL** **World Suicide Prevention Day**[83] **World Mental Health Day**[137]	**CULTURE CHANGE** **NHS (as employer) acknowledging/taking responsibility for role in supporting staff wellbeing**[160] **Creating supportive/positive workplace culture** [84, 95, 119, 121] **Systemic approach to wellbeing**[78, 122] **Leadership training**[30, 34, 78, 81, 141, 147, 150] **Mandate staff to challenge poor behaviour**[75] **FRAMEWORKS/TOOLKITS/STANDARDS** **Policy for managing stress/staff mental health with action plan and strategy for implementation**[25] **Rapid access referral pathways** (via primary care/occupational health)[9] **WORKING CONDITIONS** **Introduce minimum standards for facilities and working conditions; rotas based on realistic forecasting**[30, 75] **Deploy and develop alternative roles (e.g. admin support staff; maternity support workers)**[30] **Planned time-out of setting**[113] **SUPPORT/CAREER PROGRESSION** **Chaplaincy service**[35, 84] **Social /professional networks and support**[158] **Positive role models**[79, 121, 147] **Additional support/mentoring for 'critical moments'** [34] **Support Managers emotional wellbeing and needs** [78] **EDUCATION/TRAINING** **Learning and education throughout career**[30, 75] **Manager/Employee training to recognise early signs/assist staff who disclose**[35, 81, 103, 136, 152] **Mental health awareness for family, friends and loved ones**[77, 103] **SOCIETAL** **Public showing kindness & compassion**[142]

(left margin, rotated:) Primary: reduce risk at source

Table 7: Primary interventions evaluated and/or recommended according to whether formal or informal

Secondary Interventions

Formal

Formal interventions aimed at addressing **essential needs at work** were rare, but included one aimed at improving conditions and needs at work generally[31] and specific initiatives regarding hydration and out of hours food for staff[30].

A range of formal **psychosocial interventions**, based on mindfulness, were evaluated and/or recommended within many of the included sources (Table 8). This included specific applications or platforms aimed at supporting practice of reflection/mindful activity. In addition, several nursing-focused papers recommended various **psychosocial education** programmes, including stress management (e.g., [120]) and resilience training (e.g., [32]), and positive psychology training programmes (e.g., [123]). These programmes included interventions such as 'Three Good Things'[123] and 'Thankful Events'[161] – both of which are underpinned by 'positive psychology' (Seligman[162]).

There were several interventions that were specifically focussed on reducing the **risk of Post-Traumatic Stress Disorder (PTSD)** after exposure to traumatic events. The most reported intervention, used as a standard intervention in many UK Ambulance Trusts, is Trauma Risk Management training (TRiM)[9, 18, 33, 35]. Originating in the military, it is a trauma-focused peer support system based on 'watchful waiting' whereby trained 'peers' offer a first point of contact to share and discuss the traumatic event and signpost to professional help if needed. It has been increasingly introduced to healthcare as an alternative to CISD which has been shown to potentially cause harm (as mentioned earlier in this chapter). An alternative to TRiM mentioned in one paper is the Road to Mental Readiness Programme (originating in the Canadian military), consisting of mental health resilience education and training[103].

Formal group reflection and/or debriefs were also cited in a range of sources across the three professions (Table 8). Debriefing mostly focussed on 'hot' debriefs: short structured debrief immediately after events, intended to defuse and allow processing and learning from what had been experienced[73, 83, 94]. Reflective Practice Groups were also reported

to support mental health and wellbeing: formal groups that facilitate reflection and critical thinking in a safe supportive environment[25, 89].

In relation to **training in healthcare job-specific skills**, communication skills programmes were reported to be associated with wellbeing benefit in two reviews[134, 161], with one also reporting positive benefit from a Professional Identity Development Programme[161]. Job-specific education/skills-training enhanced confidence and competence in the role according to two literature reviews (working with paediatric chronic pain for paediatric nurses[126], and assessment and treatment of schizophrenia for forensic nurses[161]. Several organisation-specific initiatives were identified in included reports including a Tea and Empathy group (national peer-to-peer support on Facebook)[9] and #weCARE café, providing a café and garden space for staff to decompress, socialise and have access to listeners who can refer for further support if needed[30].

Informal
Many of the sources referred to self-care in relation to the **'essential'** elements of Maslow's Hierarchy of Needs[163]: the physiological needs (shelter, water, food, warmth, rest and health) at bottom of the pyramid that need to be satisfied before individuals can attend to needs higher up the pyramid (including psychological). The importance of these needs being met was reinforced by many sources, with one report stating that a culture in which self-care is normalised is needed[9]. Essential self-care informal interventions included having space and time for food, hydration, exercise, sleep, and having breaks/holidays from work (see references in Table 8). One report highlighted that work-specific needs are often lacking in the workplace: having lockers to keep belongings safe; access to showers; access to food (ideally healthy, hot) 24:7 etc[9]; and personal safety referred to in another[23].

In relation to stress-management, many sources referred to the importance of using individual-focused relaxation, reflective and/or mindful practices, or using stress management techniques and positive coping skills - and the benefit of such activities (without referencing specific formal interventions) [see references in Table 8]. An informal intervention prevalent particularly in the paramedic literature (though also seen in nursing literature) was the use of humour – and dark humour – as a way of mitigating psychological

ill-health[18, 22, 33, 131, 164]. Understood as an informal aspects of service architecture for staff mental wellbeing, dark humour is noted in the literature as requiring a sensitive adoption so as not to upset or offend patients, members of the public, or other colleagues, and may take some adaptation for newly qualified staff.

Across all three professions, many sources referenced the importance of **social support** in relation to informal conversations with family, friends and colleagues (peer-support); and the importance of a positive team culture and having good relationships with colleagues [e.g. [18, 106, 113](akin to findings from CUP-1[17], and other previous research highlighting the importance of the 'family at work'[101]). This included the importance of team stability to wellbeing[30], for example paramedics having a regular "work partner" (crew member in the ambulance)[18]. Messaging such as "It's OK to not be OK" and "Be Kind" were felt to be important messages to encourage a more open person-centred team culture. A 'Going Home Checklist' developed by Doncaster and Bassetlaw NHS Foundation Trust (https://www.dbth.nhs.uk/news/the-going-home-checklist/) suggests checking in with colleagues and texting a buddy as a way of perhaps attempting to formalise these important informal contacts[160]. Having access to spaces where staff can socialise, share, discuss experiences and rest (with reference to the essential self-care above) was a key recommendation in several sources, and discussed further in Chapter 6. In a qualitative synthesis of psychological ill-health and help seeking in trauma-exposed emergency service staff[18], the importance of managers simply 'checking in' with staff was reported, provided it was perceived as being genuine and authentic (and not 'tick-box', something that may be altered if such an intervention became formalised, see Chapter 6).

		Formal	Informal
Secondary: modify response to exposure		**Essential needs at work:** NHS workplace wellness intervention[31] 'Think to drink' campaign (tackling dehydration)[30] Access to food out-of-hours (Royal Free NHS Trust)[30] **Psychosocial Interventions** Mindfulness training[25, 78, 123, 126, 132, 143, 165, 166]{[138];[31, 134, 161] NHS In Mind (www.nhsinmind.co.uk) [167] Calm App [167] Headspace App [167] **Psychosocial Education** Stress management training [22, 120, 123, 134, 138] Resilience Training[32, 134] (Army) Care Provider Support Program[32] Positive Psychology training [123, 138, 161] **PTSD Prevention** TRiM (Trauma Risk Management Training)[9, 18, 33, 35] Road to Mental Readiness Programme (Canada)[103] **Group Reflection/Debriefs** Debriefs[73, 83, 94] Reflective practice groups[25, 89] **Training in job-specific skills** Communication skills[134, 161] Professional Identity Development Programme[161] Job/Role specific workshops[126, 161] **Social support** Tea and Empathy Group[9] #WeCARE café[30] Interdisciplinary teamwork (NHS Lanarkshire)[30] Quality Improvement Collaborative Programmes (Royal College Paediatrics and Child Health)[30]	**Self-care: essential needs** Space and time to care for self/self-compassion (and others)[9, 25, 35, 119, 158, 160] Exercise [18, 31, 81, 83, 84, 158] Hobbies/Interest outside of work[84, 158] Good diet & nutrition[31, 81, 84, 158] Get enough sleep[81, 84] Take regular breaks/holidays from work[9, 158] Self-care: herbal remedies, message therapy[158] Basic needs met at work: lockers, showers, food and drink etc[9] and personal safety[23] **Stress-management** Mindfulness practice[84, 95, 119] Yoga/Meditation[32, 84, 161] Reflective practice (alone/group)[93, 119, 168] Stress management techniques/coping skills[32, 158, 168] Cultivate/encourage positive beliefs and coping strategies[119, 158, 160] Learn to say 'no' set boundaries[81, 160] Using Lego as art therapy/mindful activity[169] Use of (dark) humour[18, 22, 33, 131, 164] Coaching[22] Time-out/downtime[18, 81] **Social support** Talking to family/friends[18, 94, 158] Talking with Colleagues/peer support/huddles[9, 18, 32, 35, 73, 81, 82, 121, 160, 168] Team Culture/relationships with colleagues[106, 119, 122][18, 113, 121] Access to psychologically safe, confidential spaces to socialise, share and discuss experiences, and rest/wobble room[9, 119] Manager's checking in[18]

Table 8: Secondary interventions evaluated and/or recommended according to whether formal or informal

Tertiary Interventions

No 'informal' tertiary interventions were found in the included literature (Table 9). This is perhaps not surprising given that these interventions are targeting those in whom psychological ill-health has been identified, and there are robust evidence-based guidelines for treatments (e.g.,[145, 170]). Interventions found in the NICE guidance were referenced as being helpful, such as Cognitive Behavioural Therapy (CBT), Acceptance and Commitment Therapy (ACT), Counselling and Eye Movement Desensitisation and Reprocessing (EMDR)

(see references, Table 9). Whilst several recommended counselling, one report stated the importance of this being independent from the employer[152], and an independent counselling service[171] recommended in a commentary by a paramedic who had experienced psychological ill-health[133].

Several sources recommended the provision of 24:7 telephone support, with one report recommending the development of a national NHS 'Samaritans' emotional support service[9], which since COVID-19 has been introduced[172]. One paramedic-focussed commentary recommended their Trust-specific 'Staying Well Service'[173] which offers support and referral[133]. A few papers also recommended complementary/alternative therapies[22, 78, 120].

Tertiary: reduce/minimise negative effect	Formal interventions
	CBT/Acceptance and Commitment therapy (ACT)[22, 32, 134, 136]
	Counselling[82, 93, 133, 152]
	Eye Movement Desensitisation and Reprocessing (EMDR)[22, 103]
	Talking therapies[120]
	Telephone support line/Samaritans[9, 18, 119]
	SWAST: Staying Well Service[133]
	Complementary/Alternative Therapies[22, 78, 120]

Table 9: Tertiary interventions evaluated and/or recommended (*no informal interventions found*)

Multifocal Interventions

Despite numerous reports over the past decade calling for systems approaches to wellbeing that target primary, secondary and tertiary levels[25, 149] we found relatively few interventions in the literature that had this aim, and no 'informal' interventions (Table 10). Arguably the 'intervention' central to the NHS that should be primary, secondary and tertiary focussed is Occupational Health (OH), however as reported earlier in this chapter, OH is typically seen as being for extreme cases only and currently underutilised.

In relation to support for staff that straddled both primary (prevention) and secondary (mitigate impact of exposure) targets, several sources recommended and/or evaluated preceptorship programmes for newly qualified staff and clinical supervision models for all staff, particularly in nursing and midwifery. Preceptorship programmes have been found to vary widely[72], and a range of different supervision models were cited, including:

resilience-based; CBT-based; restorative supervision; and person-centred resilience-based supervision models [see Table 10], as well as the Professional Midwife Advocate model (which has recently been adapted for nursing[174]. In some professions/roles, clinical supervision is mandated, but in others remains a voluntary component of the job, and there are calls for changing this to ensure supportive networks are in place for staff e.g.,[160].

Aside from these training and support interventions, there were some specific interventions and programmes recommended in the literature including Schwartz Rounds, a rare example of a whole organisation group reflection intervention that enables sharing and hearing of the emotional, ethical and social challenges of work in a safe, confidential, structured space. Schwartz Rounds have an evidence base demonstrating benefits at individual and organisational levels [101, 175] in relation to staff wellbeing and culture change (thereby straddling primary and secondary targets). In the paramedic-focussed literature, a key multifocal intervention cited by many sources is Mind's Blue Light Programme[176] providing information and advice as well as access to urgent help if needed (via a confidential helpline or text service to trained volunteers). Similar support is provided via The Ambulance Services Charity[177]. Finally in the midwifery literature an intervention called POPPY (Programme for the Prevention of PTSD in midwifery) has been evaluated positively[129], consisting of a stepped care process combining education and supportive resources, including access to trauma-focussed clinical psychology if required.

	Formal Interventions
Multifocal: mix of primary and/or secondary and/or tertiary	**Occupational Health**[9]
	Preceptorship Programme[178]; Peer support within preceptorship programme[72, 79, 86]
	Clinical supervision [Resilience-based[140] CBT-based[9, 25, 34, 73, 77, 78, 107, 113, 126, 134, 147, 160]Restorative Supervision[32];FoNS person-centred resilience-based clinical supervision[119]Professional midwife advocate [160]
	Schwartz Rounds[9, 18, 25, 84]
	Blue Light Programme[9, 22, 35, 73, 82, 103]
	Beyond Blue (Australia)[35]
	The Ambulance Services Charity (TASC) support for staff/families[82]
	POPPY (PTSD Prevention Training)[129]
	NHS workplace wellbeing intervention[31]
	Workplace Social Capital Intervention[31]
	Step-Ahead ecological intervention[31]

Table 10: Multifocal interventions evaluated and/or recommended

Aim 2: Compare the types of interventions evaluated and/or recommended in the literature according to 'type' of paper, and professional group (nurse, midwife, paramedic).

Types of interventions in empirical literature vs. non empirical literature.

Examination of the literature from the initial search that focussed on interventions to prevent/mitigate staff psychological ill-health (n=39/75 sources) showed that empirical papers that evaluated interventions (n=10/39 nursing = 7, midwifery = 3, paramedic = 0) focused on one single intervention (6/10) or intervention programme (4/10), compared to editorials/commentaries (n=29/39) in which most (16/29) had a multifocal focus, recommending multiple interventions (range 1-10, mean 3.3 interventions per paper). In addition, empirical papers all focused on 'formal' interventions (10/10) mostly aimed at individuals (6/10) (i.e., mindfulness training or clinical supervision/preceptorship), whereas only seven editorials and commentaries focused solely on formal interventions, most describing/recommending a mixture of formal and informal interventions (n=15/29). (Appendix 10: Tables 1 and 2).

In terms of interventions: 3 evaluated mindfulness training[132, 143, 165], 4 focused on clinical supervision or preceptorship[72, 107, 140, 178], 2 evaluated interventions aimed at lessening the effects of exposure to work related trauma[89, 129], and one was a career progression programme[104]. (Appendix 10, Table 1).

The 29 literature reviews included in our review (which comprised qualitative evidence syntheses and those focused on explaining causes and solutions, as well as systematic reviews of interventions) revealed a different picture (Appendix 10, Table 3). Five did not include reference to any interventions. Seven aimed to evaluate interventions, and of these all except one were focussed on secondary level interventions. The exception was Brand et al[31] which aimed to identify and evaluate whole-systems approaches to wellbeing and identified a range of different multifocal programmes.

Types of interventions by professional group

The focus of included evaluation studies (either primary or secondary evidence) was predominantly secondary level (e.g., mindfulness, stress management programmes) across

all three professions. Of the 10 empirical papers, 3 focused on newly qualified nurses/midwives; 2 on midwives, and 5 on a range of different types of nurses (Appendix 10, Table 1). When including the wider literature from commentaries and editorials, there were few differences by professional group: though paramedic-focussed papers tended to focus on secondary level intervention (for trauma) more than nursing and midwifery papers (Appendix 10, Table 2).

Aim 3: Assess the 'fit' of available interventions to the key causes identified in Chapter 3

The identified interventions were mapped to the causes identified in Chapter 3, based on the intended key aim of interventions. We then graded the causes: Red, Amber or Green according to the extent to which interventions that tackled these causes existed in the literature (Appendix 11).

Note: Important caveats are that a) the literature we included may not reflect what is actually happening on the ground; b) we did not run searches specifically for interventions aimed at these causes; c) the mapping and categorisation process require an element of judgement and may not be comprehensive but is intended as a starting point for identifying major gaps between causes and interventions.

The results of this process indicated that for the majority of the causes, there exist some formal and/or informal interventions but more evidence and work is needed; areas where intervention knowledge appear strongest are for exposure to trauma (including experiencing death); there are several identified causes of psychological ill-health where there may be no interventions currently, this includes many of the identified profession-specific causes (and thereby the 'who' and 'when' factors), including service architecture features such as working on call; lacking continuity of care; unnecessary call-outs; high risk of sustaining injury; being a profession under scrutiny; lone working; fear of assault/abuse from the public/patients. We also found no interventions aimed specifically at supporting staff through investigations or complaints despite this being a known key cause of psychological ill-health.

Key findings

The overarching findings from this descriptive analysis are:

- There are many 'informal' interventions that are cited to be beneficial or recommended, some of which have been formalised or could be formalised. These are perhaps informally developed to plug gaps in current provision and may help explain why current provision is not working to mitigate psychological ill-health.

- Interventions (both formal and informal) exist at primary, secondary and tertiary levels, most focus on individuals; very few interventions were profession specific.

- Few of the interventions we found in this review were tertiary or multi-focal "systems" approaches, and we found no informal examples of these. Tertiary interventions are generally well evidenced (e.g., evidenced in NICE guidance), but our review suggests multifocal interventions are under-researched.

- More attention needs to be paid to how the primary, secondary and tertiary levels can and should work together to provide a systems approach to preventing, mitigating, and treating psychological ill-health in staff.

- Most empirical papers evaluating interventions focussed on one single intervention, whereas most editorials and commentaries recognised the need for multi-level, systems approaches.

- Interventions and strategies in the literature tended to focus on short-term goals, simplify and reduce issues and not take into account complexity, probably because this is practically and methodologically easier.

Chapter 6: Realist synthesis

Introduction

Previous chapters have mapped and described the literature on causes of psychological ill-health (Chapter 4) and identified the range of interventions to prevent, reduce or treat psychological ill-health that have been evaluated and/or written about in the recent literature, including both formal and informal interventions (Chapter 5). These chapters identify potential differences within and between professional groups; including who may be at greater risk of psychological ill-health, when and why. Despite the plethora of interventions in the literature, psychological ill-health remains prevalent in the NHS and indeed is worsening[3]. This chapter explores and posits why this might be the case. This chapter is thus drawing out the tensions we identified in the literature to explain:

a) Why psychological ill- health in healthcare professionals is still a huge and growing problem and has become entrenched in some settings;

b) Why despite having interventions (some of which have an 'evidence base'), the problem persists;

c) How we can optimise existing interventions, by analysing when and where they work sub-optimally, as well as innovating and building upon what already exists.

Tackling staff psychological health is important for social, ethical and economic reasons. The IPPO report[10] estimates the cost of staff psychological ill-health to the NHS as at least £12 billion a year, and as such spending relating to staff wellbeing "*should be thought of as an investment rather than expense*"[35]p260. In this chapter we present 5 key overarching findings and 14 tensions with 26 associated Context Mechanism and Outcome configurations (CMOcs). See Appendix 12 for an overview of the tensions and CMOs.
In each Key Finding section we provide an overview of the finding, then CMO's are presented with supporting evidence following each CMO or group of CMO's. Mechanisms are reported as resources offered and responses to resources. Where responses are negative this is indicated as (– response).

Key finding 1: Interventions are fragmented, individual-focused and insufficiently recognise cumulative chronic stressors

Overview of key finding

Much previous literature has focussed on descriptions or evaluations and syntheses of individual discrete interventions (potentially plug and play, ready for roll out), see Chapter 5. There is an implicit underpinning assumption that these alone may benefit wellbeing, without taking account of the wider context of the implementation of such interventions and the need for a dynamic "system" of interventions contextualised to setting. We noted a prevalence of wellbeing solutions that are fragmented, individual-focussed, with a non-aligned, incoherent approach which conceptualises psychological ill-health as binary (ill or not) and focussed on acute events rather than acknowledging any cumulative impact of work on psychological health. CUP-1 identified "*It is also clear that complex problems require complex solutions, and so many interventions to tackle doctors' mental ill-health are likely to be multidimensional and multilevel*".[17]p57. Care Under Pressure 2 found the same for nurses, midwives and paramedics and highlighted a dearth in multi-focal system level interventions (see Chapter 5), and despite many primary "organisation" level interventions, many are policies or recommendations that *should* be implemented, rather than interventions that *have* already been implemented and evaluated. The 'causes' literature has often focussed on acute traumatic incidents that lead to PTSD/secondary trauma, and by doing so has downplayed the cumulative impact and consequent 'normalisation' of low-level chronic stressors (see Chapter 4). We suggest a multi-layered systems approach to psychological wellbeing is required; not a one-size fits all approach, but individualised and where everyday events as well as acute events, are acknowledged as impacting on staff psychological wellness.

One positive example was found in a review of support interventions for UK ambulance services staff[22] who report that UK mental health charity Mind have undertaken more complex multi-pronged approaches to change culture in emergency services (including the emergency services psychological ill-health prevention and support Blue Light programme[35, 82] to try to get people to feel more able to talk about their psychological health and seek support, and a second example was found within a report on nurse

suicide[36] which suggested the need for evidence-based strategies to intervene at the personal, institutional, and regulatory levels. The Blue light programme focuses on changing public perceptions of psychological health relating to front line staff and seeking commitment for change from leaders, politicians and employers; setting up working groups and other activities designed to break down barriers and reduce stigma, as well as providing access to support via a confidential helpline. Another system wide intervention strategy targeted at primary prevention (tackling the risk factors at their source) is the US Magnet programme now being implemented and evaluated in the UK[179]. This includes for example 'shared governance' and staff councils to enhance nurses' and midwives' roles in decision making fostering professional autonomy, exemplary professional practice and strong working relationships in multidisciplinary teams. Organisations that gain Magnet status have lower levels of staff burnout and provide safer patient care. Thus to support staff psychological ill-health often what is required is a long term strategy to support culture change not one-off discrete interventions[30].

Stakeholder contribution: that investing in standalone discrete interventions or offering individual-level reactive interventions (e.g., counselling or mindfulness) is attractive to employers as allows them to think something is being done, but in isolation is unlikely to allow Trusts to meet their duty of care. Instead, important to tailor interventions to the individual. *(July 2022).*

Everyone is on a continuum from good wellbeing to psychological ill-health and moves along this in a dynamic way. An effective wellbeing strategy must acknowledge that solutions need to be situated within a multi-layered systems approach that considers psychological ill-health to be a fluctuating state (not binary ill health/wellbeing) resulting from both singular/acute traumatic events and also from ongoing cumulative chronic stressors.

Tension 1: The tension between a focus on individuals versus a focus on systemic issues

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CMOc#1: Focus on individuals blames staff for systemic issues

Context: Workforce and resource shortages in an organisational context that is complex (where one event in the service architecture affects other parts of the system).

Mechanism: Offering frontline-staff access to individual-focussed wellbeing interventions such as evidence-based mindfulness training (resource) to support them to individually to manage stress in the absence of a systemic approach to wellbeing (resource) may send a message that the stress they are feeling is their fault and responsibility to resolve (- response).

Outcome: Staff feel they have failed when not able to cope/do their job as expected (escalating psychological ill-health) or feel let down by their employer and disengage/leave the profession.

Stakeholder contribution: it was noted that there is a predominant focus in the literature reviewed on 'fixing' the individual (Meeting 2), and one stakeholder highlighted that in other industries (e.g., nuclear industry) staff would not be expected to create their own suits to prevent contamination or carry their own boxes to tell them what is happening on the flight recorder (Meeting 3).

We identified a number of individually-focussed interventions, chief among them mindfulness type interventions (see Chapter 5) which do have an evidence base regarding effectiveness[55, 132, 143] and, in the absence of other wider organisational interventions, may be useful to some staff in the moment. However, whilst studies demonstrate that mindfulness training has positive impacts at an individual level, and may result in cultural change through spread[166], these impacts potentially represent a myopic focus in terms of the causes and solutions to workplace psychological health. In one paper mindfulness-based interventions are described as empowering staff to increase their psychological flexibility (capacity to make choices in accordance with authentic values despite symptoms), but not targeting symptom reduction[132]. This suggests mindfulness increases agency but does not clarify what happens when agency is increased, particularly when an organisation may be downshifting the burden of resource scarcity onto individual staff.

Mindfulness may therefore place the responsibility on the individual to manage their stress and psychological wellbeing when issues such as staff shortages and shift patterns are not in the power of the individual to change. By offering access to such training and support an organisation may inadvertently send a message to such staff that problems in the

organisational system of service delivery falls on their shoulders and they should become psychologically and emotionally strong and flexible to handle the consequences of such problems. This can manifest as victim blaming healthcare staff for not being resilient enough in the face of insufficient support from leaders/managers/organisations/government. Maben and Bridges suggest: *"Treating resilience as an individual trait is seen to 'let organisations off the hook'"*[180](p2742). Yet, resilience is commonly defined as an individual's responsibility and the ability to 'bounce back' after difficulty [32, 168]. Bouncing back implies that you might have fallen apart but also that you are able to get back up again.

A report about resilience in midwifery[34] concurs with the need to avoid an individual focus, stating that resilience requires "*deeper investment in creating sustainable ways of being and interacting*" and they "*caution against the introduction of resilience programmes that focus on individual change and ignore the significance of context*"(p34) stating that in the current climate there is a danger such an approach could become a '*convenient salve*' for managers; similarly the SOM report[25] stated "*focusing exclusively on secondary and tertiary initiatives not only means that the underlying causes of poor wellbeing are not addressed but also implies that protecting mental health and wellbeing is the responsibility of the individual, not the organisation*"(p32). Stacey and Cook[32] report an ecological model of resilience which: "*makes the assumption that there is a fundamental connection between the complexity of the world we live in and resilience as a way to navigate that complexity*"(p2). Thus, some tensions in the health service architecture we have identified may be a product of organisational systems that are not approaching resiliency from an ecological point of view.

Other literature reports broader aspects of work contributing to burnout and work-life balance so that individual interventions would be unlikely to have an impact. For example, Gribben and Semple[121] review the literature on the impact of work colleagues and the culture of the working environment, stating the importance of good relations with colleagues as well as informal interventions such as positive feedback, peer support, debriefing, concise open communication and positive role modelling which are considered as burnout protective factors [see also Key Finding 5].

Few organisation-wide interventions that might create culture change were identified in our sample of literature (but see also Appendix 4: COVID-19). There are exceptions such as the various 'good practice' examples in recent reports e.g.,[30], and those reviewed in Brand et al [31]. One of the few is Schwartz Rounds[49] which are open to all staff and have been identified as creating a counter-cultural space (no blame, a supportive and psychologically safe and containing space to talk about the emotional social and ethical challenges of work where hierarchies are left at the door and where there is no pressure to have outcomes) that over time changes cultures and support staff to process work challenges[49]. However, in a national evaluation[175] it was noted as difficult for band 5/6 nurses and midwives to attend (since they have half hour breaks and no control over schedule) and we conclude it is likely to be the same for paramedics and community-based staff, who would also have geographic barriers to attending.

Note that in chapter 5 we have drawn on the language of primary, secondary and tertiary levels to indicate where the focus and action of the intervention operates. As there was also some discussion in the literature of where agency for the intervention lay, upstream and downstream language was also used which we explore further here. Drawing on health equity language, this problem can be summed up as a focus on downstream interventions (individual behaviour change and treatments) as opposed to wider salutogenic and potentially preventative upstream interventions (contributing societal and organisational factors and prevention *strategies* for the whole community)[181]. This river metaphor is often used in public health, "*Upstream intervention is like building a bridge to healthier lives, whereas downstream intervention is throwing a life ring to someone who is already drowning*"[182](p1).

In terms of psychological ill-health, Bosanquet [119] comments on the need to re-think psychological interventions for nurses and those co-designed, with input from frontline staff may be the solution, further refining this tension. The author writes *"wellbeing initiatives continue to focus 'downstream', especially on the individual, so they are aimed at enabling individuals to continue gifting care and nurturance and going the extra mile for their patients/work colleagues/families. Despite the short-term respite that such initiatives can*

bring, they are a 'sticking-plaster' formulated I believe, to maintain the status quo and as such an inadequate gift to the workforce" (p5).

Examining papers reporting on downstream interventions [80, 84, 86, 140, 166] some comment on the problem of implementing downstream interventions without upstream support and resources and interventions, and also that an individual lens or individual-focused project may not achieve wider change. For example, in an evaluation of resiliency-based clinical supervision[140], in which nurses felt empowered to speak up through the programme, but then the environment was not conducive to speaking out (see also below), militating against wider change.

CMOc#2: Messaging from leaders/managers to look after self at odds with reality of work conditions

Context: Work-related stressors including poor staffing levels lead to work regularly spilling over into home life.

Mechanism: When leaders/managers send messages regarding looking after self in and outside of work (resource) this can lead to staff feeling that managers are out of touch with reality and not acknowledging the impact of work on staff, and thereby lead to messages being ignored (- response).

Outcome: Increased job dissatisfaction, reduced work engagement and morale.

CMOc#3: The importance of granting permission to practice self-care by managers and peers

Context: Staff are exhorted to put patients first and hide needs and emotions. Thus, self care is often not prioritised within the challenges and resource constraints of healthcare delivery due to staff feeling the burden of guilt and responsibility over the welfare of patients.

Mechanism: Permission to be self-compassionate role modelled or at least granted by managers and peers (resource) allows staff to practice self-compassion (response).

Outcome: self-compassion leads to improved work satisfaction, better work practices and care taking of self, reducing stress, and compassion for others and ultimately patients.

CMOcs#2 and #3 present rival theories about the granting of permission by managers for self-care, with the same resource offered resulting in different outcomes.

Damage can result from messaging sent by managers/leaders to encourage staff to self-care as it can appear that they are out of touch with reality. There is a risk of significant cynicism from staff where messages from management (e.g., take time to reflect, take a break every hour etc.) are not met with the reality of work conditions. This mismatch makes people feel leaders are paying 'lip service' to the problem or implementing interventions in a 'tick box' fashion.

Some studies for example, described managers encouraging staff to engage in healthy activities outside of work hours to improve their psychological wellbeing in the face of stressful work conditions. Cedar and Walker[84] note that organisations should not put the onus on workers as often it is organisational stressors that need to be reduced. Comparing with doctors, CMOc#2 links to Care Under Pressure 1 (focussed on doctor's psychological ill-health) findings, in particular CMOc#9[17] where stakeholders suggested *"focusing also on quality of work (i.e. making work a functional and meaningful part of doctors' lives and fostering a sense of meaning within, rather than outside work) appears to be a stronger strategy to tackle work pressures and mental ill-health"* (p36). Miller[57] offers insights into the conflict for managers between the organisational metrics and targets for service delivery (which often put additional pressure on staff), and the staff psychological ill-health narrative. Thus, any disclosure of issues by staff may be impacted by the fact that managers (who have a responsibility for their wellbeing) also have responsibility for service delivery and may be performance managed on metrics of service delivery.

Staff often feel pressure to keep going even when they are resource depleted because "*The culture is that you suck it up and don't have a break, or you're made to feel like you can't hack it*"[30]. This represents a tension in which the messaging for granting permission doesn't fit with resources available and as we have identified above a perceived requirement from 'top' to meet patients needs, meaning staff put their own needs second.

In support of the benefit of 'granting permission' as an informal intervention, Andrews and colleagues[80] argue that for nurses to engage in self-care they often need permission from others, including colleagues and superiors. Giving permission can thereby be seen as a

mechanism of the informal architecture of service delivery. In this sense, an embedded informal strategy of 'granting permission' as part of the informal architecture, can come from the 'grassroots' where for example one staff member may reach out to colleagues who are struggling and say 'hey, it's OK to cry if you need to. Take care of yourself.'

"Compassion and kindness to self are also important. Many managers will have worked even longer hours than their teams, setting an example, or supporting the workload. As the airline safety briefing say: 'you must put your own mask on before assisting others" [183](p7).

It is possible that a culture of giving permission can grow from the grassroots, especially when resources are scarce, or during times of exceptional difficult such as during the 2020 COVID-19 pandemic (see Appendix 4). These mechanisms can be understood in two ways. One in terms of managers and healthcare leaders reaching out and granting permission to staff individually or collectively, and secondly, they may encourage the workforce to grant permission to each other (top-down mechanism triggering a lateral mechanism). This is akin to the ripple effects of Schwartz Rounds: that through the openness and honesty with which work challenges and emotional situations are discussed in Rounds slowly over time leads to changing of conversations/culture outside of Rounds[175]. Granting permission can be enhanced through role modelling, especially by those in senior positions (e.g., in Schwartz Rounds[175].

Granting permission is an important first step, but the action still needs to be feasible in the context of realities of practice. People need to see how this can be prioritised and incorporated into busy work environments and timetables, which may require some other things not being done. For example, what will staff *not* do to practise self-compassion through for example attending a Schwartz Round (reflective space) or taking time out for recovery in everyday practice. Multiple concurrent strategies layered upon each other (such as granting permission for self-care and role modelling self-care for example) can create a context but only when self-care and self-compassion becomes the norm, which can only happen in truly psychological safe working environments. Managers and colleagues may adopt a commitment to remind their workforce employees and their peers to take time out and be kind to self and others. Granting permission has been described above as an example of informal service architecture but can also be built into formal interventions such as

TRiM[184], where after exposure to trauma staff are warned that it would be normal to struggle with sleep and other aspects of life in the days immediately following the event, and if that struggle doesn't resolve further support should be sought. However, time away from work whilst experiencing the impact of exposure to trauma is not built into this intervention. Also, even with permission, nurses, midwives and paramedics may be 'hard-wired' to be caregivers[80] which may override efforts toward self-care. Organisations that create a culture of permission for self-care can balance the reality of being hard-wired as carers and the consequences of service-delivery that involves trauma exposure.

Tension 2: The tension between a focus on acute episodes of trauma versus recognising and supporting chronic cumulative stressors

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CMOc#4: There is a need to understand the cumulative nature of chronic trauma exposure

Context: A considerable amount of trauma exposure is invisible because it is connected to chronic issues of patient suffering, resource scarcity and staff shortages. Staff who appear to 'fall apart at the smallest little thing' may be dealing with a lot more than is apparent.

Mechanism: Managers may fail to recognize the cumulative nature of chronic low-grade trauma exposure (resource) and so may end up creating more harm by judging staff competency unfairly (-response), leading staff to experience secondary trauma due to lack of recognition (-response).

Outcome: Worsening psychological health; job dissatisfaction; increased stress, attrition.

Theory suggests that staff can experience secondary traumatic stress and vicarious trauma in healthcare work[185], but that *"Vicarious trauma can develop in people who are exposed to other people's trauma over a prolonged period"[185].* Secondary traumatic stress occurs when exposure to traumatic events result in staff exhibiting signs of trauma themselves. Secondary traumatic stress (STS) is defined as "*the natural, consequent behaviours and emotions resulting from knowledge about a traumatizing event experienced by a significant other. It is the stress resulting from helping or wanting to help a traumatized or suffering person"* (Figley[186]p10). *"The person with secondary traumatic stress acquires symptoms by exposure to a traumatized individual and not from exposure to the traumatic event itself"*[187]. STS appears similar to symptoms of primary trauma in terms of psychological and physical patterns, including potentially resulting in PTSD.

Furthermore prolonged exposure to challenging service architecture such as low staffing, poor skill mix levels, unpaid overtime and steadily increasing work pressures is that staff: *"make micro-adjustments to their behaviours and work practices to cope with the increased work (...) (and) going the "extra mile" becomes expected, (...) Also, because some of these micro-adjustments are to cease activities that help maintain (..) wellbeing (time with friends, doing exercise, pursuing interests) (which cause) harm; (..) by the time (they) realise that they have a problem, they may have already been seriously harmed by the system (the "boiling frog" effect) and may be close to (or already at) burnout"* [188](p1).

Chronic cumulative stressors and their effects on poor mental health need to be recognised just as much as acute traumatic episodes at work, and this non-acute trauma has been called every day pressures [35, 133]:

"It is often the cumulative effect of less dramatic incidents rather than the major incident that impact our mental wellbeing ... watching someone lose their independence, or escorting them from their home in the knowledge that they may never return can really hit home"[16](p1).

"It may take a while for the impact of these demands to manifest in terms of symptoms"[93](p575).

In a paramedic literature review Anderson[77] reports Boyle (2007) identifying that "*the most emotionally demanding are not those incidents involving the greatest physical trauma but the non-urgent ones, owing to the uninterrupted exposure to social emotions".(p3)*

Frontline staff and managers need to understand that both major and minor adverse events may trigger psychological health challenges and that the magnitude of the particular incident should not be reason to judge the validity of the claim around lack of wellness. Staff also reported the need to move swiftly between very traumatic events (death of a child) to everyday stressors.

Stakeholder Meeting (2): colleagues discussed the fact that staff move from this traumatic 'stuff' and then back to more 'mundane' (but still taxing) or more trivial bits. For example, in ED, staff moving between CPR or an unexpected child death and then, minutes later, back to dealing with more trivial 'normal' work with no time to process.

Quaile*[82]* reflects:
"As a paramedic there is no way to avoid seeing sights that are difficult...it may be one shocking call, or it may be a build up over time, but I believe we are all affected in some way by the things we see, by the emotion we experience but are forced to contain while dealing with our job". [82](p225).

It may be the case that a minor incident triggers a big reaction, perhaps because the incident is just the final straw in a long string of experiences that involve secondary trauma. Or it may be that the staff member connects to it in some way, as acknowledged in the SOM report[25]: *"Events are more likely to have a traumatic impact when they are unexpected, involve children or patient suicide. Additional risk factors for post-traumatic stress are when nurses and midwives can personally relate to the situation in some way, either through their own or a family member or friends experience"* (p20). If a staff member breaks down at what seems to be 'the slightest little thing', managers and colleagues will need to have sufficient psychological health awareness and training in order to recognise the patterns at play, and not judge the incident against the severity of the reaction. This is never more important than following the COVID pandemic, when there may be a long recovery time after such traumatic exposure which may make staff appear to react to 'little things' which may be triggers or cumulative trauma.

CMOc#5: there is a need to distinguish secondary trauma arising from acute dramatic versus chronic 'low-level' events

Context: The work of nurses, midwives and paramedics involves being exposed to sudden dramatic traumatic events as well as chronic low-grade trauma.

Mechanism: Supervisory strategies for ensuring staff wellbeing may be more targeted to acute dramatic events (resource) and may or may not recognise the need for providing support to staff regarding chronic low-grade trauma exposure (resource). Staff may feel a sense of insecurity and inadequacy [and not know the signs to look for in themselves or others, or where to turn for support] when low-grade trauma exposure takes a toll on their (or their colleagues') mental health (-response).

Outcome: Staff psychological health is supported around the big events but may remain unchecked for the seemingly smaller events which can have a cumulative impact, and where the expectation is either that staff can manage it on their own, or that it is not even recognised as being a problem needing support – instead 'just part of the job'.

Secondary traumatic stress (STS) occurs when exposure to traumatic events result in staff exhibiting signs of trauma themselves [see CMOc#5]. Trauma exposure may be acute or chronic and supervision and wellbeing interventions may require adaption to need. STS can also trigger buried personal unresolved trauma from events outside of work events. For example, Quaile[82](p224) notes:

"It [poor mental health] started to manifest itself after a failed resuscitation attempt on a child several years ago. While there were low-level symptoms over the years, and there were certain calls that would affect me more than others, there was much more severe recurrence after witnessing the aftermath of a plane crash over a year ago"

Supervisors and staff may grant themselves more permission for self-care when there is a dramatic incident such as a road accident. Although even here some psychological preparation is necessary as our first stakeholder group identified.

Stakeholder contribution (paramedic): when there is limited information available prior to arriving at an incident it is difficult for staff to mentally prepare for what they may see and experience. If staff know they are going to a traumatic event they can at least mentally prepare for this to some extent.

However, if trauma exposure accrues from more mundane events, it may be more difficult to provide recognition of the need for support and space to process trauma, and the chronic may also become 'normalised' so no longer seen as needing support[132, 133, 158]. The relationship between dramatic and low-level trauma events needs further unpacking. Clarke[158], described a personal story of burnout written by a midwife. The author described that for decades working in the health service they had never experienced burnout but had often been a support to others who were. This then changed:

"I can't identify a particular trigger for this emotional and physical state. It was probably just a combination of events, including a new and challenging job and a particularly upsetting and traumatic clinical incident. My response was not dramatic, but I became short tempered and difficult to live with (pity my poor family). I felt weepy and weary" (p16).

Importantly, there was not one trigger but rather a combination of different factors. It may be theorised that negative impacts of chronic exposure to patient suffering creates an invisible cumulation of trauma exposure. In a new job, less well-known support mechanisms especially informal networks may have made this midwife[158] less able to process the

acute traumatic event. In support of this theory, when discussing risk factors associated with PTSD, Naumann and colleagues[135] note that:

"*a perception of reduced social support can be a risk factor for PTSD following traumatic events. Although no causal link can be made from the study, a lack of mentorship, support and appropriate team behaviours were reported by participants. A holistic approach to addressing these would be required by any service seeking to reduce risk to its employee* (p519).

When a breakdown happens, there may be a trigger incident that is large or small – releasing emotional tension that has been supressed over time. This understanding is important so that an outsider to the experience (e.g., a clinical supervisor) does not unfairly judge and misconstrue the secondary trauma as the staff member not being able to handle small stressors. Managers can then be empathetic and develop appropriate responses to the need for staff self-care, even if there is no 'smoking gun' incident that explains a lack of psychological wellness.

Key finding 2: It is difficult to promote staff psychological wellness where there is a blame culture

Overview of key finding

Healthcare organisational culture "*is a metaphor for some of the softer, less visible, aspects of health service organisations and how these become manifest in patterns of care*"[189](p364). Following the Francis report Harry Cayton, chief executive of the Professional Standards Authority for Health and Social Care, said that although the government *"had taken some steps to make the NHS more open, it had not done enough to make it more accountable and to allow professional responsibility to flourish (…) a balance had to be struck between holding people and teams accountable for their actions and fostering a "toxic" blame culture that would make it harder to raise safety and other concerns"*[190]. A blame culture is:

"a set of norms and attitudes within an organization characterized by an unwillingness to take risks or accept responsibility for mistakes because of a fear of criticism or management admonishment. This culture cultivates distrust and fear, and people blame each other to avoid being reprimanded or put down, resulting in no new ideas or personal initiative because people do not want to risk being wrong. (..) such a culture evolves out of a bureaucratic management style that is highly rule-oriented compliance-driven, and focused on assigning blame or accountability to individuals even for system-level failures[191](p314-5).

It is the opposite of a psychologically safe culture and prevents people from both speaking up and taking accountability. Such an organisational culture can be predicated on poor leadership, a lack of visibility of leaders, a lack of resources, and lack of support. It is often left to front-line workers to accept responsibility and, even then, the weakest link in the chain such as newly qualified staff may receive most blame. Thus, the person with the least influence or power becomes the one required to speak up and at times convey the need for shared responsibility, often to no avail. The NHS states it is a 'no-blame culture' establishment yet an understanding of the mechanisms by which such a culture is created and maintained is not immediately apparent. The recent introduction of 'Freedom to Speak up Guardians' in the NHS, is one intervention to support raising concerns and a no blame culture. Yet many of these Guardians identified a lack of resources, especially time, which negatively and significantly impacted on their ability to effectively respond to concerns raised and, on their opportunities, to learn from speaking-up data and develop a speak-up culture[192]. During times of extreme hardship, such as the COVID-19 pandemic when resources are scarce and the challenges in providing patient care are clearly beyond the capacities of any one person, the causal mechanisms involved in an instance of a medical error can be diffuse and hidden, yet an organisation may choose to find blame in a single staff member or team.

Tension 3: The tension between a lack of collective accountability, which blames individual staff for errors, versus a team/system-based approach

> **CMOc#6: Attributing cause of blame to individual staff ignores the role of the wider system**
>
> Context: Frontline staff are most directly linkable to health service outcomes and medical errors.
>
> Mechanism: The system is geared toward performance, measurement and individual accountability (resource) which precludes an acceptance of system-wide attribution of accountability for medical errors. Staff practice defensively to protect against blame falling squarely on their shoulders (- response).
>
> Outcome: Decreased workplace satisfaction, decreased autonomy in practice, reduced quality of patient care; increase secondary trauma and victimisation by downstream drift of accountability processes.

The starting point should be an assumption that everyone is doing the best job they can in difficult circumstances, rather than ignoring the contextual factors and assuming an individual is to blame. A no-blame culture can help to encourage as much learning as possible, as in other safety critical industries. Amy Edmondson's work on psychological safety notes healthcare work can feel interpersonally risky– for example, *"asking a question that might expose your ignorance to others, looking incompetent when admitting a mistake or a weakness, or appearing negative or critical when pointing out a flaw in a process worthy of improvement"[193]*. Psychological safety is a factor in helping people to learn new behaviours and overcome defensive routines. A lack of psychological safety is often found at the root of significant organisational errors and failures in a variety of safety critical industries. On the other hand: *"A climate of psychological safety makes it easier for people to voice tentative thoughts (and) (…) can help people override a tendency to default to silence, instead encouraging or allowing them to offer ideas, report errors, and speak up in ways that are vital for healthcare improvement".*[193].

> **CMOc#7: There are sometimes double standards in accountability**
>
> Context: Staff working in clinical areas that are known to organisational leaders and managers for poor standards of care.
>
> Mechanism: A lack of accountability, attention, or inability to fix problems on the part of managers (resource) leads to a feeling of outrage at the injustice by staff who must remain professionally accountable for their actions in these clinical areas when others are not fulfilling their responsibilities (- response).
>
> Outcome: Workplace dissatisfaction due to a sense of double standard in accountability. Increased frustration, stress and burnout and staff leaving the profession.

A related issue is the lack of a framework for collective accountability in the NHS. As a result, staff may practice defensively because they know they will get the blame if something goes wrong. This can lead to being overly cautious or over treating rather than doing what they feel is right for a patient, although there may also be advantages to having a named person responsible e.g., permission to intervene.

The WHELM (Work, Health and Emotional Lives of Midwives) study[78](p20) reports:
 "Midwives vividly described their personal concerns about the level of responsibility they carried and their feeling of 'being under the microscope.' Their accounts suggested that they did not feel well supported by managers (…) (and) were also concerned that a widespread culture of litigation fear impacted on the care that women received, with a default to medicalised care to 'err on the safe side… When something goes wrong, which inevitably will always happen, as sadly not every pregnancy ends well, however good the care, midwives are treated appallingly, it is shocking and devastating to observe good hard-working midwives torn apart by the absolutely disgusting way that incidents are dealt with. Babies do and will die, and it is not always somebodies (sic) fault. Trusts persecute individual midwives in order to cover their own back as far as litigation. There is never any support, it is truly a horrific witch-hunt. I have met so many broken midwives, who then leave the profession"(p21)*.*

The literature suggests that health professions training is so geared up to measurement and individual accountability, that for many staff it is hard to change this way of thinking and

move to more system and team-based approach. In light of unavoidable negative clinical outcomes, a whole-culture, system-wide change is advocated to help staff in striving to provide best possible care, without blaming individuals or finding scapegoats. Relatedly, accountability and blame issues, while different, also link to inaction and highlight the need to understand systemic power that is found at the managerial level as well as at the front-line. Individual clinicians may be held accountable by their employing organisation, and/or professionally by their registering body (NMC / HCPC), yet in some instances managers and senior leaders were not felt to have the same accountability and some double standards may exist. The negative impacts when managerial support is lacking for front-line staff are evident in one report[117]:*"participants [nurses] were visibly outraged and frustrated by the fact that certain clinical areas were known to have poor standards of care, and that this situation was not addressed by managers. Participants compared this to their own professional accountability, where they were held responsible for their own actions and omissions, whilst they could see that others were not"*(p10).

CMOc#8: Investigation of medical errors can cause psychological ill-health in staff

Context: Investigation of medical errors rarely takes account of the wider context (e.g. understaffing, or toxic work environments) and thereby may focus on the individual rather than the wider system.

Mechanism: Regulatory and organisational policies that focus on blaming the individual and dictate staff suspension from work and have protracted investigation processes (resource) lead to staff feeing guilty, unsupported, and isolated (- response).

Outcome: Staff can feel broken, have worsening psychological health; possible suicidal ideation; and trauma can extend to friend and family.

Highly empathic staff, especially those early in their careers may lack an awareness of larger systemic forces at play in service provision. However, they may still internalise and accept blame for events involving medical errors when in fact organisational leaders would also need to accept accountability. It can be hypothesised that the more self-reflective and empathic staff are, the more likely they will absorb blame for mistakes and internalise the effects of pressures, victim-blaming and bullying. Cull and colleagues[76] describe the negative impact of blame culture on midwifery practice:

"many respondents commented on a perceived 'blame culture' in their workplaces, with a resulting impact on their mental health. One midwife described 'coming home worrying about what I have missed, not documented, handed over [and] waking up with flashbacks"(e533).

Stakeholder contribution: whilst nurses, midwives and paramedics fear blame (and this may be particularly so for midwives as autonomous practitioners and where most litigation takes place), they also live with a lot of guilt and distress at the result of mistakes in practice, and risk protracted investigations (often suspended from work and unable to speak to colleagues).

Staff reflect on traumatic incidents and recognise that they were unprepared, thrown in a deep end or were unsupported. Healthcare is a complex workplace and human error is inevitable. Nurses, midwives and paramedics in our stakeholder group told us that distress is often the result of feelings of guilt at mistakes and not being able to rectify them, as found in other reports and research papers[75, 96, 194][28].

It needs to be acknowledged that medical error and mistakes investigation is not about 'protecting the interests of staff/staff wellbeing' at all costs but about taking a contextualised view of the causes so that they are examined comprehensively. This needs to include an analysis of the context in which they happened, and the organisation needs to take responsibility and be accountable, as well as individual staff members. That way there could be resolution for both patients and staff, and organisational learning.

Tension 4: The tension between needing to raise concerns to improve conditions and patient safety versus fitness to practice processes becoming an oppressive force.

CMOc#9: Knowledge that the fitness to practice process is rarely supportive creates reluctance in staff to voice concerns about psychological health

Context: Public-facing healthcare staff are exposed to trauma and complex clinical decision making daily, which can result in secondary trauma and burn out. Mistakes occur in safety critical industries such as healthcare and psychological safety is important to allow disclosure of poor psychological health. Healthcare organisations are pressured to ensure staff are well enough to practice for the safety of all patients, but fitness to practice processes are known to be rarely supportive to staff.

Mechanism: The threat of potentially having to go through a fitness to practice process (resource) leads staff to feel reluctant to voice concerns about their mental health and its impact on their work for fear of losing their status, reputation or employment
(- response).

Outcome: Psychological health issues may remain undisclosed and unchecked. Some staff choose to self-refer rather than speaking to supervisors about their performance and psychological health concerns. Missed opportunities to create a culture of shared learning, transparency and reflection and de-stigmatise mental health issues.

The service architecture associated with patient safety and related fitness-to-practice concerns contains several inherent tensions. On the one hand, mechanisms to identify fitness-to-practice concerns are needed to ensure that people who are not fit to be handling the demands of the job are identified and offered the care they require and perhaps even taking time off. Yet, fitness-to-practice mechanisms, if not implemented with care and sensitivity can become an oppressive force, resulting in staff dealing with their psychological health issues on their own, or not dealing with them at all. This can increase stress, trauma and risk regarding psychological health concerns in staff[148] and such health issues may only become apparent when a critical incident occurs.

In reviewing causes and solutions to psychological ill health, paramedics[103] note
"Concerns over fitness to practise can result in a "culture of silence" whereby staff don't talk to their employers…If employees don't come forward, employers won't necessarily be aware of the problem and things can get worse,'(p192).

One study has investigated why UK paramedics have a higher rate of self-referrals to the HCPC than other health professionals[105], resulting in convictions and cautions. Some of the reasons they give include a pressurised work environment, variable guidance, variable support from supervisors, and work cultures of fear and conflict. Interestingly, an additional insight given was the fact that many paramedics have origins in the military and that *'paramedics may be more habituated to rules and protocols than some of their applied health professional colleagues'*(p205). They write: *"the third [reason for higher self-referrals in paramedics] relates to work cultures predicated on blame and punishment rather than shared learning from errors"*(p209). A punitive culture may be more prevalent in paramedic workplaces, yet these issues would be similar for nurses and midwives. Golden[55] notes:

"When a midwife is, or appears to be, lacking in training or a particular skill, they may be referred to the regulatory authority, the NMC. Approximately 40% of referrals to the NMC are from employers, which may increase significantly to account for the now defunct Local Supervising Authority, who represented some 30% of referrals (NMC, 2017). This can cause a breakdown in the relationship of trust and confidence with the employer, leading to stress, reactive depression and possibly nervous shock. Sadly, there have been cases of suicide (Johnston, 2009) and suicidal ideation by midwives from the stress of employment conditions, investigations and referrals to the regulator, or from other investigations by the Coroners' Courts, the police or other judicial bodies. Some of these may have resulted from a breach in the duty of care by an employer to the midwife"(p63).

In nursing, Marran[146] also suggests it is not what is done that has such a detrimental impact, but rather how an adverse event investigation is undertaken:
"How an investigation into an adverse event is conducted can have long-term emotional effects on the healthcare professional involved. The purpose of such investigations is to understand what has happened, so that appropriate actions and learning can take place. However, some healthcare professionals perceive the focus of such investigations to be on apportioning blame, a perception that contributed to Wu (2000)[195] devising the term 'second victim'"(p5).

Stakeholder contribution: members spoke about how long-term sick leave due to stress could in some instances in themselves become a trigger for performance management yet should not be and good workforce policies and attendance management can support long term sickness.

CMOc#10: The investigation of medical error can result in secondary victimisation and traumatic symptoms

Context: Medical errors happen in healthcare service delivery and require a psychologically safe climate for staff to facilitate open reporting and organisational learning.

Mechanism: The investigative process into medical errors provides an opportunity for the healthcare staff and wider organisation to understand and learn from mistakes by offering a respectful psychologically safe no-blame process (resource) resulting in staff being willing to speak up, learn from any mistakes and continue to do better (response). However, an investigation may involve fear of public exposure and reputational damage and blame staff, thereby offering a psychologically unsafe process (-resource), creating feelings of guilt, shame, fear and silence (-response).

Outcome: Increased secondary trauma if the investigative process is punitive; improved learning and performance if the process is fair and appropriate to the circumstances and staff may be identified and supported as "second victims" of the error incident.

In addition to the important relationship that staff have with line managers and organisational leaders, staff may also need to negotiate connection with external review processes in the context of medical errors, for example to the NMC, and the HCPC. Such external review may increase stress, as identified in CUP-1 for doctors[43] and by registrants (including paramedics) referred to the HCPC[28]. A punitive approach and apportioning blame was identified in this paper[148] for HCPC registrants undergoing fitness-to-practice investigations (FTP) where:

"*The psychological impact of undergoing a FTP process was significant for the majority of participants. Their stories described influences on their wellbeing (..). A lack of information, long length of time for the process and poor support avenues (impacted) on the ability of registrants to cope with their experiences (…) (and) led to feelings of powerlessness, vulnerability and threat of ruin for many registrants*"[148](p1).

Recent changes in midwifery support and supervision were noted, as having increased stress for midwives. Previous in-house clinical supervision has stopped, and the supportive aspects of supervision have been replaced by the Professional Midwifery Advocate (PMA) model which is non-mandatory and does not have any role in investigations. The regulatory role of supervisors is anticipated to lead to more involvement of the NMC as described by Barker[147]:

> "Currently, when incidents occur, midwives are investigated locally by supervisors of midwives they know and who are familiar with the workplace. (…) Supervision investigations are concluded quickly, flaws in practice are identified and a plan introduced to allow individuals to start the remediation process within weeks. When this is devolved to the NMC, it will be a less personal and more stressful process that may take up to 2 years to finalise, perhaps leading to more resignations"(p826).

Secondary Traumatic Symptoms may also arise from medical error and the way organisations address issues around medical error. In a systematic review, Sirriyeh et al[196] assess the effects of involvement in medical errors on healthcare professionals' risk of psychological ill-health, noting an intense emotional response following an error with subsequent impact on the personal and professional lives of staff, particularly prevalent in blame cultures (see above). This includes acute stress disorder, suicidal thoughts or even suicide and these authors use the phrase 'second victim' to describe those who suffer emotionally when the care they provide leads to harm.

An incident that triggers traumatic memories from a personal life experience, or sudden and profound events such as an unexpected patient death can have reverberating impacts that stay with healthcare workers long after the event resulting in them becoming 'second victims', with the incident leaving a 'permanent imprint' on them[31]. Marran[146] reports shame, guilt, panic, shock and humiliation leading to self-doubt and loss of confidence as common feelings after making a mistake. She states that staff can feel personally responsible for any unintended harm to patients and doubt their clinical knowledge, and describes a second victim:

"The term 'second victim' was introduced to describe the negative psychological effects that making an adverse medical error can have on doctors and the sense of alienation they can feel from their colleagues following the event (…). Second victims are doctors, nurses or other healthcare professionals who have made errors relating to patient care and experienced psychological effects as a result" (e1).

Thus a second victim is a healthcare employee who experiences personal or professional impact as a result of involvement in a patient safety incident, or an error[196]. Marran [146] also identifies that:

"concerns have been raised about labelling healthcare professionals who have been involved in adverse events as victims, and this may detract from the harm experienced by the patient or first victim and suggests they lack accountability, yet they cite Lawton et al (2019) who state they have rarely, if ever, encountered a healthcare professional who did not consider themselves accountable after being involved in an adverse event which are not intentional and can result in significant harm to the healthcare professionals involved". (p2).

A paramedic reflected on a child abuse case where the child died stating: "*I'd often find myself just sat there not really doing anything but thinking about the job, and thinking about whether there was anything else I could have done*"[82](p225).

Marran in a literature review suggests:

"the adverse event they were involved in left a 'permanent imprint' on them" and *"the duration of the second victim's recovery process may also be affected by any subsequent investigation, which can be protracted, uncomfortable and highly stressful. Second victims may fear making further errors, rely on colleagues to undertake certain tasks because of their loss of confidence, ask for second opinions and frequently check their practice, all of which increase their risk of making further errors"* (e4).

She further suggests outcomes for staff can be poor: *"Second victims often experience significant negative feelings and may question their skills and practice. This may result in unplanned absences from work, which places increased pressure on the rest of the workforce. In some cases, the healthcare professional involved may decide to leave their profession, resulting in the loss of their skill set and experience"* [146] (e4).

In midwifery there is significant fear of litigation and the WHELM report[78] provides examples of midwives making second victim claims. Golden[55] also notes that following a traumatic birth where the baby was significantly injured:

"the midwife, who later suffers reactive depression and post-traumatic stress disorder, and makes a claim for nervous shock. The claim by the midwife is that the employer failed to protect her in her employment. The midwife claimed that the harm was reasonably foreseeable and that she was not party to the negligence that caused harm to the mother and baby"(p62).

Litigation or fitness to practice processes implemented in a toxic work environment characterised by a lack of psychological safety and a blame culture may exacerbate symptoms of secondary traumatic stress in staff who have made mistakes. However, Marran[146] notes that when the process is well-designed, the majority of staff who have made an error report positive emotions such as *'feeling motivated to improve their practice'* (e3).

Some authors (reported by Marran[146] have also suggested that healthcare organisations can become 'third victims': *"because of the potential negative financial and reputational effects they experience as a result. In addition, adverse events can affect people not directly involved in the event. This could include patient safety professionals or others who are responsible for investigating adverse incidents and service improvement and involve them (sic) potentially becoming third victims"*(p4).

This can affect the ability to hear staff voices and be willing to be open to hearing mistakes and providing a supportive environment for staff to learn in the future having detrimental effects on staff psychological ill-health. It is rare for NHS organisations to come to the

defence of individual staff members exposed for medical error in the media, most remain silent and allow staff to be individually targeted, without recognising the organisation's role in allowing a psychologically unsafe culture to happen. The research into the consequences for third victims is scarce and the implementation of a crisis management plan and associated measures are suggested to limit potential damage to an organisation's reputation[197].

Tension 5: The tension between encouraging staff to speak up versus the 'deaf effect' response from managers and hearers

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CMOc#11: Encouraging staff to raise concerns can create problems if there is no action: a 'deaf effect' response

Context: To identify and prevent harm to patients and staff, nurses, midwives and paramedics are encouraged to speak up or raise concerns to identify issues that need to be addressed.

Mechanism: In a non-learning organisation where it is not psychologically safe to speak up about mistakes and errors, and where senior leaders do not listen to staff concerns ('deaf effect') (resource), then staff will be scared of the consequences to them of speaking up or feel that no change will result (- response).

Outcome: Decreased workplace satisfaction, poor staff retention, reduced quality of patient care; increase secondary trauma and victimisation and increased stress and helplessness at no changes observed.

Healthcare staff who are encouraged to raise concerns and speak up play an important role in improving working conditions and in the detection and avoidance of harm to patients[192]. Yet, some staff feel unable to speak-up and, if they do, their concerns may be ignored or responded to inappropriately[198]. Thus, fear of negative repercussions, organisational inaction, and the desire to "fit in" can result in the silencing of employees' voice[192]. In a recent review Jones and colleagues (2021) also note the importance of 'hearer courage' to act on concerns[192]. There is some recognition in the literature that the culture in healthcare is not always that of a learning organisation where psychological safety is present in teams and where staff feel they can raise concerns without fear of retribution or consequences for their career. There is a long history of poor treatment of 'whistle-blowers' in the UK NHS. In the mid Staffordshire scandal, for example, staff were accused of not speaking up but the inquiry found this not to be the case - staff were raising concerns and speaking up about poor care but they were not being listened to, which authors in the field have labelled 'the deaf effect'[199]. This term is used to describe the reluctance of those in authority to hear bad news from colleagues.

Stakeholder Contribution: members spoke of trying to change things for the better – for staff and for patients – yet feeling like they were 'banging their head against a brick wall'. This inability to effect change was described as very wearing and dissatisfying aspect of work, causing staff to need to be extremely persistent to get their concerns heard at great personal costs or 'give up' and stop trying, both of which were reported by members as stressful.

This is reinforced by the following excerpt taken from Twitter:

"In the NHS: the standards you keep challenging destroy your mental health from the moral injury of repeatedly not being able to deliver even the most basic intervention care being left undone as there is not enough of you to do it in a timely manner(…) nor any meaningful way to change any of it. I have taken to the streets with a placard, been an activist. Raised concerns formally. Blown the whistle, yet here we are watching the service implode as staff leave in an act of self-preservation" (@spearce33801- nurse on Twitter 16.4.22)

Stakeholder Meeting (3): a member suggested that immediate reactions to trauma in staff are often unrecognised and serve to create more trauma. Another highlighted the lack of visibility of wellbeing Guardians, and that in their organisation health and wellbeing is located within Human Resources with no clinical understanding or involvement to the perceived detriment to the service.

CMO#12: Supervision interventions (encouraging staff to voice concerns) may backfire and create burden if there is no organisational action

Context: Fragmented non-systemic approaches to supporting staff to deal with challenges at work caused by workforce and resource shortages.

Mechanism: Interventions that give permission for staff to voice concerns (resource), lead to burden, frustration and guilt (- response of supervisors) and reduced staff satisfaction and trust in the supervisory model, feelings of isolation, abandonment, frustration
(- response of staff) if they are not part of a wider systemic approach that welcomes and acts on speaking up.

Outcome: decreased workplace satisfaction and engagement (staff and supervisors), less likely to speak-up (staff), lack of organisational learning and thereby reduced quality of patient care, psychological ill-health.

Some interventions are aimed at enabling staff to process, have voice and speak up about aspects of work that need to change through discussion, for example various models of clinical supervision including resiliency-based supervision[12]. Such interventions may incur unintentional harms to staff and increase mistrust in the organisation if they are not part of a 'systems' approach to wellbeing that recognises the structural/organisational causes of psychological ill-health at work. If an intervention empowers staff to voice concerns when conditions of work are not adequate to need, this may lead to a backfiring effect if there are no organisational pathways to take and action such concerns.

For example, Stacey[140] reports on an intervention called Resilience Based Clinical Supervision which is *"underpinned by the principles of Compassion Focused Therapy. The aims of such clinical supervision are to alleviate work related stress and support individuals to reframe their experiences through structured and reflective discussion"* (p1). A main finding from that study is that even though the intervention was designed to give nurses a voice through reflective discussion, the facilitating supervisors felt a sense of burden and guilt around the fact they could not really address the problems that the nurses were raising. The nurses gained a sense of empowerment but then face the difficult realisations about systemic problems that are beyond their control. This disparity in having a voice, but that voice not leading to any change, may backfire and be detrimental to staff satisfaction at work and impact negatively on their relationships with managers and leaders:

'in organizations where the culture undermined a clear process or commitments to responding to the distress of preceptees, facilitators felt overwhelmed and saddled with holding the emotion of their group. It could be argued that due to compassion only flowing from the facilitators this led to feeling of threat. As a consequence, there was a reluctance to offer a forum which focused on the emotional impact of healthcare practice. Facilitators perceived themselves as individually responsible for alleviating the preceptees adversity as well as being tasked with governing the complexity of the issue without a clear sense of how issues could be escalated. They expressed concern about how this could be received by senior management leading to a feeling of isolation"[140](p5).

Key finding 3: 'Serve & sacrifice': the needs of the system often override staff wellbeing at work

Overview of key finding

Nurses, midwives and paramedics are often thought to have a 'calling' or a 'vocation' to undertake the work that they do. They are exhorted to 'put patients first' which some have noted may suggest they often feel they need to put their own needs second, with a culture of giving 100%[79]. Choflet and colleagues[36] suggest: "*The prevailing nursing culture is "patient over self" when prioritizing time*" (p21) and for paramedics, Quaile[82] reports:

> "*When staff attend a particularly traumatic job, they are offered some "time out" but many staff don't take this up when they know there are patients out there waiting for our help (…) We are there to support the public in [their] time of need, but we tend to not to ask for help ourselves*". (p226)

This can challenge the maintenance of good wellbeing in the face of intense and potentially traumatic work. As we have already outlined, these staff work in a context of high demand, where high workload and being present at work to support the team or for the patients may mean staff neglect their own health and needs.

In CUP-1[17] CMOc#2 noted a 'Normalisation of a high workload':

> *When high workload and its negative consequences (e.g., distress, burnout) are normalised (C), overworked or sick doctors may feel they are letting down their colleagues and patients (M). This can contribute to presenteeism (O) and associated negative consequences on mental health (O1) and workforce retention (O2).*

The needs of the system override staff wellness, with high quality patient care being the primary goal.

Tension 6: The tension between a professional culture that promotes a 'serve and sacrifice' ethos, which persuades staff to prioritise institutional needs, versus a culture that promotes self-care

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CMOc#13: A 'serve and sacrifice' professional ethos may be used to persuade compliance to institutional needs

Context: High workload can become normalised, with breaks are sacrificed. Nurses, midwives and paramedic roles are a calling or vocation with a desire to help, put patients first and go the extra mile. The maintenance of good psychological health in the face of challenging, intense and potentially traumatic work is therefore difficult.

Mechanism: Management sending the message that healthcare professionals should give 100% to serve clients and patients (resource) yet provide little in way of strategies and interventions to manage complex and distressing clinical situations (resource) reinforces compliance to institutional needs (response) to the detriment of staff psychological health which feels like the required sacrifice (- response).

Outcome: Increased stress, burnout and leaving the profession.

The literature included in this review indicated that professional culture often sends a message that staff must adopt a 'service and sacrifice' ethos and give 100% at all times, working long shifts with few rest breaks. For example, Barker[160] and Bacchus and Firth[79] report a healthcare culture that asks newly qualified midwifery staff to participate in a culture of giving of themselves to the service, with the latter[79] noting that:

> *'giving 100% or more to prove their worth is [considered] a positive attribute in the midwifery workforce but can be used negatively to persuade compliance to institutional needs. Midwives work long shifts with little or no breaks due to heavy workloads, which has been termed 'service and sacrifice'* [79](p3).

Barker[160] notes that taking care of self often rests with the individual (as noted in key finding 1) with the exhortation for midwives to take care of themselves in stressful and difficult situations, often without the necessary support in place:

> *'midwives [are required to] be able to demonstrate at the point of registration that they have the strength and resourcefulness to work in stressful and difficult*

situations, that they are able to recognize signs of vulnerability in themselves and colleagues, and that they can incorporate self-care into their personal and professional lives'… '[they take on] responsibility and cost of supporting others while employers are not required to put the necessary support in place' (p210).

Stakeholder contribution: members suggested these issues highlighted by midwives would be the same for nurses and paramedics, with the responsibility for their own psychological health falling on their shoulders.

Other literature reports the 'desire to help' may work against nurses by putting them at risk of compassion fatigue and vicarious trauma and comments on the need to re-think the deployment of wellbeing interventions for nurses, which continue to focus on the individual nurse:

"wellbeing initiatives continue to focus 'downstream', especially on the individual, so they are aimed at enabling individuals to continue gifting care and nurturance and going the extra mile for their patients/work colleagues /families. Despite the short-term respite that such initiatives can bring, they are a 'sticking-plaster' formulated I believe, to maintain the status quo and as such an inadequate gift to the workforce (p5). The author also states: *"even if we can create more person-centred cultures, the traits that draw us to nursing may work against us. Once such characteristic, the desire to help may, may put nurses at risk of compassion fatigue and vicarious trauma"* [119](p54).

Tension 7: The tension between supporting existing staff in the context of staff shortages versus perceived coercion to fill vacant shifts beyond contracted hours

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CMOc#14: Staff feeling unable to say no in a felt culture of coercion

Context: Managers face pressure to secure safe staffing levels in a context of staff shortages.

Mechanism: Pressure communicated by managers to staff in the form of 'begging' for staff to agree to take on extra shifts (resource) and staff not feeling they can legitimately say 'no', leads to off-duty stress when they are not working, processing feelings of guilt and worry about colleagues (-response).

Outcome: Pressure can lead to guilt and feeling of letting the team down and to working even when meant to be off. Time off from work is not regenerative, leading to increased feelings of dissatisfaction and burnout.

Linked to the serve and sacrifice ideas presented above, there was also a sense of staff feeling coerced to cover shifts when there are gaps due to insufficient staff. Consequently, front-line staff shortages present a major concern for the mental wellbeing of nurses, midwives and paramedics and impact work-life balance. Particularly as most of these staff groups work routinely long 12-hour shifts, with a review by Ejebu et al[63] finding that *"Shift patterns are often organised in ways that are detrimental to nurses' health and wellbeing"*(p21)*. For example, Cull[76] highlights the negative impact of being asked to fill vacant shifts during severe staff shortages:

> *Midwives described managers 'begging' for them to work extra shifts. Even if they did not agree to these extra hours they felt guilty. The requests impacted on their enjoyment, on their days off and they began to dread phone calls or texts asking them to work overtime."*(e554).

In the context of understaffing and pressure for staff to work overtime, the messaging that they are desperately needed is something staff may take home with them. Even on their days off they may think of work and feel like they are working. Some may feel guilty for having days off and not answering the call to do extra shifts and empathise with the

consequences of staff shortages on colleagues and patients. It is possible that being asked to fill vacant shifts creates presenteeism. In a literature review, Freeling et al[62] suggests:

"Johns (2010)[200] found that hospital cultures that exalt loyalty, teamwork and professional identity can unwittingly encourage presenteeism. Presenteeism is also promoted by difficulty in replacing staff, attitudes that staff hold towards their own health; and the increased efforts required to offset an absence (…). Further possible causes are the caring nature of the profession, the suboptimal health of many nurses, and intense job demands (p2)".

The importance of on-the-job, and off-the-job embeddedness – in protecting wellbeing - is discussed in one paper[124]. Embeddedness in this context means *"the extent to which people are linked with others or to activities, the extent to which their jobs and communities fit with other aspects of their lives, and the ease with which their respective links can be broken--that is, what they would sacrifice if they left"* (p329). The authors argue that the more fulfilled staff feel in their personal lives, the greater the buffer to the emotional challenges of being off duty while there is huge need for staffing.

Tension 8: The tension between the lived reality of staff shortages versus the wish to deliver high quality patient care, which can result in moral distress

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CMO#15: Staff shortages prevent staff from giving high quality patient care

Context: Staff come into the profession to care well for people in need. Staff shortages mean there is less time to care for each patient.

Mechanism: Institutional constraints (staff shortages) make it nearly impossible to pursue the right course of action (resource) staff feel dissatisfied with the care quality they can provide and care that is left undone (resource) and experience moral distress and injury (-response) causing them to experience anger, frustration, guilt and loss of the capacity to care. (- response)

Outcome: Staff become burned out and dissatisfied with work and leave the profession because they feel they can no longer give the quality of care that patients deserve.

This is supported by findings from one study that many staff are leaving the profession because they feel they can no longer give the quality of care their clients deserve[154], supporting previous literature on this[16, 201]; and care 'left undone' by Ball and colleagues[202] who report that 86% of nurses *'reported that one or more care activity had been left undone due to lack of time on their last shift'* (p116).

CMO#16: A vicious cycle of staff shortages leads to an unworkable situation for staff who remain

Context: Staff shortages create highly stressful under-resourced work environments

Mechanism: With many people leaving the professions (resource), an unworkable situation for the staff who remain (-response) is created, who become more stressed and depleted (-response)

Outcome: These staff also eventually choose to leave creating a further vicious cycle of staff depletion.

Staff shortages create highly stressful under-resourced work environments, which can create a vicious cycle and increase burn out and intention to leave the workforce, with associated middle range theories of moral distress, moral residue and moral injury. Moral distress (MD) was defined in the nursing literature in the early 1980s as occurring when: *"one knows the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action"*[203](p6). More recently Morley (2021) defined it as the combination of (1) the experience of a moral event, (2) the experience of

'psychological distress' and (3) a direct causal relation between (1) and (2)[204](p15). Morley and colleagues report that MD has been found to be associated with feelings of anger, frustration, guilt, loss of self-worth, sorrow, anxiety, misery, dread, anguish, depression and nightmares; it appears to cause a withdrawal from the bedside, the avoidance of patient contact and loss of the capacity to care, with MD reported as an additional factor for nurses leaving or intending to leave their place of employment and the profession altogether[204]. Brooks[205]argues that *'It is equally important for managers to acknowledge the suffering that goes along with moral distress and give nurses the resources to address it. In their study an ethicist was available to consult with nurses, which happened frequently"* and participants suggested it was *"a very important resource, but managers need to be open with nurses about (...) moral distress (…). It is, to some degree, inescapable, but if nurses know what it is, and have resources to help deal with it, then it can be reduced."*(p1).

Jones[192] reports that while COVID-19 has brought moral distress to more people's attention, it's not specific to the pandemic and could be brought about by staff's reaction to inadequate staffing levels or an inappropriate skill mix. Lena-Riedel et al[206] report the associated concept of moral residue, when individuals are repeatedly exposed to morally stressful situations, from which they may not fully recover from the distress they experience[207]. Prolonged moral distress which develops into a moral residue, can lead to moral injury which can increase staff's risk of developing psychological health problems and manifest in the form of a loss of trust in self, authority, and systems.

We identified two interlinked challenges: the vicious cycle of staff shortages resulting in the need to work harder and more intensively, and the challenge of staff shortages causing staff to work outside of scope of practice, both of which may increase intention to leave (see also Chapter 4). A 'runaway' effect can occur with so many people leaving the profession that it creates an unworkable void in the environment for the staff who remain (as seen during and post COVID-19 - see Appendix 4) and so more staff eventually choose to leave. The Kings Fund report[30] discusses this in relation to district nurses:

"The King's Fund has identified a large and growing gap between capacity and demand in district nursing services: a significant increase in activity over recent years, both in terms of the number of patients and the complexity of care; a decline in staffing levels, particularly in senior 'district nurse' posts' an increasingly task-focused approach to care; and a lack of continuity of care (...). Inevitably, this is having a negative impact on staff wellbeing, with unmanageable caseloads common and come district nurses leaving the service as a result". [30](p17).

This was also highlighted as one of the key pressures facing the NHS in an RCN report [208]: "*spikes in staff sickness rates put even more pressure on services and the ability of staff to deliver safe and effective care, as remaining staff are even more stretched as they try to cover for those off sick*".

CMO#17: Staff shortages may lead to an over-extension of role scope

Context: staff come into the profession to care well for people in need, to do a good job and expect to feel supported and well trained.

Mechanism: Staff shortages can mean insufficient staff to perform all roles / tasks (resource) resulting in staff being asked to perform new tasks / undertake roles out of the scope of their practice and which they do not feel trained for or comfortable doing (-response) leading to anxiety and concern about quality of care and potential mistakes. (-response)

Outcomes: Increased stress and risk of burnout, increased sickness absence and increased intention to leave or staff leaving the professions resulting in a vicious cycle of staff shortages.

In our data, staff shortages led to further loss from the profession through another mechanism, in which staff are asked to perform tasks outside their role or job scope. For example[60] conducted qualitative research with midwives evaluating a preceptorship programme who suggested *"understaffing means that you have to do more than you feel comfortable doing"* and that junior midwives *"feel overwhelmed with responsibility and this can be a main factor that can impact on the sickness rate and staff retention"* (p10). Furthermore a paramedic systematic review[21] highlighted: "*it may be that staff shortages lead to an ambulance crew responding independently to a job that would otherwise require backup, making the job potentially more challenging and/or traumatic"*(p23). This was also

reported in the SOM report[25] and WHELM report[78] where in the latter many midwives reported being moved around to plug gaps in service provision, making them feel undervalued, and causing stress and anxiety: "*The perception that my role is not essential and the expectation that I can be used to plug gaps elsewhere means I am asked to work clinically in areas I'm very unfamiliar with, but where there is no support and it doesn't feel safe*"(p19).

Undertaking tasks beyond their expertise and experience was particularly evident in staff who were re-deployed during the COVID-19 pandemic (see Appendix 4) and by our stakeholders:

Stakeholder Contribution: members noted that in 2020 healthcare professionals were increasingly being asked to take on extra or new responsibilities, opening themselves up to unfair pressure, affecting their confidence and making themselves vulnerable to psychological health issues.

Key finding 4: There are unintended personal costs of upholding and implementing values at work

Overview of key finding

Healthcare staff are known to have a desire to help others and hold strong professional values. Evidence tells us that empathy and compassion and professional values matter to patients and for high quality care delivery[11, 209]. In the UK, nurses, midwives and paramedics personal and professional values are underpinned by the NMC and HCPC professions' codes of conduct and the NHS constitution and six values therein (working together for patients; respect and dignity; commitment to quality of care; compassion; improving lives and everyone counts). Like empathy (identification with and understanding of another's situation, feelings, and motives)[210] compassion is something that is felt and is a deep awareness of the suffering of another coupled with the wish to relieve it[209]. Thus, health care professionals, are exhorted to care about patients to empathise and to show compassion. Yet compassion and high empathy can come at a high price for staff in terms of their own psychological ill-health resulting in vicarious or secondary trauma.

To deliver compassionate high-quality care, emotional labour is required; nurses, midwives and paramedics often have to suppress authentic feelings and regulate their emotions, which can impact staff psychological ill-health. Emotional labour can be defined as an outward appearance of calm that doesn't reflect inner turmoil while comforting patients[211]. A potential so called theory-practice gap is reported to exist between the theory taught in healthcare education and the reality of healthcare delivery[201, 212]. If staff cannot deliver the care in line with their values (see CMOc14 above) this can cause guilt and moral distress or moral injury.

Tension 9: The tension between the reality of healthcare delivery versus the taught theory and values, which can lead to guilt and moral and emotional distress

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CMOc#18: Moral distress: The theory learned through formative training may not match real-world expectations at work

Context: Students in nursing and midwifery (and likely paramedics) may develop idealised visions of what work will be like when they qualify as professionals, based on training that espouses high ideals.

Mechanism: Pressures caused by staff shortages and other systemic factors may mean that day to day practices may not align with what students are taught (resource). Emotional and moral distress is felt when newly qualified staff are not able to practice in the profession in the way they anticipated during their training years (-response).

Outcome: Reduced workplace satisfaction, stress and burnout and potential to leave the profession.

CUP-1 programme theory[17] identified that doctors did not feel able to do the job they were trained for or able to feel proud of the work they have done. Brooks[21] suggests clinicians experience a high level of moral distress when they know they are not providing optimal care to patients. Our data also suggested the same was true particularly for nurses and midwives with a theory-practice gap evident in a number of ways.

Published literature has alluded to the role of professional identity and role clarity as important determinations of psychological wellness for nurses and midwives. For example, a study on resiliency in midwifery [213] in which they asked senior midwives what allows them to 'bounce back' after a difficult day. In that study, participants cited *'having a strong sense of professional identity'*(p67), among other traits. Similarly, Goddard[53] provides further insights into the role of professional identity formation on psychological health in the nurse workforce and issues of dissonance. In this study, they examined the prison nurse role and the challenges therein in maintaining a clear sense of professional identity in the face of incompatible ethos of prison administrative culture. They write "*if there is a dissonance between what the nurse perceives to be essential values, ethos, and history and what which is encountered in the workplace, it could negatively impact on the growth of a positive professional identity*"(p165).

Some groups of staff seem to suffer more than others, with newly qualified staff often struggling the most, trying to implement theory and uphold ideals of care quality[16]. There is evidence to suggest that more experienced staff may have either had to compromise their ideals of care or left the professional because they had been crushed[214]. Hawkins et al[110] in a review of the literature on new graduates point out that:

"*an unsupportive workplace culture is a significant and ongoing problem in acute care settings with potential risk of endemic bullying behaviour....aggressive acts are most often committed by nurses who are impacted by negative job characteristics, such as increased workload, emotional demands and role conflict (...) new graduate nurses transitioning into the acute care setting are often overwhelmed and stressed due to heavy workloads and inexperience*"(p42)*.*

The reasons such staff are more at risk are because of their *'inferior position within the nursing hierarchy (...) and the unrealistic expectation for new graduate nurses to hit the ground running'* (p42). They report that after 6 months of employment, nurses had their '*ideal view of belonging to a noble profession replaced with being in a culture that eats their young*'.

The literature on the causes of workplace-induced psychological ill-health (Chapter 4) and solutions (Chapter 5) point to the nature of job roles and the organisational conditions that form the basis of the work environment. A fundamental connection between job control and stress was summed up in[90] in which the author states: "*Whether stress is perceived as positive or negative...is connected with a person's ability to do something about the external stressor*"(p261). This implies that greater perceived autonomy over one's work leads to a reduction of stress, burnout and attrition, as supported by literature included in Causes chapter, and supported by organisational stress theory e.g. Karasek[68].

However, a tension also exists between the need for autonomous working conditions amongst team members and the resultant responsibility that comes with developing deeper relationships with patients and clients. For example, the midwifery literature has identified autonomous working conditions as an important factor in determining workplace

psychological health (e.g. [34, 78]). Empirical survey findings from Yoshida[85] revealed that *"high levels of autonomy were a key protective factor of emotional exhaustion"* (p925). Autonomous working conditions can, in some instances, be compromised in the context of collaborating with other health professionals. In maternity care, this may involve a conflict in perspectives between obstetricians (medics) and midwives. Obstetric specialists may lead decision-making around maternal care from a medical perspective which can be incongruent with midwifery practices, and poor teamwork between the multi-professional members can lead to possible harms for the professionals and clients. Rocca-Ihenacho[100] notes:

> *"organizational culture underpinned by teamwork, cooperation, and positive working relationships is a key characteristic of safe maternity units...maternity unit performance can suffer from a lack of focus on philosophy of care and that malfunctioning health care organizations with poor interprofessional relations are associated with catastrophic, avoidable harm to service users"* (p2).

Maben et al[16] report nurses leaving due to an inability to implement their ideals and values:

> *On qualification nurses emerged with a coherent and strong set of espoused ideals around delivering high quality, patient-centred, holistic and evidence-based care (..) (yet) professional and organisational constraints influenced their ability to implement these ideals and values once in practice (and) (...) within 2 years the newly qualified nurses could be categorised as sustained idealists, compromised idealists, or crushed idealists. The majority experienced frustration and some level of 'burnout' as a consequence of their ideals and values being thwarted. This led to disillusionment, 'job-hopping' and, in some cases, a decision to leave the profession"* (p99).

This can cause moral distress and injury (see above). Newly qualified midwives can also experience cognitive dissonance between their original ideas around care provision and the reality in practice (the so-called theory practice gap[201, 212], especially around issues of autonomous working:

"…experience the conflicting ideology of being taught woman-centred care at university and the reality of working within an environment where the medical model of care dominates. Subsequently, NQMs felt guilt and emotional distress at not being able to give woman-centred care…They were frustrated by their lack of autonomy and its effect on the women in their care, when taught at university to empower women to make their own decisions. [79] p7.

Tension 10: The tension between the benefits of staff empathy to patients (ensuring quality care) versus the harms of staff empathy to staff (increasing risk of vicarious trauma or unhealthy/negative coping strategies).

CMOc#19: Empathic traits of staff members allows for better understanding of patient suffering and improved service provision but increases the risk of vicarious trauma

Context: Healthcare staff are recruited based on values (including compassion, which requires staff to be empathic) which may put them at more risk of burnout when faced with the expected exposure to traumatic events as well as chronic low-grade events which can cause serious secondary trauma. Across the health service, some staff are more empathic than others, and a variety of factors influence risk of psychological ill-health including frequency of traumatic events, lack of time to process and working in an unsupportive workplace environment.

Mechanism: Staff who are genuinely empathic (resource) are better able to understand the pain and suffering of patients (response). Such staff may significantly identify with that suffering that may resonate to the point of negatively impacting emotionally and psychologically (-response).

Outcome: While empathy can improve patient experience and outcomes it can also lead to vicarious trauma, burnout and staff leaving the profession.

When ill, frightened and/or facing a difficult diagnosis it is reasonable that patients want to be cared for and cared *about* by those looking after them[214]. There is evidence to suggest that a caring healthcare encounter is highly associated with patient satisfaction[215], better patient outcomes[216, 217] and facilitates healing[218, 219]. Indeed Kenneth Schwartz (a patient who died aged 39 of lung cancer and founder of Schwartz Center Rounds) spoke not only of the need for care and validation but also spoke of the need for empathy: *"I have learned that medicine is not merely about performing tests or surgeries, or administering drugs… For as skilled and knowledgeable as my caregivers are, what matters most is that they have empathized with me in a way that gives me hope and makes me feel like a human being, not just an illness"*[220](p3).

We have noted the challenges of this work; that going the extra mile and caring for others is desirable but can readily be undermined by resource shortages and heath care professionals need to bring their whole emotional selves to work each day. Yet often there is no support or training on how they can protect their psychological wellbeing when faced with a daily exposure to trauma, to sadness and to loss. Healthcare staff are recruited for their caring values, and encouraged to empathise with patients, yet they can experience vicarious

trauma which *"can develop in people who are exposed to other people's trauma over a prolonged period"*[185] and which result in secondary trauma for nurses, midwives and paramedics as outlined above.

Although there are repeated calls for the professions to recruit more people who exhibit empathic traits and whose personal values align with professional demands, empathic staff are at risk due to their ability to resonate with patient suffering. High levels of empathy are reported in one study to put staff at risk of PTSD[112]. They write: *'empathic engagement with women is fundamental in maternity care. However, it is recognised to increase vulnerability to traumatic stress responses'* (p5). And *'the midwifery profession may risk losing the most empathic midwives following traumatic perinatal event exposure'* (p18).

Similarly, too much empathy for others may potentially exacerbate burn out, as found in another study [130]. They write *"according to reviews examining predictors of secondary traumatic stress, findings were mixed, but suggested that empathy was not protective, such that empathy had either no relationship or a positive relationship with secondary traumatic stress"*(p2).

In trying to find resolution to this paradox, staff may engage in coping activities that supress their natural empathic gifts. For many empathic staff members, being repeatedly exposed to hardships of caring for patients coupled with a lack of support from their organisations and superiors may mean 'turning down the volume' on empathy to be able to cope. There is evidence that staff are often recruited with the 'right values', yet compassion and empathy can become eroded over time by a toxic system and, in a vain attempt to help staff protect themselves, covert rules suggest they 'don't get involved with patients' (keep an emotional distance)[214]. Without an outlet to express one's empathic gifts in service delivery, the real rewards of providing care are missed, leading to decreased satisfaction with work and reduced personal accomplishment which is one element of burnout.

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CMOc#20: Staff adopt maladaptive strategies, controlling the environment or depersonalisation to cope with risks of secondary trauma and burnout

Context: staff are exhorted to provide empathic and compassionate care in the context of limited healthcare resources despite the risk of secondary trauma and burnout which can be exacerbated by a lack of organisational support or understanding for staff by employers.

Mechanism: everyday pressures may mean that empathy is depleted (-resource). Staff may engage in maladaptive strategies such as rigid task-oriented care, controlling the environment or depersonalisation to buffer against secondary trauma (response)

Outcome: worsening of STS symptoms, reduction of patient-oriented care, poor workplace satisfaction and further burn out.

</div>

In the midwifery literature there is an example of how midwives can at times establish processes that take control away from patients and their families to cope with the risks associated with providing care, and in particular to manage their "*anxiety, loss of confidence, phobia and depression*" caused by the chronic stress they experience p21). This need for control in the birthing process may be seen as a dysfunctional way of protecting against secondary trauma. Copp[120] writes,

"some [midwives] feel extremely traumatized by what they have witnessed and have not been given the space to really analyse the effects of this, meaning they carry a constant sense of unease and stress with them (…) midwives are in a position of control and power and yet (…) many feel quite fragile (…). It appears that it is easier for a midwife to feel she has control in the birthing room, because this is her domain, her level of expertise and so she arranges for that to happen, unconsciously and through force of habit (…). When a midwife feels in control of the room, she is in her comfort zone (…). So it seems that midwives can have a need to be orchestrating every person in the room" (p22).

Similarly, Barleycorn[81] explains how staff may adopt a problem-solving approach void of empathy and connection to patients in order to cope. Although this may allow staff to function at work in the short-term, it may affect the patient (positive) experience, yet the underlying accumulation of secondary traumatic responses doesn't disappear and surfaces at some point. They write *"emergency nurses will often have a problem-solving approach in emergency situations, this is termed as an 'avoidant emotional coping strategy' (a*

distraction) so they can carry on working. However, the long-term effects of this coping strategy can delay the recovery process and lead to the worsening of STS symptoms.'(p3). These examples and CMOc#20 links to middle range theory developed by Isabel Menzies-Lyth (1960)[221] whose classic paper on the structure of hospital nursing, ('A case-study in the functioning of social systems as a defence against anxiety). Menzies-Lyth suggested work in health care and social care organisations entail significant anxieties for staff and that defences against this anxiety are part of organisational life[221]. Part of these defences (to defend against primitive anxieties aroused by contact with seriously ill patients), included depersonalisation, denial of the significance of the individual, detachment and denial of feelings and the attempt to eliminate decisions (and anxiety) by ritual task-performance.

Tension 11: The tension between the excessive requirements for emotional labour inherent in healthcare practice versus the need to improve workplace psychological ill-health

> **CMOc#21: Excessive demands on using one's emotional labour leads to burnout**
>
> Context: Exposure to horrific injury and other patient suffering has resonance and evokes natural emotions in healthcare staff such as repulsion, fear or distress. If such responses are not repressed, it can interfere with service provision and evoke extreme stress and upset in patients. Patients look to healthcare staff for clues about the seriousness of their circumstances and for calm reassurance.
>
> Mechanism: Nurses, midwives and paramedics need to find ways to regulate emotions to provide hope and positivity, and temporarily hide emotions such as revulsion, fear or distress (resource). This evokes feelings of trust, reassurance and hope in patients (response), but can impact negatively on the healthcare staff themselves if there are no informal or formal outlets for these emotions (-resource), leading to the felt emotion(s) building inside. (-response)
>
> Outcome: Suppressed emotions may come out in other dysfunctional ways e.g., suppressing via alcohol, drugs, poor psychological wellbeing, job satisfaction, performance.

The need to provide emotional labour and regulate emotions was identified in the literature as a requirement for the job which has consequences for staff psychological wellbeing [222]. Hayes[222] notes that emotional regulation occurs in two ways: the first is that staff have to provide positive emotional support to patients/relatives during times of acute crisis, regardless of what they may be feeling during those moments of crisis. At the same time, staff need to keep their genuine feelings at bay if they are experiencing secondary effects of trauma exposure. A midwifery paper reported that if midwives show distress and women see midwives crying this can impact on their feeling of safety, so midwives hide their emotions to support women in their care, which for staff further normalises these traumatic and distressing events[223]. Organisational expectations and pressures in the front-line emotional labour delivered by staff also play a role, Hayes et al[222] write:

> *"An emotive response can appear insincere when it is acted, faked or actively modified to accommodate an organisational or societal norm…Within the context of paramedic practice, it is wholly necessary for personnel to ensure certain human emotions stay concealed; for example, revulsion at a horrific injury. In the conceptualisation of the term, emotional labour, this constitutes the effort that paramedics have to apply to their expressed behaviour, rather than managing the*

feelings that underpin them with something that, in terms of organisational psychology, is constructed with no degree of authentic feeling" (p320)

> **Stakeholder contribution (Meeting 2):** Building on the previous finding relating to chronic cumulative stressors impacting staff mental health (key finding 1) a member stated that the emotional labour of moving between the continuum of emotion and experience (moving between traumatic and more mundane but still taxing everyday stressors) was intense and at times unmanageable, especially when there is not time to process it.

"I believe we are all affected in some way by things we see, by the emotion we experience but are forced to contain while dealing with our job. Showing any sign of emotion is still perceived as a weakness rather than an outlet, and this is one of the things that needs to change". [82](p225).

Anderson[77] reports spaces in which different emotional rules apply for public and private performances of emotion for paramedics; with the on-stage performance with the public often using surface acting whereas the *"debriefing in the vehicle or at the station—the off-stage arena—has been identified as an important coping mechanism employed by paramedics, providing a space to react 'unprofessionally'"* (often with dark humour), with the back stage space at the home with family and friends. This draws on Goffman's middle range theory of dramaturgy which uses the metaphor of theatre to explain human behaviour, describing front and back stages in presentation of self. Front stage is where individuals are expected to put on a costume and act differently when in front of an 'audience' and back stage is where individuals can relax and actions that would not be condoned in the front stage are free to be expressed[224].

> **Stakeholder contribution (Meeting 1):** a member described that when they wear their professional mask they put their profession on a pedestal where there is no room for weakness – and that's where the naming and shaming comes in.

Oates and colleagues[113] in a literature review on nursing in secure forensic mental health setting describe nursing in this setting as 'emotional hard labour' due to the likelihood of

assault and difficulty of working with a disturbed and distressed patient group. Citing the implications for practice they, like other literature point to the importance of workforce planning that allows for 'time out' of the setting or early retirement (see Chapter 5). However, these strategies could be seen to be not really addressing the problem, just 'minimising the dose' of exposure.

Key finding 5: It is challenging to design, identify and implement interventions to work optimally for diverse staff groups with diverse and interacting stressors.

Overview of key finding

Our synthesis of the literature also revealed several tensions in terms of identifying the 'right' intervention for the 'right' circumstances at the 'right' time. We also noted that although there is a plethora of interventions (both formal and informal) as outlined in chapter 5, aspects of the service architecture can impede (or facilitate) implementation and there is often an 'implementation gap' [25, 225].

CUP-1[17](p42-46) note four CMOcs that related to implementation challenges for psychological health interventions. These included the need for:

(i) endorsement [CMOc16]; if not endorsed by the employing organisation and senior leadership) Drs may lack trust in it and may also feel frustrated if they cannot access it because of work constraints

(ii) expertise [CMOc17]; if those delivering interventions do not have specific training expertise recipients may be less likely to trust the intervention which may be ineffective and/or harmful or not accessed at all

(iii) engagement [CMOc18]; if Drs involved in the development and implementation of interventions (recipients are more likely to trust and feel ownership of the intervention resulting in more use and effectiveness

(iv) evaluation [CMOc19]; If the outcomes of interventions and the well-being of the workforce are regularly reviewed and monitored and acted upon then doctors may feel more supported and engage with efforts to tailor these interventions.

These features fit with evidence-based Implementation Science frameworks such as the CFIR (Consolidated Framework for Implementation Research)[65, 66] which tell us the factors important for successful implementation of interventions, and also with conclusions from the King's Fund report[30] which states interventions are most likely to work when they are tailored to specific contexts and needs of the staff group they affect, and when they involve and engage staff in shaping and implementing changes[25, 226]. In our synthesis, we have also identified the importance of considering who when and how interventions are delivered, not just what they are. This includes the timing of delivery of interventions; the mandatory or voluntary nature of participation in wellness interventions, - as well as top down versus peer-based interventions (building on the engagement feature identified in CUP-1).

Tension 12: The tension between making staff wellness interventions mandatory versus voluntary

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CMOc#22: Mandatory Participation in Psychological Wellness Interventions may stigmatise staff and be inauthentic

Context: Delivering healthcare involves difficult emotional work every day and may involve exposure to trauma. Staff may response and cope in different ways, and there are varying levels of psychological support in teams and organisations.

Mechanism: When there is an expectation by managers and peers that all staff should attend a wellness intervention (resource), this leads some people to benefit from the support of others (response) while others may be left feeling resentful, anxious and exposed at sharing emotions and possibly re-traumatised by the requirement to disclose their emotional state to others. These staff may also feel stigmatised by their disclosures (-response). If mandated these may become less authentic and a tick box response (resource), leading to staff feeling they are a management tool rather than caring for their wellbeing (-response) yet mandating such interventions could enable them to become normalised (resource) which may ultimately change culture regarding speaking about emotional impact of work (response).

Outcome: Mixed outcomes; where negative responses are triggered, staff are less engaged in work, feel less secure and safe, less likely to speak up, more likely to suppress/look for other means for support which may be dysfunctional. Where positive responses are triggered, staff feel looked after and supported, believe their wellbeing matters are more likely to disclose, and culture change may follow.

CMOc#23: Voluntary participation in wellness interventions provides choice but may reduce uptake

Context: Delivering healthcare involves difficult emotional work every day and may involve exposure to trauma. Staff may response and cope in different ways, and there are varying levels of psychological support in teams and organisations.

Mechanism: Offering debriefs or checking in as a voluntary/optional intervention (resource) means that those who wish to discuss/receive support can receive it (response) BUT may lead to some who needs support not accessing it due to fear of stigma, or not recognising they would benefit from it (-response).

Outcome: Staff feel better supported and that their concerns are heard after challenging and stressful events (those who wish to receive it) but may leave others who don't want to access feeling unsupported and alone and not able to disclose or receive support.

Whilst we have identified the need for a dynamic "system" of interventions and yet a prevalence of solutions that are individual-focussed which can make staff feel as if it their responsibility alone for their psychological ill-health, we acknowledge that these

interventions can be of benefit (within a suite of interventions) and some guidance about whether they should be mandatory versus optional, was identified in our synthesis. CMOCs#23 and #24 above present rival theories.

If an intervention is optional some staff might not come forward even if they need help, perhaps due to perceived stigma associated with accessing help (e.g., one to one or group psychological therapy sessions). On the other hand, if an intervention is mandatory some staff may feel forced to participate when they are not ready or feel the need to do so, or the offer of support may lack authenticity and feel 'tick boxy'. This is explained in the following excerpt from a qualitative evidence synthesis of help seeking in trauma-exposed emergency service staff[18]:

"some participants resisted mandatory organizational mental health support following traumatic calls' and 'Others, however, believed mandatory interventions would reduce stigma associated with their use and prevent delays to help seeking due to the stigma associated with disclosing vulnerability" [18] p9.

Stakeholder contribution (Meeting 2): a group member said one of the issues that her organisation was struggling with is exactly this conflict; making wellness interventions mandatory or voluntary. Whilst a paramedic in our third stakeholder group urged caution if mandating an intervention is conflated with 'safety' as just because it is mandated, doesn't mean it offers psychological safety.

It is known from the PTSD literature that psychological debriefing may interfere with natural recovery processes following a traumatic event [18, 35, 129] and mandatory debriefing may not necessarily be the right intervention for a given staff member at a certain point in time. This potential harm is not always recognised by organisations, for example:
"Midwives also reported an unhelpful organizational climate, and typically did not perceive responses from senior colleagues to be emotionally supportive. In addition, midwives who sought external input to help manage their responses to trauma were often referred to counselling services, despite counselling being contraindicated for the treatment of PTSD" [129] p3.

Voluntary interventions may allow those who are most receptive to such interventions to take part and find benefit through connecting with peers and supervisors while allowing others to process emotional difficulty in different ways such as through recreational activity, meditation and so on. Some voluntary interventions (e.g., Schwartz Rounds) may create a sense of psychological safety amongst the team/attenders whereby everyone knows no one is going to be forced into disclosing their difficulties (the audience can just listen and not share[49, 175]). Normalising and attempting to de-stigmatise attention to and support for psychological health at work is also important, and if addressing/discussing wellbeing is a standing item on meeting agendas, appraisals, and other formal processes, and taken seriously and with good psychological safety then it may be helpful, but care needs to be taken that it is not just lip service, so _how_ it is done is very important. In Duncan[127] the authors argue *"health and wellbeing concerns should be raised at staff meetings as a standing item, so it becomes normal practice for staff to think of their own health and wellbeing, as well as those of other team members"* (p480).

The theory here is that raising psychological health concerns as standard practice sends a message that people should monitor and reflect on their needs as part of normal everyday practice. Having group check-ins may also allow staff to think about their own and colleagues' psychological health, which may increase recognition of the challenges everyone is facing across the workforce.

Tension 13: The tension between the need for spaces to debrief with managers/leaders so they hear and can thereby offer support versus the need for peer-led spaces for debriefing

> ### CMOc#24: Psychologically safe spaces for processing work challenges can provide support and healing
>
> Context: Trauma exposure and other stressors on the job may lead to supervisor-led check-ins as part of routine practice.
>
> Mechanism: Formal debriefing offered through occupational health [or the department, e.g., hot and cold debriefs etc.] that have both organisational learning and staff support as their aim can provide opportunity to process difficult experiences (resource), however may not work if perceived as a management tool (- response). Peer led spaces for debriefing can bring safety and willingness to disclose difficulties (response) if with trusted peers in a confidential and safe psychological space (resource) but may lead to managers/leaders being unaware of issues and thereby unable to act. (- response)
>
> Outcome: Managers/Formal: Lack of uptake (if voluntary), or breakdown of trust if organisations use check-ins as a management tool, and therefore reduced disclosure from staff; but opportunity for managers to signpost/provide further support if needed.
> Peer/Informal: sharing of stories, psychological healing, not feeling so alone in feelings, improved teamwork if with trusted peers; but may not be signposted appropriately to support where needed.

We need both interventions for organisational learning (e.g., hot and cold debriefs) and those for staff healing (peer-led informal spaces, and counter-cultural organisation-wide spaces such as Schwartz Rounds).

CUP-1[17] note two CMOcs that related to this tension. These included the need for:

(i) Positive and meaningful workplace relations [CMOc#7]: which can foster a sense of belonging between colleagues and towards the profession and lead to an increased capacity to work under pressure

(ii) 'organic' spaces to connect [CMOc#11]: with protected times and psychologically safe spaces to congregate staff can to bond over whatever is most important to them at that time which may improve connectedness.

A recent review (Ulys under review)[227] on shared social spaces on the wellness and learning of junior doctors identified:

"Four significant common attributes of shared social spaces which can be credited with positive impacts on wellness and learning.

1) Informal; fostering connectedness and belonging, trust and teamwork and offering access to informal help and support.

2) Safe; allowing reflection, debrief and raising of concerns.

3) Functional; there is planning of clinical care activity, sense of control and engagement from users and provision of refreshment.

4) Legitimate; regular maintenance and use of shared social spaces affect role modelling, sustainability and wellness culture" (p1).

Ulys's (2022)[227] review suggests informality is key:

"The informality of a shared social space appeared to be fundamental to its ability to support learning and wellbeing (..) being away from the clinical 'frontstage' shared social spaces seem to allow individuals to interact informally outside of the constraints of their usual roles in the clinical environment, (…) allowed social conversations to be 'freewheeling' and unguarded (..) (and) 'backstage' reflecting the degree of performance that must be enacted in the clinical environment, either for patients or for colleagues" (p6).

Our data support the benefit of spaces for staff to come together (see Chapter 5). It is known that over time such spaces and places for staff to eat and rest together have become eroded with break rooms often multi-purpose rooms and not created with rests and recovery in mind, and *"shared social spaces are in decline"* (Ulys under review)[227]. Also, that certain contexts may make informal interventions more or less difficult to enact.

Stakeholder contribution (Meeting 2): a member highlighted that lone working makes 'accidental' or informal debriefing harder, but formal spaces are hard as you are told its "OK to share now" which can be off-putting; another member described informal ad hoc support (e.g., whilst cleaning an ambulance) were important times for resetting mentally before the next job.

Thus, opportunities for staff to take lunch together or take breaks with other colleagues have been severely affected. This is particularly so for some specialist nurses [107], community nursing[61] and midwifery staff and paramedics who are often lone workers and who may not see another colleague all shift, have less team support and perhaps more

challenges around a manageable flow of patients[61]. Whilst the importance of these informal spaces for peer-based support is acknowledged in the literature, so too is the importance of having support built into 'the job', as highlighted in our stakeholder group.

> **Stakeholder contribution (additional meeting, July 2022):** one member described how all wellbeing initiatives should be built into the job and weaved into existing structures and routines – become routine practice rather than a separate initiative - because staff were continually exposed to occupational hazards that are part and parcel of the work.

Other papers suggested trauma is an expected part of the job [33, 112, 228] and a paramedic paper suggested the intensity of this exposure is at complete odds with what member of the public may ever see, with the general public's perception of 'normal' different to paramedics[103] *"paramedics and ambulance crews see incidents on a daily basis that the average person may only experience once in a lifetime"* p192. A paramedic review paper[18] reported that due to the potential stigma arising from disclosing in earshot of colleagues, most of this defusing occurs in the private space of the ambulance when returning to base or awaiting the next call, and referred to the shame and fear of repercussions of admitting to psychological health difficulties. This may be more prevalent in a male-dominated work environment with military roots such as the paramedic service perhaps[77] (also see Appendix 4). Although Choflet and colleagues[36] suggest it also applies to nurses:

"Nurses live in a culture of personal and institutional stigma against treatment of mental health conditions, fear of judgment by peers and supervisors, consequences of having mental health treatment or condition on their "record," and potential action by licensing boards. (…) Addressing stigma, confidentiality, and reliance on self are deeply ingrained but critical barriers to help seeking within all health professionals. (p21).

The other tension relevant to formal versus peer-led debriefs is clarity about *the purpose* of any given intervention – is it outcome orientated and designed to create actions for organisational learning or is it primarily for staff healing, or both? If linked to organisational learning it may be perceived as a 'management tool'. The conditions under which staff

would perceive debriefing as a management tool versus a supportive intervention is not clear in the current literature retained, but it can be understood in relation to the objection to having their wellbeing 'managed', and also in relation to other 'objectives' that the interventions may be serving (e.g., patient safety/organisational learning etc.). In our stakeholder group, a paramedic member stated that 'how' managers checked in with them -- and their tone – mattered in terms of working out whether managers were checking in to check whether paramedics are OK to go work (being monitored, with service delivery at the root), or whether it was a supportive check-in, or simply a 'tick box' exercise. Alongside feeling their wellbeing is being 'managed', staff might feel that they are being monitored and judged by their superiors and their peers and suffer consequences to their job and possible reputation. Noting the key issue of stigma in the literature [18, 35, 36, 229], issues may arise in terms of gaining a reputation of 'being weak' in the context of other staff who seem 'resilient.

This reaction against 'management tools' is proposed as one of the key rationales for the benefit of peer-to-peer spaces. Peer-to-peer community practice approaches to debriefing and wellness check-ins are recommended in a few papers [72, 109, 180, 230], with a further paper suggesting them as an alternative to formal mentoring or supervisor-led check ins [73]:

"*formal debriefing, particularly following critical incidents, is offered within ambulance services, usually from occupational health. Limitations can arise if ambulance staff perceive debriefing as a management tool, rather than a method of recognising and managing occupational stress, creating resistance to treatment*" (p1).

This also links to the need for spaces that are deemed to be independent (from managers, the organisation), raised in a few sources including a report about burnout in ambulance service staff by the Larrey Society[152] within which a key action was to ensure access to independent counselling services. Similarly, O'Neill and colleagues[89] examined supervision with nurses that used reflective practice techniques, which illustrated the importance of confidentiality and psychological safety and an uninterrupted safe space free

of management as important for group support. They found that participants preferred that managers were not present during the sessions:

"*some of the participants had attended the group with managers present and said that it changed the group as people were afraid of being judged or told how to think or act. There were also concerns that managers may follow-up conversations outside of the group which they preferred to keep private*" p8.

Thus, informal confiding and sharing of experiences is most likely with colleagues (or family) with whom staff share a bond of trust. Without trust staff risk reliving distressing events and their feelings being invalidated[18]. A national realist evaluation of Schwartz Rounds (one of the few organisation-wide, peer led, team-based interventions) identified the importance of confidentiality and psychological safety as important mechanisms to 'disclosure' healing and self-compassion. Schwartz Rounds have specific ground rules carefully prescribed by the programme architecture and facilitators to make it a safe space with a flattened hierarchy that overcomes any risks regarding disclosures with managers present identified above by O'Neill and colleagues[89], despite being a 'formal' intervention. Schwartz Rounds are one intervention to use stories and Paranjape[93] discusses value of casual storytelling for reflective practice and self-analysis, while Quaile[82] reports "*Talking to my peers has also been a massive help … it helps me realise that what I'm going through is normal, and that many people experience things like this from time to time*". Similarly, Jackson[72] reports the importance of being listened to and of peer support (in feedback about a support group for newly qualified nurses), also supported within the HEE report[9] emphasising the power of peer-to-peer support to help develop a strong team ethos and that both formal and informal methods can be useful.

The use of technology in providing peer-led spaces was also reflected in the literature e.g., Webster[58] who reports on the implementation of an online peer support group for newly qualified nurses. The approach is to provide an online platform whereby nurses can feel supported emotionally and *'collaborate with one another to reflect on their work, gain psychological support, share power and responsibility, and feel empowered.'* (p1587). The peer-led and voluntary nature of the intervention are important facets of the programme

architecture, leading to the idea that nurses need to have autonomy around the restorative interventions they are provided. Such peer-led interventions can be assumed to be advantageous as a downstream intervention in the sense of increased psychological safety and shaping their needs, voice concerns and gain a voice in what otherwise might be a silencing and oppressive work environment. Alternatively, peer-led interventions may not always ensure psychological safety if peers do not have trusting relationships with each other, or if the volunteer mode ration of the forum does not create a safe and confidential space for people to disclose sensitive issues and receive support; and the informal nature of some peer-led approaches may lead to staff not being signposted for further support when it is needed.

CMOc#25: The importance of kindness, listening and space to be heard by mentors

Context: In the challenging experiences of delivering healthcare, staff may face chronic and acute trauma exposure that may not be understood by mentors and colleagues.

Mechanism: Mentors offering kindness, listening and spaces to be heard (resource) allow staff to become stronger, recover and heal (response)

Outcome: Staff feel supported and their trauma recognised, are able to carry on with their work and feel less alone and more supported.

All staff, and especially mentors (who may be managers or people affiliated but not involved in line management) need to understand the impact of their actions on other staff who may be carrying secondary trauma. For example, the anonymous author of a blog[106] writes about her struggles with psychological ill-health and how workplace mentorship has the power to cause and to heal deep wounds. She talks about how being yelled at by one of her mentors led to her spiralling down:

> *"Sometimes it is the smallest thing that opens a crack, like a thorn in an open wound that is wiggled every time another 'small comment' is made, opening that space wider and allowing infestation and disease to spread deeper inward, until you are not quite sure who you are." (p758).*

The author described the impact of mentors being kind and patient, arguing that in some cases such acts of compassion can be more effective than resiliency training:

"I think more effective than resilience is kindness, patience and gentleness. In my worst moments, I had kindness poured over me from hearts steadier than my own. I had ears that heard me and allowed me to speak, and many people who were willing to tread a path with me. This, more than anything, helped me to survive, heal and ultimately thrive. I am stronger, not by my own might, but by the strength of those that held me up when I couldn't do it alone" (p758).

A key contextual factor here for mentors/managers (or those doing the checking in) would be their training needs and ensuring that they were properly trained to ask the right questions and offer or signpost to the required support.

For example, Duncan[127] writes *"If managers notice that a staff member is becoming withdrawn and quiet, they should create an appropriate confidential environment to let the staff member know they have noticed, and that they are concerned for their welfare. Sometimes, simply asking if someone is alright and offering an opportunity for discussion can prevent a difficulty from escalating to a problem"* p480.

Tension 14: The tension between the need to act and offer support versus providing interventions that are ineffective because they are too soon, reactive and/or single timepoint

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CMO#26: The importance of timing of psychological ill-health interventions

Context: Staff may experience stressors and trauma exposure that benefit from intervention but may require different support at different times in psychological ill-health journey or in working day (e.g., end of shift debriefing), yet staff are usually exhausted and drained at the end of their shifts.

Mechanism: In an immediate crisis, staff may need their immediate basic physiological and safety needs to be met (safety, shelter [resource]); once met, psychological support could be accessed (response). Debriefing interventions that occur at the end of shift (resource) provide a non-judgemental reflective space (resource). However, fatigue and exhaustion reduce motivation to attend such debriefings (- response).

Outcome: Low uptake of psychological support if basic needs not met and low attendance at end-of-shift debriefing meetings and a less effective intervention / support for staff.

Interventions and strategies to reduce stress, can also be affected by the timing of the intervention. There has been significant learning in the recent COVID-19 pandemic where in a longitudinal study of the Impact of Covid On Nurses (ICON), nurses reported not accessing interventions, such as mindfulness Apps, 'wobble rooms', online 'zoom' wellbeing sessions, counselling or psychology sessions. This was due to a variety of factors such as time constraints and not wishing to access resources outside of shift-hours (while recuperating), or because of physical barriers such as sessions not being set up on the site staff were working on. Another reason was that they were not the right intervention at the right time: they needed their essential safety and physiological needs to be met first[231]. Indeed, in terms of temporality, in the ICON study nurses reported requiring very different support at different times; in the immediate crisis, they needed their immediate basic physiological and safety needs to be met as per Maslow's (1943)[163] hierarchy of needs (food, safety [i.e.PPE], shelter). Once these were met, and the threat receded, they could begin thinking of accessing psychological support (if required). Thus, timing matters. Bowen[108] reports an evaluation of a debriefing intervention for emergency nurse practitioners and found debriefing was not helpful for everyone and made some feel worse. This is a known risk with psychological debrief interventions that may be designed to mitigate risk of PTSD (such as

Critical Incident Stress Debriefing) but now known to potentially increase risk of developing PTSD. Another discussion in the literature concerns when in the shift such interventions be implemented. Winter[136] reported findings on a particular debriefing intervention called 'recognise and reflect' which is a debriefing intervention that takes place at the end of shifts. They write,

"recognize and reflect" end of shift meetings, led by a specialist registrar and senior midwives, aimed to provide an opportunity to reflect on the completed shift, discuss positive aspects and identify emerging issues in a non-judgemental way. However, these were abandoned after five weeks due to a 50% attendance rate, with one midwife commenting "I personally found at the end of a 12-hour shift, most people are impatient to return home/exhausted/drained" (p802).

This points to the fact that timing matters in debriefing interventions and that debriefings after long shifts may not be suitable due to fatigue and the need leave the workplace, unless time is built into allowing them to happen prior to the end of a shift. After a long shift would seem like a time when staff are checking out, moving into a different mode outside of the workplace context. Other examples in the literature included interventions that were not successful due to not being needed or wanted[89] and another where the introduction of the intervention (restorative supervision and helplines) were reported as ineffective and unwanted[119]. Both studies reinforce the need for involvement of frontline staff in planning designing and implementing interventions.

Chapter 7: Discussion

"If the job is making doctors sick, why not fix the job rather than the doctors?" [232]

Summary of key findings

Our aim in this review was to improve our understanding of how, why and in what contexts nurses, midwives and paramedics experience work-related psychological ill-health; and determine which high-quality interventions can be implemented to minimise psychological ill-health in nurses, midwives and paramedics. Through our analysis (Chapters 4, 5 and 6) and discussions with our stakeholder group we realised there were some fundamental questions our work needed to answer. We therefore generated the following questions, which we have sought to address in Chapter 6, through our realist synthesis and our 14 tensions:

- Why is psychological ill-health in healthcare professionals still a huge and growing problem which has become entrenched in some settings?

- Why despite having interventions (some of which have an 'evidence base'), does the problem persist?

- How can we optimise existing interventions, by analysing when and where they work sub-optimally, as well as innovating and building upon what already exists?

Our overall review findings are summarised in Box 1

DESCRIPTIVE ANALYSIS FINDINGS (CHAPTERS 4 AND 5)

- There are more similarities than differences in causes of psychological ill-health among nurses, midwives, and paramedics; and very few interventions were profession-specific.
- Some causes may be more prevalent or exacerbated in certain professions, or roles within profession (rather than being profession-specific). In most cases it is the service architecture that can increase risk rather than the profession itself.
- Organisational prevention is under-represented and there is a focus on the traumatised (tip of the iceberg), rather than the essential needs of the majority.
- Some individual characteristics (e.g., ethnicity, sexual orientation and/or gender identity, and disability) deserve greater focus to improve understanding of causes and interventions.
- Empirical papers evaluating interventions mostly focus on one single intervention and do not account for complexity; editorial and commentaries tended to recognise the need for multi-level systems approaches.
- Staff create informal interventions to plug gaps (in provision and suitability of interventions offered) but these are rarely recognised in formal syntheses/reviews.
- Multi-level systems approaches – offering primary, secondary and tertiary solutions - are required that consider intersectionality and structural differences between and within professions and the ways they work, and to support particular staff groups at specific times when they may be at greater risk of psychological ill-health.

REALIST FINDINGS (CHAPTER 6)

- By surfacing tensions in the literature, we have identified aspects of work that are incompatible and affect psychological ill-health and we have learned that healthcare delivery and staff psychological health is a balancing act.
- Interventions tend to be fragmented, focused on fixing the individual, reactive and insufficiently recognise cumulative chronic stressors.
- It is difficult to promote staff psychological wellness where there is a blame culture.
- 'Serve & sacrifice': the needs of the system often override staff wellbeing at work.
- There are unintended personal costs of upholding and implementing values at work.
- It is challenging to identify the 'right' intervention for the 'right' circumstances at the 'right' time to work optimally for diverse staff groups with diverse stressors.
- Implementation gaps may exist where interventions are not implemented well or sustained.
- A long-term strategy and investment are required: some interventions take time to effect cultural change.

COVID-19 (Appendix 4)

- COVID-19 caused an exacerbation and acceleration of staff psychological ill-health from already difficult pre-pandemic conditions and continued investment is important to prevent further attrition.
- Innovation increased during COVID-19 with new interventions adapted/established, though barriers to access (including stigma, stoicism and timing) were apparent, and required a focus on essential needs first.

Box 1: Summary of key overall findings

A summary of the 26 associated Context Mechanism and Outcome configurations (CMOcs) organised by the five main findings can be found in Appendix 12. We now summarise our main findings in relation to the three specific aims of our study.

Aim 1: Understand when and why nurses, midwives, and paramedics develop psychological ill-health at work, and provide examples of where and how it is most experienced.

Our findings suggest that staff come into healthcare with high ideals, strong values and the desire to do a good job every day, yet many develop psychological ill-health as a result of their work. Our study suggests this is highly prevalent, and should be anticipated and prepared for, given the emotional, social and ethical aspects of the work. High degrees of empathy can also cause vicarious or secondary trauma. In short, delivering excellent care to patients can often come at a high price for staff in terms of their own psychological ill-health.

Our synthesis reveals that psychological ill-health in nurses, midwives and paramedics results from complex interactions between the individual, their professional role and values, the desire to deliver high quality care and current working structures and conditions. These complex interactions – and resulting risk – are further exacerbated by intersectionality factors such as gender, ethnicity, disability. It has always been challenging to provide prompt, high quality, empathic care for patients, particularly when there are staff shortages, and this has been exacerbated by the COVID-19 pandemic. It is now _even more_ challenging to provide excellent care _and_ to ensure that the psychological health or nurses, midwives and paramedics is maintained and does not deteriorate further. Staff have gradually adapted their work behaviours and norms as conditions have got progressively worse. For example, gradually increasing overtime or work intensity can erode some protective mechanisms (such as job satisfaction and engagement and time with colleagues and family), resulting in harm to psychological health. This gradual worsening of working conditions has been compared to the 'boiling a frog' analogy (see Chapter 6; Tension 2) and can cause significant work dissatisfaction. Such work conditions Herzberg[233] her calls hygiene factors (contextual extrinsic factors, including those deemed essential in Maslow's hierarchy of needs), which we identified in the literature as causes of psychological ill-health.

Motivators (satisfiers)

oWork itself
(giving great care)
Performance
Achievement
Growth opportunities
Recognition
Responsibility

Hygiene Factors (dissatisfiers)

Working conditions (staffing;
pay; parking; food and rest)
Physical workspace
Co-worker relations
Quality of managers
Salary and status
Policies and rules

Job satisfaction

Job dissatisfaction

Figure 2: Herzberg's two factor theory diagram (adaptation based on our data)

Our review has highlighted (see Box 1 for summary):

1) that trauma is not only acute, but can be chronic and cumulative, with seemingly benign events triggering psychological ill-health;

2) that collective blame is often attributed to individual staff and that there are double standards in accountability; and

3) that fitness to practice processes can be psychologically harmful and when staff do speak-up they can encounter a 'deaf effect' with no action.

Nurses, midwives and paramedics are often exhorted to 'put patients first' within a culture of giving 100%, which can send a message that their own psychological and physical needs come second, thus the needs of the system override staff wellness. There is also a professional culture that promotes a 'serve and sacrifice' ethos, which in the context of staff shortages can result in moral distress. Furthermore, excessive requirements for emotional labour can be at odds with messaging that wellbeing matters and exhortations to improve workplace psychological ill-health. This can cause some staff to feel they are failing at maintaining their own psychological health because they are not resilient enough, blaming

themselves and individuals rather than work conditions and systemic forces identified above.

Secondary interventions that target individual nurses, midwives and paramedics to modify their response to stressors (and thereby prevent their psychological health deteriorating further) may address aspects of the causes identified in our review. However, our review has highlighted that these are fragmented (not part of a wider 'wellbeing' strategy that also focusses on primary prevention) and typically ignore the wider context. In doing so, offering such interventions can unintentionally backfire by sending a message that blames staff for their own psychological ill-health.

In terms of profession-specific issues, we identified more similarities than differences between nurses, midwives, and paramedics. Most profession-specific causes we identified in the literature are likely to be applicable to other sub-specialties (see Chapter 4, Table 6). The staff groups within our three professions that were most at risk included groups that were subject to discrimination at societal, structural or interpersonal levels, including: ethnicities except white British, LGBTQ+, disabled staff, and women. Structural features of work and working conditions may place certain staff at greater risk of psychological ill-health, including those with increased exposure to trauma, blurred role boundaries, and geographic isolation. These features were mentioned for specific types of nurses (e.g., critical care; end of life; mental health inpatient setting; emergency nurse practitioners; district and community nurses; prison nurses) and are common to some midwives and paramedics. Leaders and managers were also identified as a group that may be particularly lacking support. In terms of stages of professional life where risk might be increased, this included staff in transition (e.g., newly qualified or new in post) or crises points (e.g., after trauma exposure or subject to investigation or complaints).

Aim 2: Identify which strategies/interventions to reduce psychological ill-health work best for nurses, midwives and paramedics, find out how they work and in what circumstances these are most helpful.

Our second aim focused on the strategies and interventions which may operate differently

in different contexts and for different staff groups. Our review found that the complex interactions that lead to psychological ill-health mean a reductionist 'individual intervention' approach would be inappropriate, and that identifying the 'right' intervention for the 'right' circumstances at the 'right' time is challenging.

Overall, our literature synthesis noted that individual-level interventions were unlikely to be enough to support staff due to systemic problems, and in the absence of a wider contextual lens could do more harm than good (potentially blaming staff for their own poor psychological health instead of intervening at the system level). However, individually focussed interventions aimed at modifying response to stressors, such as mindfulness, are likely to be useful to some staff in the moment, and there is good evidence for some interventions aimed at wider organisational culture change such as Schwartz Rounds[49] and the Blue Light Programme[176].

Our review recommends avoiding implementing interventions into organisations without first understanding the service architecture, culture and work conditions that would impede or facilitate implementation (e.g., lone and/or community working or working night shifts affects access; trust, psychological safety, and compassionate leadership affects speaking up and disclosure of emotional support needs). We noted tensions in organisational priorities between:

(i)   quick fixes *and* longer-term interventions, which may require patience and sustained support to produce their effects, and require non-quantifiable ways of showing benefit (e.g., Schwartz Rounds);

(ii)   interventions focussed on organisational learning *versus* staff healing; and

(iii)   the need to act and offer support *versus:*

   a. providing interventions that are ineffective because they are too soon, reactive and/or provided at a single timepoint

   b. protective strategies appearing as 'lip service' and managers perceived as 'out of touch' for recommending approaches when staff are not given time to access and participate in interventions.

Our synthesis suggests there are no easy 'plug and play' interventions that would result in significant change. The (interrelated) root causes of psychological ill-health that we have identified in this review are where interventions would likely have most benefit – with a system rather than individual cause lens. These include addressing staffing shortages, and hygiene factors to reduce job dissatisfaction, and changing culture to one that encourages and supports speaking up and listening, recognises the inevitable challenges of healthcare work and seeks to recognise staff psychological ill-health as the norm.

What is missing from the literature?

Key gaps in the literature include:

(1) There are few system-wide, multi-pronged interventions in the empirical literature: our review found that the literature is replete with individual often one-off interventions; with few multi-focal systems interventions although we did identify some (see Chapters 5 and Appendix 4). Few of these have been evaluated well, likely in part to be due to the complexity (in methods, expertise and time) required for evaluations of multi-component/systems interventions.

(2) The empirical literature prioritised acute or one-off traumatic incidents, rather than acknowledging the cumulative impact of everyday stressors.

(3) We found very little focus on intersectionality in relation to causes or interventions, yet it is critical to underpin strategies aimed at mitigating psychological ill-health in the diverse healthcare workforce.

(4) Although our search strategy was not explicitly designed to locate economic evaluations of interventions, very few papers included this. However, recent work has made a strong financial case for investment in staff psychological wellbeing that was noted in some sources[10, 35].

CUP2 Programme theory

The 14 tensions highlight that healthcare delivery is a complex and dynamic balancing act. It is challenging to provide prompt, high quality, empathic care for patients, especially in a context of staffing shortages, in a way that also concurrently maintains and even improves the health of the workforce. When we consider these tensions in relation to the five key findings, organisational 'balancing acts' came to the fore (Figure 3); there are things that we need 'more' or 'less' of within our healthcare organisations and systems, based on the literature synthesised. It is worth noting that even too much of a 'good' intervention or strategy may be problematic (especially if not balanced with other elements). We deliberately focus the priorities for change at the organisational or systems level, rather than individual, given our learning from this review.
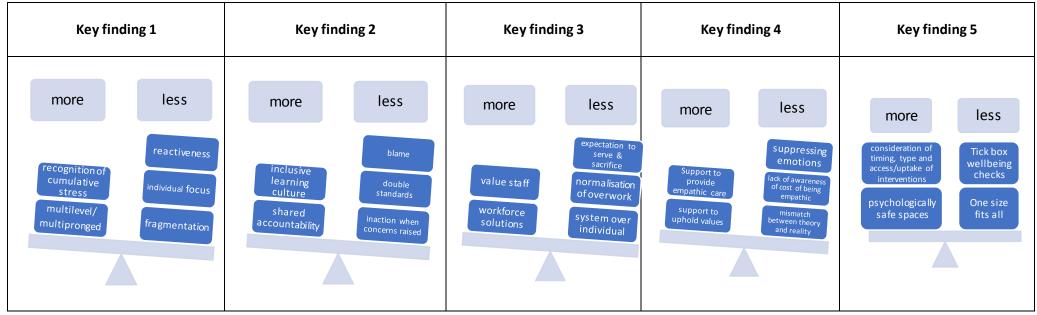
Figure 3: Imbalances based on the tensions embedded within each of our five key findings

Key finding 1	Key finding 2	Key finding 3	Key finding 4	Key finding 5
more / less	more / less	more / less	more / less	more / less
recognition of cumulative stress; multilevel/ multipronged	reactiveness; individual focus; fragmentation	inclusive learning culture; shared accountability	blame; double standards; inaction when concerns raised	value staff; workforce solutions	expectation to serve & sacrifice; normalisation of overwork; system over individual	Support to provide empathic care; support to uphold values	suppressing emotions; lack of awareness of cost of being empathic; mismatch between theory and reality	consideration of timing, type and access/uptake of interventions; psychologically safe spaces	Tick box wellbeing checks; One size fits all

Figure 4 is based on our key findings (see above and Box 1) which has highlighted that a greater emphasis on self-care is a shared responsibility between individual staff, teams, managers, organisation, governing bodies, whilst being careful that this does not erode the high standards of patient care. The emphasis on patient care needs to be matched with an emphasis on staff psychological wellbeing; professional accountability needs to be matched by listening and responding to staff, with transparency of how staff input has translated into tangible changes and results. The emphasis on reacting and responding to events now needs to be balanced by more emphasis on prevention and the cumulative build-up of smaller stressors over a longer time period. And, perhaps most importantly, the predominant individual-focus of interventions, which can be perceived to place blame on the individual, must be balanced by interventions which focus on organisational and system-wide change.

Figure 4: Key focus areas to restore the balance. Each element on one side of the scale is in tension and needs to be balanced against the one on the opposite side.

Aim 3: Design and develop resources for NHS managers/leaders so that they can understand how work affects the psychological health of nurses, midwives and paramedics; and what they can do to improve their psychological health in the workplace.

The design and development of resources for NHS managers and leaders is in progress, due for completion and delivery to NIHR in December 2022. This section describes our progress to-date towards meeting this aim.

The evidence and analyses presented in this review has been translated through an iterative process with stakeholder group, advisory group and policy makers (as outlined in our protocol, see also Chapter 2), to produce 8 overarching recommendations (see Box 2 below). These are targeted at Wellbeing Guardians and executive boards, those responsible for leading teams and/or those refining/designing interventional strategies to tackle nurses' midwives and paramedics' psychological ill-health. We have also begun to translate these recommendations for different audiences (noting that these are interdependent) (Table 11).

1. **Rebalance the service architecture and healthcare working conditions** and the effects on staff psychological health (see Figures 3 and 4 above)

2. **Invest in implementation and evaluation of multi-level systems approaches** including:

   a. Tailoring to local organisational and workforce needs (understand needs and intersectionality) and co-design with frontline staff and staff experts by experience
   b. 'Wellbeing bundles' (primary to tertiary levels, individual to organisational focus)
   c. Campaign for research funders and editors to prioritise evaluations of complex bundles/systems approaches (and for evaluations of individual-focused secondary interventions that ignore context to be de-prioritised).

3. **Reduce stigma by implementing long term plans and investment for wellbeing** at organisational & individual levels:

   a. Normalise experience of burnout/stress as an expectation of the job on a continuum/ spectrum, not binary, & build in anticipatory planning to support staff's psychological health from day one. Plan for it and support it.
   b. Take a holistic lens to recognise trauma (not just work-related causes/triggers; not just acute incidents) to also consider cumulative exposure to healthcare work.
   c. Consider risk to staff due to intersectionality; specific times in career (e.g., newly qualified; exposed to trauma; during investigations/complaints); sub-specialties of staff with service architecture that places them at risk (e.g., lone workers).

4. **Focus on essential needs (within Maslow's hierarchy) and Herzberg's hygiene factors in order of priority:**

   a. Hydration, food, parking, physical environment, break rooms (to rest, decompress and share work challenges with colleagues)
   b. Consider needs and access for staff working shifts or with no work base

5. The default position statement of the employer (NHS), leaders and managers should be that **staff are doing the best job they can in difficult circumstances**

6. **Identify and nurture future compassionate leaders** and support them in the role:

   a. Default position that everyone is a leader and training is required
   b. Support leaders to role model self-care and prioritise their own wellbeing and provide support for them too

7. **Challenge the 'Serve and Sacrifice' ethos** to enable the needs of staff to be considered before the needs of organisation/system (not overridden by).

8. **Use the NHSE/I Health and Wellbeing Framework**[153] or similar systems-based framework - to assess organisational need, plan and implement a staff wellbeing strategy.

Box 2 Eight overarching recommendations to tackle nurses', midwives', and paramedics' psychological ill health

Audience	Recommendations
Nurses, midwives and paramedics	• Recognise you are doing difficult psychological work every day: resist narratives to be stoic or resilient; expect that at times you (and others) will need support, and this is not a sign of weakness or failure. • Try to prioritise your own essential needs and give and receive support from colleagues and family/friends when working under pressure. • Recognise that you are doing the best you can and seek support when things are not OK.
Team leaders / managers	• Recognise and act upon early signs of psychological ill-health, including everyday cumulative stressors as well as acute traumatic events. • Encourage help-seeking and recognise that stigma, stoicism and personal resilience can be toxic. • Show gratitude and kindness and provide safe psychological spaces for staff to share experiences and offload. • Ensure that nurses, midwives and paramedics know that their hard work in often very challenging circumstances is valued and appreciated • Undertake & spread uptake of psychological ill-health awareness & training, including how to support and where to signpost if further support is required • Prioritise own psychological health and role model help-seeking support.
Employers / executive boards	• Ensure influential nominated board-level responsibility for the wellbeing of staff through Wellbeing Guardian appointments. • Ensure staff wellbeing is the responsibility of the whole board not just the Wellbeing Guardian and embed staff wellbeing at the core of the organisation's purpose and values. • Acknowledge the economic as well as ethical case for investment in staff psychological wellbeing (improving retention, reducing presenteeism, absence, and improving patient care) • Consider adoption of whole organisation programmes such as Magnet or Buurtzorg, or HEAR, and involve staff in decision making. • Create psychological safety and be a learning organisation (a board that wants to hear the problems!) so that there is listening and action when staff speak up and not inaction or punishment.
Other health-care team Members	• Recognise that the whole team may, at times, be providing *care under pressure*. • Try to normalise discussing work experiences and struggles in the context of challenging work; be kind and supportive to each other and remember what it felt like to be new / junior / make a mistake etc. • Recognise that colleagues are doing the best they can in difficult circumstances and that everyone needs help and support at some time and that this is not a sign of weakness or failure or incompetence. • Provide/role-model psychologically safe conversations and speak up when things are not OK.
Patients	• Recognise where possible that providing care can be difficult emotionally for nurses, midwives and paramedics, especially when there are not enough resources • Know that staff typically want to provide the best care that they can and are usually doing the best job they can in difficult circumstances. A thank you when things go well will always be appreciated!
Policy-makers	• Policies that aim to secure the future of the NHS workforce must

	recognise:
	o the inherent psychological distress healthcare work often invokes (this is normal, it is difficult work) o the importance of fostering a supportive work culture in which individuals can thrive o the tensions between current policies and practices and their unintended consequences o the impact of – and need to address - intersectionality factors that place staff at further risk of psychological ill-health. • Policies and interventions that target the individual in the absence of a supportive work culture are unlikely to succeed.
Regulators	• Challenging work conditions impact staff psychological health and behaviours; mistakes need to be understood in context and individuals not blamed for systemic issues • Recognise that fitness to practice processes can be very traumatic and damage registrants' psychological health and their commitment to their professions and provide support in the process • Design kindness and assumptions of innocence until proven guilty into processes, so that they are supportive learning experiences, not punitive.
Trade Unions and Royal colleges	• Continue to lobby for better terms and conditions - pay, safe staffing; essential needs (hydration; hot food); free parking; ongoing psychological support • Recognise the importance of hygiene factors in staff job dissatisfaction and their impacts on psychological ill-health and lobby for change • Recognise the impacts of the 'deaf effect' and concerns raised are not heard /acted upon; campaign for psychologically safe cultures & reduction in bullying and incivility. • Recognise that members of certain staff groups are impacted more including women, LGBTQ+, non-white British groups
Researchers	• Use our research syntheses findings to build future research programmes and evaluation of wellbeing bundles and/or systems approaches to intervention • Ensure context is built into evaluations: generate evidence regarding organisation-wide programmes and interventions not just one-off or individual focussed interventions • Engage with stakeholders (including nurses, midwives and paramedics with lived experience, and staff from marginalised/discriminated groups) to further develop and target research to the areas of greatest need. • Consider our recommendations for research
Those refining/designing Interventions	Consider our 8 Care Under Pressure 2 overarching recommendations, within an evidence-based implementation framework (such as the CFIR[65] (see Box 2)

Table 11 Key recommendations for refining/developing strategies to reduce mental ill-health

To translate our project findings and recommendations (Box 2, Table 11) into solutions and resources we have also started working with our stakeholder and advisory groups to determine what could further support our various recommendations and develop our guide

for managers (see Appendix 13). Our approach to designing and developing the resources is underpinned by the Consolidated Framework for Implementation Research[67] as shown in Table 12 (below).

CFIR Domain	Key considerations	Application to developing CUP2 resources
Outer Setting	What is there in the wider NHS to support the systemic change required? e.g., patient needs/priorities; peer pressure; external policies/incentives	• Recommending use of the NHS Health and Wellbeing Framework • Synergy with NHS policy and strategy e.g., Wellbeing Guardians • Emphasis on the financial as well as ethical business case • Need to stem attrition and recruit and retain staff • Royal College/Regulatory body representatives contributed to interpretation and design
Inner Setting	What are the barriers/facilitators from within Trusts/organisations and how can these be mitigated/capitalised upon? e.g., networks/communications, culture, tension for change, compatibility, relative priority, organisational incentives/rewards, learning climate, readiness for implementation, leadership engagement, available resources	• Resources are aimed at identifying, addressing/reducing barriers and aiming for long term culture change • Designed to sit alongside and balance out other policies • Designed with input from NHSE/I; NHS Employers, organisational leaders and NHS managers
Characteristics of Individuals	e.g., knowledge/beliefs about the resources; self-efficacy	• Evidence-based and co-created to ensure language, style, format are acceptable and easy to use and implement • Considering communication of this provenance when sharing resources • Developed with nurse, midwife and paramedic users by experience
Intervention(s) – the resources	e.g., evidence strength/quality; relative advantage compared to other things; adaptability; complexity; cost	• Based on robust realist and descriptive synthesis of literature • Focussed on taking account of context rather than generalising and simplifying. • Aimed at guiding and giving ideas for translation into workplace settings • Providing editable versions to personalise to profession and setting.
Process of implementing	What is the strategy for implementing, sustaining and evaluating? e.g., planning, engaging, opinion leaders, implementation leaders, champions, reflecting/evaluating	• Co-designed with stakeholders including staff-by-experience; frontline staff; managers/leaders; representatives from regulatory bodies, NHSE/E, NHS Employers and Royal Colleges • Easy access to resources and for feedback to enable constant review and evaluation of use • Dissemination event (see below) • Dissemination via Health and Wellbeing Leads (NHS Employers).

Table 12 Application of the CFIR to the design, development and implementation of resources from this study

CUP-2 Strengths and Limitations

There are several key strengths of this study. The use of realist methodology was beneficial for uncovering insights that went beyond the surface-level, well established understanding of workplace psychological ill-health for three professional groups. It also helped us identify both causes and solutions comparing nurses, midwives and paramedics to identify important contextual factors, as well as subsets of individuals who were (more) affected within professional groups, and when. Our realist synthesis included different papers to other reviews such as commentaries and editorials, which offered rich insights that would usually be excluded in other review methodologies.

Realist methodology also allowed us to take an iterative flexible approach to searching and analysis, which meant that we were able to accommodate recent relevant data on COVID in a way that did not overwhelm the core study. We used the RAMESES quality standards for realist synthesis to ensure that the study design was rigorous and in line with principles of the realist approach[40].

The multidisciplinary skills and expertise of the core team (including experienced PIs and co-applicants, PIs immersed in the relevant literature, realist methods expertise, and an information specialist) and the linkage within the team with CUP-1 is a key strength of this project. This core team strengths were supplemented by the expertise in our project advisory group, having both subject and methodological expertise, further strengthening the study, ensuring a robust approach and the inclusion of expert literature suggestions. We also had a diverse stakeholder group, which included staff experts by experience, providing diverse perspectives (multi-professional and cross-professional and thereby ensuring discussions were not siloed). We ensured a supportive, safe and confidential environment by implementing many of the ground rules used in Schwartz Rounds (both JM and CT are experienced Schwartz Rounds facilitators), including clarity around confidentiality within the group, and enabling contribution in anonymous ways (using an online whiteboard [Padlet]).

We also ensured the safety of members by providing the offer of psychological support (via Dr Diana Bass) to any members that may need it. Advisory and Stakeholder members critiqued and helped us make sense of the findings, which has strengthened the outputs and ensured relevance of the findings to the real-world problems faced in healthcare by nurses, midwives and paramedics and enabled translation of these findings into recommendations for practice.

Using retroduction (identification of hidden causal forces that lie behind identified patterns or changes in those pattern) we were able to develop complex findings around 'tensions' in healthcare architecture that help explain psychological ill-health in our staff groups. These tensions are under-examined in the literature and hold much potential for development in thinking about how to improve work conditions for the psychological health and wellbeing of health care staff. Whilst this approach re-establishes and deepens our understanding of this topic it does not produce black and white answers. Furthermore, the cross-professional analysis (comparing nurses, midwives and paramedics, and also to doctors through comparison with CUP1) has significant benefits. Most previous research has tended to focus on whole healthcare workforces or one professional group (or a sub-set of that professional group), though a systems focus is essential to solutions to psychological ill-health as the healthcare system is inherently multi-professional.

In term of limitations, due to the broad scope of the review, we analysed the data for nurses, midwives and paramedics separately and in some instances extrapolated these findings to apply across the professional groups, in discussion with our advisory and stakeholder groups. More research is needed regarding the role and service architecture features that may be distinct and place staff at greater risk. While there may have been generally patterned distinctions in the findings, there were always exceptions to the rule thus, further research will be necessary to build on this study.

The database searching for this review involved three separate searches for the three professions under study. The paramedic search terms were designed through iterative searches, in consultation with our stakeholder group, as the initial search retrieved a very limited set of papers. To ensure our review was as relevant to a UK context as possible, we

applied database limiters which in the CINAHL database were not as accurate as we would have liked, i.e., some UK papers were not identified by the filter. However, we were still able to identify a focussed sample of relevant UK papers and we were not aiming to search the literature comprehensively. We did not carry out citation searches, which are commonly used in realist reviews, as hand searching, and stakeholder / expert suggestions was an efficient way to identify papers that the database searches had failed to retrieve papers to approximate the quotas.

To ensure our review was up to date, and to manage the large literature (particularly in nursing) we used a reverse chronology screening. This enabled us to initially exclude the COVID-19 literature, and then subsequently return to this, and to stop searching at a pre-determined number of papers for each profession, for our initial analysis. The limitations of this approach means we might have missed significant literature, however, our subsequent inclusion of systematic and other reviews and use of key reports together with the subject expertise in the core team, advisory and stakeholder groups make this less likely but it remains a possibility. That said, a realist review is not intended to be exhaustive but takes a sample of literature for deeper insights going beyond the surface-level. The descriptive analyses of causes and interventions required an element of subjectivity for the categorisation into themes (HSE domains, informal/formal interventions and primary, secondary, tertiary target levels), and as such should be interpreted with caution.

Future research

Future research examining psychological ill-health in nurses, midwives and paramedics should build on our synthesis and:

(1) seek to evaluate and refine *systemic* interventional strategies already implemented that take account where possible of wellbeing bundles and/or systems approaches to intervention (primary to tertiary levels, and informal and formal approaches).

(2) build future research programmes and design, implement, and evaluate new interventional strategies, where possible tailoring to local organisational and workforce needs and co-designed with frontline staff and staff experts by experience.

(3) seek funding that prioritises complex evaluations of whole systems approaches rather than only individual-focused secondary interventions

(4) identify and develop more sophisticated outcomes rather than those just easy to measure

(5) investigate further the tensions identified in this study, e.g., cumulative impact of everyday stressors not only acute or one-off traumatic incidents

(6) explore the role of undergraduate education in preparing for psychological wellness throughout their career including development and evaluation of anticipatory socialisation programmes or reflective spaces that are known to be beneficial.

(7) investigate further the impact of equality diversity and inclusion issues, particularly the role of intersectionality on psychological ill-health

(8) continue to include health economic analysis in studies and investigate the cost-benefits on investing in staff psychological health.

Equality, Diversity and Inclusion

We have tried hard to address issues of equality, diversity and inclusion (EDI) in our study, but are limited by what has been published on these issues related to psychological ill-health in nurses, midwives and paramedics. We have used the lens of gender and ethnicity to explore both causes and to a lesser extent interventions. We were not able to retrieve

relevant material directly relating to LGBTQ+ and disability issues in our sample for staff psychological wellbeing. We have included this as a focus for more research in this area and future studies may wish to use specific search terms in later cycles of realist synthesis to specifically search for EDI issues related to psychological ill-health. Our research team and stakeholder groups does include those from groups generally under-represented and there was a range of experience and expertise across the research team. Stakeholder participants and members of the public were recruited from across the country and involved representation of nurses, midwives and paramedics, some of whom had lived experience of psychological ill-health. We repeatedly discussed the diversity of the stakeholder groups with them and asked for their help to increase diversity, which resulted in more inclusion. Development opportunities and training were provided for research team members and psychological support was provided by Dr Diana Bass for experts by experience members and as needed members of the team.

Patient and Public Involvement section (PPIE)

Our engagement with the experts by experience (nurses, midwives and paramedics) and members of the public commenced before our study started with interviews with nurses, midwives and paramedics (n=10) and this engagement continued throughout the study, as outlined in Chapter 2 (section 5.2.) We have held 4 project stakeholder group meetings and two project advisory group meetings. In each of these there has been public representation and representation of experts by experience (nurses, midwives and paramedics who have experienced psychological ill-health at work). This involvement had significant impact during the study; helping refine the project teams ideas and thinking, providing a real-world perspective and challenging some of our suggestions (see Table 5 in section 5.2. chapter 2). In summary, our stakeholder PPIE members commented on and helped revise our theories, tensions and findings as the study progressed. Their views are embedded in the realist chapter and this report. They have also offered guidance on the dissemination of findings and how these can best have impact and we will be holding a dissemination event in December 2022/ January 2023.

Conclusions

Our realist synthesis unequivocally suggests the need to improve the systemic working conditions and the working lives of nurses, midwives and paramedics to improve their psychological wellbeing. Individual, one-off psychological interventions are unlikely to succeed alone. Psychological ill-health is highly prevalent in these staff groups (and can be chronic and cumulative as well as acute) and should be anticipated and prepared for, indeed normalised and expected.

We expected to find variation between our three staff groups but found more similarities than differences. It is the way jobs are designed (service architecture) that can increase risk rather than the profession itself and these risks can be further exacerbated by intersectionality influences. Organisational and team cultures matter, and it is difficult to promote staff psychological wellness where there is a blame culture, and where the needs of the system override staff psychological health. We found that interventions are fragmented and individual-focused with an insufficient focus on systemic and hygiene issues (work dissatisfiers).

Synthesising the literature using a realist approach has allowed a nuanced and richer understanding of context and has enabled us to provide new insights into the body of evidence and make recommendations for practice and for policy. We had excellent engagement from our stakeholder groups including nurse, midwife and paramedic experts by experience whose wise advice we have sought to heed. In the future, we anticipate the need for more research, particularly evaluation of system-wide, multi-pronged interventions. Due to their complexity these are difficult to evaluate well, yet vitally important for the systemic changes our study suggests are required if we are serious about supporting staff to care well as well as avoid psychological harms for themselves.

Glossary

COVID-19: A highly contagious respiratory disease caused by the SARS-CoV-2 virus (severe acute respiratory syndrome coronavirus 2). The disease SARS-CoV-2 causes is called coronavirus disease 2019 (COVID-19).

Context–mechanism–outcome configurations: Relationships between the building blocks of realist analysis (i.e. how mechanisms are triggered under specific contexts to cause particular outcomes)

Contexts: Settings, structures, environments, conditions or circumstances that trigger behavioural and emotional responses (i.e. mechanisms) in those affected

Mechanisms: The way in which individuals and groups respond to and reason about the resources, opportunities or challenges offered by a particular programme, intervention or process. Mechanisms are triggered in specific contexts and lead to changes in behaviour.

Outcomes: Impacts or behaviours resulting from the interaction between mechanisms and contexts

Programme theory: A set of theoretical explanations or assumptions about how a particular programme, process or interventions is expected to work

Retroduction (identification of hidden causal forces that lie behind identified patterns or changes in those pattern) or
Retroductive: The activity of uncovering underpinning mechanisms

List of abbreviations

A&E:	Accident and Emergency
ACT:	Acceptance and Commitment Therapy
BAME:	Black, Asian and Minority Ethnic
CBT:	Cognitive Behavioural Therapy
CFIR:	Consolidated Framework for Implementation Research
CINAHL:	Cumulative Index to Nursing and Allied Health Literature Database
CISD:	Critical Incident Stress Debriefing
CMOc:	Context-mechanism-outcome configuration
CPD:	Continuous Professional Development
CUP-1:	Care under Pressure 1 [CUP-1]
CUP2:	Care under Pressure 2 [CUP-2]
EMDR:	Counselling and Eye Movement Desensitisation and Reprocessing
ENP:	Emergency Nurse Practitioner
HCPC:	Health and Care Professions Council
HCW:	Health Care Workers
HEE:	Health Education England
HMIC:	Health Management Information Consortium Database
HR:	Human Resources
HSE:	Health and Safety Executive
LGBT+:	Lesbian, gay, bisexual and transgender/transsexual people
MEDLINE:	Medical Literature Analysis and Retrieval System Online Database
MeSH:	Medical Subject Headings
MRC:	Medical Research Council
NETSCC:	*NIHR Evaluation, Trials and Studies Coordinating Centre*
NHS:	National Health Service
NICE:	National Institute for Health and Care Excellence
NMC:	Nursing and Midwifery Council
OH:	Occupational Health
PI:	Principal Investigator

PMA: Professional Midwifery Advocate

PPE: Personal and Protective Equipment

PPIE: Patient and Public Involvement and Engagement

PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses

PTSD: Post-traumatic Stress Disorder

RAMESES: Realist and Meta-Narrative Evidence Syntheses: Evolving Standards

RCQ: Reverse Chronology Quota sampling

SOM report: Society of Occupational Medicine

TRiM: Trauma Risk Management training

UK: United Kingdom

WHELM report: Work, Health and Emotional Lives of Midwives in the United Kingdom

WOW: Workforce, Organisation and Wellbeing

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Professor Jill Maben* (https://orcid.org/0000-0002-6168-0455) developed the research project, contributed to the formal search strategies, to screening, paper review and journaling, to the development and refinement of programme theory and CMOcs, provided

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Publications

Ethics statement

This study did not require ethical approval as it was a secondary analysis of published papers. Contributions from our stakeholder groups were managed with care and adherence to ethical principle, but as these contributions do not constitute data, no ethical approval was required.

Data-sharing statement

All data requests should be submitted to the corresponding author for consideration. Access to available anonymised data may be granted following review.

Department of health disclaimer

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Appendices

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Appendix 1: Protocol Comparison and Divergence Table

Protocol Divergence Summary:

Divergence between the CUP-2 protocol and actual review process was minimal but included the following changes:

(1) We streamlined the database searching process to include fewer databases in the initial search. The initial search provided papers with rich insights and from that initial search it was determined that additional databases or a second search of the literature was not necessary.

(2) We also did not systematically undertake forward and backward citation tracking on included papers as we found an abundance of papers through the database search as well as hand searching and retrieval through expert solicitation.

(3) In order to streamline the process of article selection, we used reverse chronology quota screening which is not described in the original protocol but is described in the methodology chapter. RCQ allowed us to receive a rich set of papers in a fairly short period of time giving more time for in-depth journaling and analysis of the retained set.

(4) In terms of data analysis we used the appraisal journaling approach which is not mentioned in the protocol. Appraisal journaling permitted us to engage with ontologically-deep insights in papers and creatively explore the material in tandem with team-based expertise to produce an evidence-based and evidence-inspired analysis.

(5) Finally, to search for causal insights, we used the concept of 'tensions in healthcare architecture' to uncover important material in the published literature. This was not mentioned in the protocol but became an important conceptual lens on the papers as we carried out data immersion and in discussions with advisory stakeholders and the PPI group affiliated with the study.

Protocol Item Description	Completed? (yes/no)	Additional comments
Step 1: Locate existing theories		
(1.1) draw on our preliminary discussions with nurses, midwives, paramedics and patients and the public	yes	
(1.2) draw on the CMO configurations and theories generated by our co-applicants (KM, DC, SB) study (*Care Under Pressure (1): a realist review to tackle doctors' mental ill-health*) and their final evidence informed programme theory and test and explore these with nurses, midwives and paramedics	yes	
(1.3) consult with key content experts representing multidisciplinary perspectives in our Stakeholder Group (including our nurses, midwives, paramedics, and PPIE representatives)	yes	
(1.4) draw on the literature we are already familiar with (PI and co-applicant previous NIHR research reviews; endnote databases etc.), along with additional informal searching to identify causal explanations about how the programmes impact on staff mental health/wellbeing;	yes	
(1.5) Consult our information specialist (SB) regarding a tightly bound search of the grey literature, for example, Nursing Times, Academy of the Fabulous (https://fabnhsstuff.net/), King's Fund and Health Foundation Reports, The Health Management Information Consortium (HMIC) database, and others in consultation with our stakeholders)	yes	Key reports known to the PI and co-investigator team and our stakeholders were retrieved during this step and examined for potential theoretical framings. A formal search of grey literature through the HMIC database was undertaken in step 2 during the time in which the information specialist was searching other databases including Medline and CINAHL. This was done to

		streamline the process of database searching.
(1.6) We will use English language papers from 2000- 2019.	no	We changed the date parameters to 2010-current, with the rationale that papers older than 2010 would be less relevant given changes in context and interventions for workplace mental wellbeing and given the huge volume of data (which we were asked to actively manage by the HS&DR board in commissioning process following review).
Step 2: Search and Screen for evidence		
(2.1) Working with our information specialist (SB) we anticipate that we may need to search the following databases: MEDLINE-in-Process, CINAHL, PsycINFO, Maternity and Infant Care, the Cochrane Library and ASSIA, and any other relevant databases identified by the Information	yes	We consulted Medline-in-process, CINAHL, and HMIC databases in the initial round of searching. Due to the fact that hand searching provided rich content for the analysis, additional database searching using other databases including PsychINFO, The Cochrane Library and ASSIA was not undertaken.
(2.2) We will also undertake forward citation searches and search the citations contained in the reference lists of relevant documents.	no	We were open to the possibility of undertaking forward citation searches but used hand searching as an alternative supplementary search method due to our recognition (from stakeholder recommendations) that there were a few select journals that would be particularly valuable to search.
(2.3) We anticipate that we will search the databases using free text terms for terms relating to: a) the staff groups of interest: "nurs*", midwi*" "paramedic*"; b) outcomes of interest: "mental health", "wellbeing" "absent*", "presenteeism" "attrition" and "workforce" and "retention"; and c) the specific organisational/structural issues and working practices identified in step 1.	yes	
(2.4) Study design: all study designs	yes	
(2.5) Types of settings: all healthcare settings (acute, primary care, community).	yes	
(2.6) Types of participants: all studies that included registered nurses, midwives and/or paramedics. Focus: identify how and why work has a positive or negative effect on the mental health of nurses, midwives, and paramedics and in what contexts these are most experienced and have impacted (includes at least one example of	yes	

impact of work on staff mental health)		
(2.7) Types of strategies/intervention: all studies that included any strategies/interventions designed to improve mental health of nurses, midwives and paramedics and minimise its impacts Focus: identify which groups of staff these have been used with and whether they are operating at individual, team or organisational levels and allows identification of the mechanisms by which strategies and interventions prevent or reduce the impact of work on mental ill-health	yes	
(2.8) Outcome measures: Mental ill-health (e.g., stress; anxiety, burn out; moral distress; depression; psychological distress; psychiatric morbidity; PTSD etc.) and its impacts (e.g., presenteeism, absenteeism, workforce retention quality of relationships and work with colleagues and patients, errors, and mistakes; alcoholism, substance misuse and other self-harm, suicide [parasuicide]) – all studies that focused on one or more of these aspects.	yes	
(2.9) Screening will be undertaken by the Research Fellow who will be recruited/appointed if this proposal is successful. A 10% random sub-sample of the citations retrieved from searching will be reviewed independently for quality control (by CT). Any disagreements will be resolved by discussion between the RF and the second reviewer (CT) and the PI (JM). If disagreements remain then a third member of the team will review (e.g., KM/DC) and any disagreements will be resolved through further review/discussion.	yes	We did much more than 10% random sample of double reviewing. Two members of the team (JJ and CT) reviewed 100% of papers, with any disagreements resolved by PI (JM).
(2.10) An important process in realist reviews is finding additional data needed to confirm, refine, or refute aspects of developing programme theory. In other words, more searches will be undertaken if we find that we require more data to develop and confirm, refute, or refine certain sub-sections of the programme theory.	yes	

(2.11) If we do not have sufficient material for any of our staff groups, we may also look at literature about nurses, midwives and paramedics working in other countries, other groups of healthcare professionals working in the UK such as other Allied health professionals with similar pressures, and professions outside healthcare who experience the same broader societal organisational and structural changes but in a different industry.	yes	The initial set of 80 papers were limited to the UK Context. Once preliminary analysis of these papers was drafted, we conducted additional searches for literature reviews and COVID-19, in which we searched outside of the UK context and included papers describing other professions or the healthcare workforce generally.
Step 3: Article selection		
(3.1) Documents will be prioritised and selected based on relevance (whether data can contribute to theory building and/or testing) and rigour (whether the methods used to generate the relevant data are credible and trustworthy). However, papers will not necessarily be excluded based on rigour as they may generate important insights regarding for example context and mechanisms, which will not be dependent on the same criteria for rigour as for study outcomes. Included papers would be divided into those which can make 'major' or 'minor' contributions to our research questions.	yes	
(3.2) Major: Studies which contribute to the study aims and are conducted in an NHS context; or, Studies which contribute to the study aims and are conducted in contexts (e.g., universal, publicly funded health-care systems) with similarities to the NHS; or Studies which contribute to the study aims and can clearly help to identify mechanisms which could plausibly operate in the context of the NHS. *Minor:* Studies conducted in health-care systems that are markedly different to the NHS (e.g., fee-for-service, private insurance scheme systems) but where the mechanisms causing or moderating mental ill health could plausibly operate in the context of nurses, midwives and paramedics working in the NHS.	Yes	We included papers that were specific to the professions as well as papers that were not specific by profession (e.g., about doctors or healthcare staff generally) but had insights that could be extrapolated for our nurse, midwife, and paramedic analysis.
(3.3) Classification decisions will be checked between two reviewers (RF & CT) and discussed with the rest of the team. The RF will read all included papers and finalise article selection by including documents or studies that contain data relevant to the realist analysis – i.e., those that could inform some aspect of the programme theory. Decisions will be made regarding whether a paper is	yes	

to be included in the study or not based on a combination of relevance (based on inclusion criteria above) and rigour (e.g., how trustworthy the study is). This will allow us to determine whether papers make a major or minor contribution.		
(3.4) We will use the RAMESES guidelines for reporting realist synthesis to guide us in what to report (Wong et al., 2016).	yes	
(3.5) Following an initial random sample of documents being reviewed together (10%); selected, assessed and discussed between the RF and CT to ensure that decisions for final inclusion have been made consistently, the remaining 90% of decisions re rigour will be made by the RF (though a number of these may require further discussion/joint reading between the RF, second reviewer and other co-applicant (JM/CT/KM/DC) and/or the wider project team as there may be uncertainty over issues of relevance and/or rigour). We will employ the same decision-making process as outlined above in Step 2. Article selection for any additional searches will follow the process described above.	yes	As above two members of the team (JJ and CT) reviewed 100% of papers, with any disagreements resolved by PI (JM).
Step 4: Extracting and organising data		
(4.1) The full texts of the included papers will be uploaded in a reference manager software tool (Mendeley). Relevant sections of texts that have been interpreted as related to contexts, mechanisms and/or their relationships to outcomes will be coded and organised in Excel or NVivo. This coding will be both inductive (codes created to categorise data reported in included studies) and deductive (codes created in advance of data extraction and analysis as informed by the initial programme theory). These will be analysed separately and then brought together in further iterative analysis cycles. Each new element of relevant data will be used to refine aspects of the programme theory, and as it is refined, included studies and documents will be re-scrutinised to search for data relevant to the revised programme theory that may have been missed initially. The characteristics of the studies will be extracted separately into an Excel spreadsheet to provide a descriptive overview.	no	We used Endnote and Dropbox for data management and MSWord for appraisal journaling and extracting the data. In appraisal journaling members of the team read papers and journaled their thoughts on the most important aspects of the papers that were salient to the emerging analysis. Other team members read all the journal entries and provided further comment and insight. From this process papers were read again on a case-by-case basis to determine best selection of quotes from the data to be added to the analysis. Quotes from papers were entered directly into a MSWord document that was used to build the analysis CMO configurations were then constructed from the extracted quotes. The characteristics of the studies, and descriptive details on causes and interventions were extracted separately into an Excel spreadsheet to provide a descriptive overview.
(4.2) We will start the coding and analysis process by using the literature that has been deemed to make a 'major' contribution to the research questions to	yes	

start building and refining our programme theory, while progressively focusing the review. Articles categorised as providing 'minor' contributions will be analysed to address particular aspects of the programme theory where necessary. The aim of the review will be to reach theoretical saturation in achieving the objectives, rather than to aggregate every single study that exists in the area. Decisions about whether a study can have a 'major' or 'minor' contribution may change over the course of the project, as the analysis progresses. All changes will be documented and recorded as part of an audit trail to increase transparency and ensure consistency.		
Step 5: Synthesising the evidence and drawing conclusions		
(5.1) Our data analysis will use realist logic to make sense of the initial programme theory. A realist logic of analysis builds context + mechanism = outcome configurations (CMOCs) for the programme theory. To achieve this, the data will be interpreted to ascertain if it pertains to context (C), mechanism (M), outcome (O), the relationships between C, M, and O and/or the relationships between CMOCs.	yes	
(5.2) In addition, evidence will also be subject to analysis by observed outcomes (by comparing interventions where reducing mental ill-health has been 'successful' against those which have not, to understand how the mechanism of the intervention and context have impacted positively vs. negatively on mental health). We will also compare any differences between our professional groups or settings (so where the impact of a change has been more or less beneficial in paramedics and not with nurses for examples or in acute care and not community care). This type of analysis will enable us to understand how the most relevant and important mechanisms work in different contexts, thus allowing us to build more transferable CMOCs.	no	We did not systematically examine observed outcomes in studies and compare them across cases to unearth mechanisms. This is because we found that context between studies varied significantly, and that evidence showed a tension between offering interventions that 'work' downstream versus fixing structural problems in the healthcare setting that cause poor working conditions in the first place. The realist analysis unpacked this complexity, and it was only after immersion in the data that we felt this would be a better approach.
(5.3) Finally, during our data analysis we will use the following analytic processes to make sense of our data (as in Mattick et al's protocol who draws on the work of Pawson (2013)): Compare and contrast sources of evidence – for example, where evidence about interventions in one paper or report allows insights into evidence about	yes	Although this step was not a formalized process in the analysis, when we extracted data and assembled these across different 'tensions', we juxtaposed data segments that enabled us to compare and contrast sources of evidence to improve the articulation of CMO configurations.

outcomes in another paper. Reconciling of sources of evidence – where results differ in apparently similar circumstances, further investigation is appropriate in order to find explanations for why these different results occurred. Adjudication of sources of evidence – on the basis of methodological strengths or weaknesses. Consolidation of sources of evidence – where outcomes differ in particular contexts, an explanation can be constructed of how and why these outcomes occur differently.		The CMO configurations in early stages of the analysis were advanced as more data was incorporated into the work-in-progress, thus allowing for further comparing and contrasting as the analysis matured.

Appendix 2: Initial theory of context-mechanism-outcome factors in paramedics

MECHANISMS	INTERVENTIONS	OUTCOMES		
		Health outcomes		Non-health outcomes
Feelings/Emotions	**Training initiatives:**	**Symptoms:**	**Action:**	Presenteeism
Attitudes	- Training for life managers - Training tailored to specific groups (e.g. call handlers, those working in call centres)	- Low/poor mood (e.g. sadness, frustration, worry)	- Seeking medical help - Prescribed medications	Absenteeism
Preferences	- Internet-delivered cognitive training - Mindfulness training	- Chronic stress/Occupational stress	- Admitted to hospital	High attrition rates
Values	- Psychological education & self-awareness training	- Psychological distress		Resilience
Beliefs	**Awareness initiatives:**	- Fatigue/Emotional fatigue		Sick leave
Norms	- Campaigns	- Depression		
	Schemes/Programmes:	- Anxiety/Anxiety disorder		
Awareness/Knowledge	- Employee Assistance Programme - Staff Advice and Liaison Scheme	- Burnout		
Motivation	- Trauma Risk Management - Case Management	- OCD - PTSD		
Reasoning	**Other sources of support:** - Named psychologists	- Suicide/Suicidal thoughts		
	- Online therapy sessions - Well-being rooms	- Sleep disturbance - Psychiatric illnesses (e.g. bipolar disorder, schizophrenia)		
	- Confidential information line - Chaplaincy support - Charity work (e.g. The Ambulance Staff Charity TASC)	- Emotional wellbeing - Somatic responses		

Illustrative CMO Configurations	
Exposure to traumatic or distressing incidents (C) can make paramedics feel overwhelmed (M1) or deeply disturbed (M2) falling into high range for post-traumatic stress symptoms (O)	Increasing demands (C1) and strict response times (C2) make it more challenging for paramedics to take time to gather their thoughts or talk to peers (M). This may result in experiencing emotional fatigue (O1) and burnout (O2)
The longer paramedics serve (C1), the more likely they are to feel the negative impact (M) of workload pressures (C2), making them an importance audience for poor mental health (O)	Providing mental health training to new recruits (C) can help build their awareness (M1) and their understanding (M2) of different ways to build resilience (O)
Listening to colleagues' negative experiences of accessing mental health support within the organisation (C) can make paramedics feel reluctant (M1) or put them off (M2) using these services in future. As a result, mental-ill health problems may remain unresolved or exacerbate (O)	These is still some stigma attached to disclosing a mental health problem to a line manager within the ambulance services (C1), potentially because of fears it may impact detrimentally upon career progression (C2). Consequently, paramedics may feel it is hard to talk to their managers about their mental health issues (M), making them more vulnerable to ill-mental health (O)
Organisational upheaval (C) can add to the pressures that paramedics feel in their line of work (M), making them more susceptible to poor mental health (O)	There is still taboo around talking about mental health issues in the workplace (C) because of fear of being treated differently (in a negative way) if mental health issues are disclosed (M). This may lead paramedics to continue going into work even when unwell (O)

OXFORD

Invited Review

'The WOW factors': comparing workforce organization and well-being for doctors, nurses, midwives and paramedics in England

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Abstract

Background: High rates of poor mental health in healthcare staff threatens the quality and sustainability of healthcare delivery. Multi-factorial causes include the nature and structure of work. We conducted a critical review of UK NHS (England) data pertaining to: doctors, nurses, midwives and paramedics.

Sources of data: Key demographic, service architecture (structural features of work) and well-being indicators were identified and reviewed by a stakeholder group. Data searching prioritized NHS whole workforce sources (focusing on hospital and community health services staff), which were rated according to strength of evidence.

Findings: Key differences between professions were: (i) demographics: gender (nursing and midwifery female-dominated, doctors and paramedics more balanced); age (professions other than doctors had ageing workforces); ethnicity (greater diversity among doctors and nurses); (ii) service architecture: despite net staffing growth, turnover and retention were problematic in all professions; 41.5% doctors were consultants but smaller proportions held high grade/band roles in other professions; salaries were higher for doctors; (iii) well-being: all reported high job stress, particularly midwives and paramedics; sickness absence rates for nurses, midwives and

paramedics were three times those of doctors, and presenteeism nearly double.

Growing points: Sociocultural factors known to increase risk of poor mental health may explain some of the differences reported between professions. These factors and differences in service architecture are vital considerations when designing strategies to improve well-being.

Areas timely for developing research: Multi-level systems approaches to well-being are required that consider intersectionality and structural differences between professions; together with inter-professional national databases to facilitate monitoring.

Key words: healthcare professionals, workforce organization, mental health

Introduction

The well-being and mental health of healthcare professionals has been gaining increasing attention as a major public health concern and threat to the quality and sustainability of healthcare delivery—in the UK and globally. This has been spotlighted and further exacerbated by the COVID-19 pandemic with the added pressure on healthcare staff of delivering care in extreme circumstances.[1]

The National Health Service (NHS), one of the world's biggest employers (and the biggest in the UK), employs nearly 1.6 million people[2] and needs healthy, motivated staff to provide high quality patient care. However, increasing workload due to societal demand for healthcare services, combined with increasing external scrutiny of their work, has been associated with a high prevalence of mental ill-health amongst staff. Due to budget constraints and staff shortages, pressure is building in the healthcare system and this is taking its toll on staff as well as patients.[3,4] Some commentators have described staff as the *'shock absorbers in a system lacking [the] resources to meet rising demands'*, and suggest the current situation is not sustainable.[5] Neglecting the well-being of healthcare staff has significant implications for staff and patients. Although the NHS as an employer has a duty of care to staff, staff well-being also affects patient care, safety and delivery. High levels of stress and burnout among NHS staff affect their ability to provide high quality care.[6-8]

In the UK, the mental health of the NHS workforce is a major issue, leading to presenteeism (working while unwell), absenteeism and loss of staff from the workforce.[4,9] Stress among healthcare staff is greater than in the general working population and explains >25% of staff absence,[10] and depression, anxiety, loss of idealism and empathy are also reported by nurses and doctors.[11-14] NHS staff sickness absence rates are double the national average[15] and are estimated to cost £1.1 billion.[4] Multiple government and industry reports and publications have highlighted the need to reduce stress and improve mental health in NHS staff, e.g.[4,16-19]

Staff well-being is a pressing and complex problem influenced by many factors at individual, organizational, inter-professional and broader societal level. Research highlights the need for workplace policies and interventions to be informed by an in-depth understanding of such factors, and for more engagement with healthcare workers, in order to develop effective policies and interventions.[1,20] Multiple professions and specialities are involved in the delivery of healthcare, and often share the same work environment, but they also have very different roles and responsibilities, and potentially different structural contributors to staff well-being and poor mental health.

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In the NHS in England, the types of services and treatments available is determined regionally by clinical commissioning groups (CCGs). In 2020, there were 135 CCGs. NHS Trusts provide the services/treatments commissioned by the CCGs and include hospital, ambulance, mental health, social care and community services. Primary care is delivered in GP practices who work within primary care networks (PCNs). There are ~1300 PCNs currently in England, each covering a population of 30–50 000 people. The most robust and accurate workforce data available for NHS staff are the NHS Workforce statistics produced by NHS Digital (validated data extracted from the NHS Human Resource and Payroll System). Although these provide extensive data for hospital and community health service workers (covering all the types of Trust listed previously), reporting of data for primary care NHS staff is currently limited in scope.

This paper therefore focuses on hospital and community NHS staff from four professions; doctors, nurses (registered nurses only), midwives and paramedics, comparing features of these professions and how that profession's work is structured that may be pertinent to understanding their well-being, which we have conceptualized as the 'service architecture'. This work builds on previous work focussed on doctors[20] Care Under Pressure (completed in 2019) and a current study focussed on nurses, midwives and paramedics: Care Under Pressure 2 (ongoing to July 2022)[1]. A key recommendation of Care Under Pressure is that policies that aim to secure the future of the NHS workforce should foster a supportive work culture in which individuals can thrive. Policies and interventions that target the individual in the absence of a supportive work culture are unlikely to succeed.[20] As part of the ongoing work on Care Under Pressure 2 we realized the importance

of investigating whether and how organizational factors—service architecture—that may differ within and between these professional groups may be important contributors to mental ill health.

We have selected these groups, because together doctors, nurses, midwives and paramedics comprise around 60% of the clinical workforce in the UK NHS. All have high rates of illness, and pressing recruitment and retention issues, but each profession also has distinct structural features. To our knowledge, this is the first time that this type of multi-professional comparative work has been undertaken. Given the evidence of poor mental health and challenges to staff well-being in the UK NHS and the current problems with recruitment and retention, it is important to gain an understanding of which contextual factors have resulted in these (unintended) impacts and to equip NHS managers, policy makers, leaders, staff, researchers and other stakeholders with this understanding. A necessary first step is to extract and collate such detail to enable comparison.

Methods

Aim: to extract, synthesize, critically review and compare workforce demographic, service architecture and well-being data for doctors, nurses, midwives and paramedics working in hospital and community health service settings in England, in order to enhance understanding of shared and distinct contextual factors that may contribute to their poor mental health at work for the benefit of managers, policy makers, researchers, staff and other stakeholders.

Objectives

- Identify the key workforce demographic and service architecture features that may differ within and between professional groups and be important contributors to mental ill health.
- Source and extract data regarding these workforce features and measures of well-being/mental ill-health, including assessment of the data in relation

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[1] Care Under Pressure 2: Caring for the Carers a realist review of interventions to minimize the incidence of mental ill-health in nurses, midwives and paramedics National Institute for Health Research Award ID:
NIHR129528   https://fundingawards.nihr.ac.uk/award/NIHR129528

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to (i) strength/accuracy of evidence; (ii) comparability across professions.

- Produce a summary of the key features and how they compare and contrast across and within the four professional groups, and describe their potential relationship to well-being/mental ill-health.

Design

A critical review aims to go beyond description of the included sources and include a degree of analysis and conceptual innovation, resulting in a model or new interpretation of existing data.[21]

Identification of key contextual features and stakeholder involvement

Key contextual features that may be important contributors to mental ill-health for each profession (doctors, nurses, midwives, paramedics) were brainstormed by the author team and expanded further through sharing drafts with two separate stakeholder groups formed to support wider projects on the causes of poor mental health in nurses, midwives and paramedics[2] (Maben *et al.*, 2020b), and doctors[20] (Care Under Pressure, and Care under Pressure 2). The stakeholders comprised doctors, nurses, midwives and paramedics—including those with self-disclosed lived experience of work-related poor mental health; representatives from relevant regulatory bodies and professional organizations; and patient/public representation. Stakeholders were asked to comment on an initial draft of the demographic, service architecture and well-being features felt to be important to capture and compare across (and within) professional groups, in particular to state if there were any omissions. Feedback suggested that our identified factors and features provided a useful summary of key statistics

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2 Care Under Pressure 2: Caring for the Carers a realist review of interventions to minimize the incidence of mental ill-health in nurses, midwives and paramedics National Institute for Health Research Award ID: NIHR129528 https://fundingawards.nihr.ac.uk/award/NIHR129528

that could inform attempts to improve workforce well-being. Limitations in relation to lack of data specifically for the primary care workforce was noted, and we agreed that it would be beneficial to include types of settings in which different health professionals work (e.g. community, primary care, acute settings) if such data were available. Unfortunately, we have been unable to find such data in reliable sources and consistent formats, hence our decision to focus on hospital and community health service settings in England only.

Sourcing and extracting data regarding contextual features

Data sources

For each key feature, searches were conducted for relevant data using a stepped approach, ordered according to the credibility and comparability of data. This began with attempts to find relevant data using NHS Digital (NHS Workforce Statistics), and/or NHS England-related sources based on the whole NHS hospital or community services workforce in England, prioritizing those sources where the data could be broken down by the four professions of interest. The most recent sources were used where possible, in order to provide the most relevant up-to-date data, but with priority given to using a slightly older source if it meant better comparability across professions. This included data from 2016 to 2021 (the majority of comparable NHS Digital data was from 2018, and NHS Staff Survey data were taken from the latest published survey results, 2020). If these searches were unsuccessful, the next step was to search profession-specific national (or UK-wide) sources such as the relevant regulatory bodies (General Medical Council for doctors; Nursing and Midwifery Council for nurses and midwives; and the Health and Care Professions Council for paramedics), or professional bodies/membership organizations (e.g. Royal Colleges for doctors, nurses and midwives and the College of Paramedics). We also asked our stakeholders to suggest data sources/contacts relevant to specific professional groups if we were struggling to access data. Following

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these attempts, other sources were examined such as charitable organizations/trade unions (e.g. the Kings Fund), university and other relevant websites, internet searches (e.g. via google); and searches for empirical research. For some variables the data for a profession includes other related staff, most notably for paramedics where data are often reported by NHS Digital for Ambulance Staff as a group, comprising: managers, emergency care practitioners, paramedics and ambulance technicians; and data for doctors from the NHS Staff Survey are only available for medical and dental staff combined. Moreover, NHS Digital data for Hospital and Community Health Services (HCHS) doctors include a small number of Hospital Practitioner/Clinical Assistant, who may not be medically qualified.

Data extraction

Data for demographic features, service architecture features and workforce well-being outcomes were extracted from the cited sources and are presented in Tables 2–4, respectively. Since data were presented in varying ways in different sources, for different professional groups and different features, it was necessary to transform some of the data to enable comparability across features and across professional groups. This was the case for any figures that had been reported as total numbers, which have been transformed into percentages (using a defined denominator) to enable comparability between staff groups.

Appraisal, synthesis and analysis

Data were evaluated according to the overall strength of evidence they provided 'within' the professional group. This was based upon an assessment of their representativeness and/or completeness in relation to the whole population of doctors, nurses, midwives or paramedics in hospital or community service settings in England; and in relation to the validity of the measure, i.e. how the data was collected (see Table 1). After appraising the data's quality and strength 'within' each professional group, the data were rated in relation to the validity of comparing 'across' groups (Table 1). Using this

approach, each row of data in Tables 2–4 has a rating (of high, moderate or low) for within group and between group comparisons. The rating tool was developed specifically for this review as there were no available tools that would allow both strength of evidence within and between professional groups. CT and AC lead appraisal process, though all ratings were reviewed and confirmed by all other authors.

Results

Tables 2–4 provide comparative data for four key professions within the NHS hospital and community services workforce in England. The tables facilitate comparison across the different professional groups and draw attention to the key features of the professional contexts that may contribute to well-being or mental ill-health of these critical NHS staff. In the narrative summary below, we present the information relating to three categories: Demographics, Service Architecture and Workforce Well-being.

Demographics

The professions of nursing and midwifery are heavily female dominated, with only 11.6% and 0.4% male staff, respectively (Table 2). The professions of medicine and paramedic science are more gender balanced with 54.8% and 59% male staff, respectively. In terms of ethnicity, there are striking differences. Very high proportions of midwives and paramedics (85.4% and 93.9%) report their ethnicity as White, compared to 49.1% of doctors and 70.6% of nurses. Over a quarter (27.5%) of doctors report their ethnicity as Asian, compared to 10.5% of nurses and 1–2% of midwives and paramedics. There also appear to be more nurses identifying as Black (8.4%) and more doctors identifying as Chinese (2.3%) than other professions. At least 70% of all four professions report their nationality as UK. The medical profession has the most members from the EU (9%) and from the rest of the world (16%) followed by nurses (7% EU and 9% rest of the world). In terms of age, there are quite different pictures, with the

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Table 1 Rating the credibility and comparability of the evidence

	Strength of evidence 'within' professional group		Strength of evidence 'between' professional groups
Rating	Completeness/representativeness of professional group	Reliability of measure/method of data collection	Reliability of cross-comparison
Low	Data based upon a sample that is unlikely to represent the group well.	Based on subjective non-validated measure/narrative data.	Poor comparability across the groups: interpret with caution.
Moderate	Data likely to include most of professional group (or good representative sample) and/or may have other professions included with them.	Some concerns regarding validity of the measure or method of collection.	Moderate comparability: some incompatibility across groups to be taken into account.
High	Data likely to include all of the professional group.	Based on objective measure, routinely collected and high accuracy data.	Good comparability between the groups: data all from same/very similar sources.

highest proportion of doctors (33.5%) in the age 25–34 category, whereas for nurses and midwives the highest proportions (30.1%, 29.1%) were in the age 45–54 category. Paramedics had similar proportions in each of these age categories (27.2% aged 25–34; 27.4% aged 45–54).

Service architecture

Service architecture is our way of conceptualizing the structural features of a profession, including a focus on features that may be pertinent to understanding their well-being (Table 3).

Size and types of workforce

In terms of size, nursing is by far the biggest profession, with 302 293 full-time equivalent (FTE) qualified nurses in the NHS hospital and community services workforce in 2020. Medicine is second largest with 121 256 FTE qualified doctors, followed by 22 136 FTE midwives and 16 940 FTE ambulance staff (of which the majority are paramedics). When we look at the 'type' of qualified staff, it is notable that 41.5% doctors are in the highest-grade category (consultant), whereas there are very few nurses, midwives or paramedics in the higher banded roles. The majority of nurses are in the lowest band (42% band 5); whereas midwives and paramedics are typically initially appointed into band 6 roles and the majority of the workforce are employed at this level (55% midwives; 80% paramedics). This suggests very different career trajectories for doctors, nurses, midwives and paramedics.

Staff turnover, retention and retirement

Data suggest a positive trajectory in the size of the NHS workforce. Between February 2019 and February 2020, there was a net growth in number of doctors (+5.4%), nurses (+2.8%), midwives (+2.2%) and ambulance staff (+0.5%). Of those joining the

Table 2 Comparison of demographic information for doctors, nurses, midwives and paramedics working in hospital and community health services

	Doctors	Nurses	Midwives	Paramedics	Source	Notes	Strength and reliability of evidence	
							Within group	Between group
Gender	* 54.9% Male	** 11.6% Male	0.4% Male	*** 59% Male	*NHS digital HCHS doctors, January 2018 https://digital.nhs.uk/data-and-information/publications/supplementary-information/2018-supplementary-information-files/staff-numbers/consultants-and-doctors/hchs-doctors-by-specialty-grade-gender-and-age-jan-2018 **Nurses and midwives https://digital.nhs.uk/data-and-information/publications/supplementary-information/2018-supplementary-information-files/staff-numbers/nurses-and-support-staff-by-area-level-gender-and-age-january-18 ***HCPC Registrant snapshot dataset (Oct 2020: paramedics) https://www.hcpc-uk.org/about-us/insights-and-data/the-register/registrant-snapshot-1-oct-2020/ Accessed 16 June 2021	*/**Data for doctors and for midwives and nurses by gender were reported in numbers N and percentages % were calculated as follows: N of doctors/midwives/nurses by age × 100/N of all professionals in staff group. *** Data for paramedics by gender were reported in numbers N and percentages % were calculated as follows N of paramedics by age × 100/N of all professionals in staff group.	High Complete samples and reliable data	Moderate Doctors/nurses/midwives all England only, paramedics UK
Ethnicity	* Asian: 27.5% Chinese: 2.3% Black: 4.7% Mixed: 3.1% White: 49.1% Other: 4.2%	** Asian: 10.5% Chinese: 0.3% Black: 8.4% Mixed: 1.4% White: 70.6% Other: 4.3%	Asian: 2% Chinese: 0.2% Black: 6.7% Mixed: 1.7% White: 85.4% Other: 0.6%	Asian: 1.1% Chinese: 0.1% Black: 0.5% Mixed: 1.3% White: 93.9% Other: 0.3%	NHS Workforce by Gov.uk (March 2020) https://www.ethnicity-facts-figures.service.gov.uk/workforce-and-business/workforce-diversity/nhs-workforce/latest#by-ethnicity-and-type-of-role Accessed on 12 November 2020	Data reported for medical staff (junior and senior doctors, and other doctors working for hospitals and community health services), does not include GPs; nurses includes health visitors and paramedics is all ambulance staff	Moderate Data are good representation of the professions but have others included (and some excluded)	High Same source for all groups
Nationality	* UK: 70% EU: 9% Rest of the world: 16% Unknown 5%	** UK: 79% EU: 7% Rest of the world: 9% Unknown 6%	** UK: 87% EU: 5% Rest of the world: 2% Unknown 6%	* UK: 79% EU: 2% Rest of the world: 4% Unknown 14%	*NHS Digital. Specified staff by nationality grouping as at 31 July 2018 https://digital.nhs.uk/data-and-information/publications/supplementary-information/2018-supplementary-information-files/staff-numbers/specified-staff-by-nationality-grouping--march-2018--july-2018 Accessed on 29 July 2021 **NHS Digital. Midwives by nationality grouping Sept 2018 https://digital.nhs.uk/data-and-information/find-data-and-publications/supplementary-information/2019-supplementary-information-files/staff-numbers/midwives-by-nationality-grouping--sep-2014---2018 Accessed on 22 October 2020	Data for nurses excludes health visitors All percentages calculated as follows: N of (staff group) by nationality × 100/N of all (staff group) (rounded up to nearest whole number) Data for EEA not reported as numbers as very small (doctors 136; nurses 102; midwives 9; paramedics: 1)	High Complete samples and reliable data	High Same source for all groups

(Continued)

Table 2 Continued

	Doctors	Nurses	Midwives	Paramedics	Source	Notes	Strength and reliability of evidence	
							Within group	Between group
Age	*	**	**	***	*NHS digital HCHS doctors, January 2018	*,**Data for doctors and for midwives and nurses by age was reported (in numbers N and percentages % were calculated as follows: N of doctors/midwives/nurses by age × 100/N of all professionals in staff group.	High	Moderate
	<25: 2.6%;	<25: 4.7%;	<25: 5.6%;	<25: 5.8%;	https://digital.nhs.uk/data-and-information/f nd-data-and-publications/supplementary-info rmation/2018-supplementary-information-fi		Complete samples and reliable data	Doctors/nurses/midwives all England only; paramedics UK
	25-34;	25-34;	25-34;	25-34: 27.2%	les/staff-number/oceadcare-and-doctors/			
	33.5%	24.2%	26.3%	35-44: 25.4%	hchs-doctors-by-specialty-grade-gender-a	***Data for paramedics by age was reported		
	35-44;	35-44;	35-44;	45-54: 27.4%	nd-age-jan-2018	in numbers N and percentages % were		
	29.3%	25.8%	24.1%	55-64: 13.1%		calculated as follows:		
	45-54;	45-54;	45-54;	65+: 1.1%	**NHS digital, Nurses, midwives and support	N of paramedics by age × 100/N of all		
	22.1%	30.1%	29.1%		staff by area, level, gender and age, January	professionals in staff group. Age range was		
	55-64;	55-64;	55-64;		2018	added and adjusted to those reported for		
	10.7%	14.4%	14.3%		https://digital.nhs.uk/data-and-information/f nd-data-and-publications/supplementary-info rmation/2018-supplementary-information-fi les/staff-number/ nurses-midwives-and-su pport-staff-by-area-level-gender-and-age-ja nuary-18	nurses and midwives		
	65+: 1.7%	65+: 0.9%	65+: 0.6%		Accessed on 23 October 2020			
					***HCPC Registrants snapshot dataset (October 2020; paramedics)			
					https://www.hcpc-uk.org/about-us/insights-a nd-data/the-register/registrants-snapsho t--2020/register-snapshot-1-oct-2020/			
					Accessed 16 June 2021			

Table 3 Comparison of 'service architecture' information for doctors, nurses, midwives and paramedics working in hospital and community health services

	Doctors	Nurses	Midwives	Paramedics	Source	Notes	Strength and reliability of evidence	
							Within group	Between group
Size of workforce	2018: 109 109 FTE (116 423 headcount) 2019: 111 950 FTE (119 530 head count) 2020: 121 256 FTE (128 962 headcount) *	2018: 284 073 FTE (318 595 headcount) 2019: 288 851 FTE (324 062 headcount) 2020: 302 298 FTE (338 256 headcount) **	2018: 21 601 FTE (26 130 headcount) 2019: 21 670 FTE (26 245 headcount) 2020: 22 136 FTE (26 778 headcount) **	2018: 20 646 FTE (21 900 headcount) 2019: 5776 FTE (16 775 headcount) 2020: 16 940 FTE (18 000 headcount) **	2018 (May) data taken from https://digital. nhs.uk/data-and-information/publications/sta tistics/nhs-workforce-statistics/may-2018 2019 (May) data taken from https://digital. nhs.uk/data-and-information/publications/sta tistics/nhs-workforce-statistics/may-2019 2020 (May) data taken from https://digital. nhs.uk/data-and-information/publications/sta tistics/nhs-workforce-statistics/may-2020	Numbers of NHS Hospital and Community Health Service (HCHS) staff working in NHS Trusts and CCGs in England (excluding primary care staff)	Moderate Generalized evidence for nurses (including health visitors) and for paramedics (data are for ambulance staff)	High Data for all profession from the same source
Type/band (agenda for change)	Doctors in a formalized training post 49.3%, Doctors in a non-consultant and non-formalized training role: 8.7%, Consultant 41.5%	Band 5: 42% Band 6: 28% Band 7: 15% Band 8a: 3% Band 8b <1% Band 8c: <1% Band 8d: <1% Band 9: <1% **	Band 5: 8% Band 6: 55% Band 7: 15% Band 8a 1% Band 8b <1% Band 8c: <1% Band 8d: 0 Band 9: 0 **	Band 5: 26% Band 6: 80% Band 7: 7% Band 8a: 1% Band 8b <1% Band 8c: <1% Band 8d <1% Band 9 <1% **	*https://files.digital.nhs.uk/9B/7D05677/NHS %20Workforce%20Statistics%2C%20May %202020%20Doctors%20by%20Grade %20and%20specialty.xlsx Data for May 2020 ** https://digital.nhs.uk/data-and-informatio n/find-data-and-publications/supplements ry-information/2018-supplementary-informa tion-files/total-numbers/hchs-staff-excluding doctors-by-aic-staff-group Total numbers employed (to work out percentages) were taken from Midwives: https://digital.nhs.uk/data-and-i nformation/find-data-and-publications/su pplementary-information/2018-supplementa ry-information-files/staff-numbers/registered-midwives-by-5-year-age-band-in-nhs-tru sts-and-ccgs-in-england---septembe r-2012-to-2017 Nurses (inc health visitors) https://digital.nhs.uk/data-and-information/fi nd-data-and-publications/supplementary-info rmation/2018-supplementary-information-fi les/staff-numbers/nurses-in-nhs-trusts ace-trusts-in-england-september-2017-supple mentary-information Paramedics (ambulance staff) https://digital.nhs.uk/data-and-information/fi nd-data-and-publications/supplementary-info rmation/2018-supplementary-information-fi les/staff-numbers/paramedics-in-nhs-ambula nce-trusts-in-england-september-2017-supple mentary-information Total staff are headcount (not FTE)		High Complete samples and reliable data	Moderate Band comparisons are possible for nurses, midwives and paramedics but not for doctors. Sources use different years

(Continued)

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Table 3 Comparison of 'service architecture' information for doctors, nurses, midwives and paramedics working in hospital and community health services

	Doctors	Nurses	Midwives	Paramedics	Source	Notes	Strength and reliability of evidence	
							Within group	Between group
Size of workforce	2018: 109 109 FTE *(116 423 headcount)* 2019: 111 950 FTE *(119 530 head count)* 2020: 121 256 FTE *(128 962 headcount)*	2018: 284 075 FTE *(318 595 headcount)* 2019: 288 851 FTE *(324 062 headcount)* 2020: 302 298 FTE *(338 256 headcount)*	2018: 21 601 FTE *(26 130 headcount)* 2019: 21 670 FTE *(26 245 headcount)* 2020: 22 136 FTE *(26 778 headcount)*	2018: 20 646 FTE *(21 900 headcount)* 2019: 5776 FTE *(16 775 headcount)* 2020: 16 940 FTE *(18 000 headcount)*	2018 (May) data taken from https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics/may-2018 2019 (May) data taken from https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics/may-2019 2020 (May) data taken from https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics/may-2020	Numbers of NHS Hospital and Community Health Service (HCHS) staff working in NHS Trusts and CCGs in England (excluding primary care staff)	Moderate Generalized evidence for nurses (including health visitors) and for paramedics (data are for ambulance staff)	High Data for all profession from the same source
Type/band (agenda for change)	* Doctors in a formalized training post 49.3% Doctors in a non-consultant and non-formalized training role: 8.7% Consultant: 41.5%	** Band 5: 42% Band 6: 28% Band 7: 15% Band 8a: 3% Band 8b: <1% Band 8c: <1% Band 8d: <1% Band 9: <1%	** Band 5: 8% Band 6: 55% Band 7: 15% Band 8a: 1% Band 8b: <1% Band 8c: <1% Band 8d: 0 Band 9: 0	** Band 5: 26% Band 6: 80% Band 7: 7% Band 8a: 1% Band 8b: <1% Band 8c: <1% Band 8d: <1% Band 9: <1%	* https://files.digital.nhs.uk/98/730567/NHS %20Workforce%20Statistics%2C%20May %202020%20Doctors%20by%20Grade %20and%20Specialty.xlsx Data for May 2020 ** https://digital.nhs.uk/data-and-information/find-data-and-publications/supplementary-information/2018-supplementary-information-files/all-numbers-of-staff-excluding-doctors-by-afc-staff-group Total numbers employed (to work out percentages) were taken from Midwives: https://digital.nhs.uk/data-and-information/find-data-and-publications/supplementary-information/2018-supplementary-information-files/staff-numbers/registered-midwives-by-5-year-age-band-in-ehs-cts-and-ccgs-in-england---september-2012-2017-november-2017 Nurses (including health visitors): https://digital.nhs.uk/data-and-information/find-data-and-publications/supplementary-information/2018-supplementary-information-files/staff-numbers/nurses-and-health-visitor-numbers-september-2012-to-2017 Paramedics (ambulance staff): https://digital.nhs.uk/data-and-information/find-data-and-publications/supplementary-information/2018-supplementary-information-files/staff-numbers/paramedics-in-ehs-ambulance-trusts-in-england-september-2017-supplementary-information Total staff are headcount (not FTE)		High Complete samples and reliable data	Moderate Band comparisons are possible for nurses, midwives and paramedics but not for doctors. Sources use different years

Table 3 Continued

	Doctors	Nurses	Midwives	Paramedics	Source	Notes	Strength and reliability of evidence	
							Within group	Between group
Retirement age	* June 2017–June 2018 Data HCHS Doctors: 15 095 (all reasons for leaving) Retirement age: n = 761 (5%) Average age 61.1 Voluntary early retirement: 91 (0.6%)^ Average age 57.6 Flexi-retirement n = 31 (0.2%) Average age 56.3	* June 2017–June 2018 Data Nurses (incl. Health visitors): 26 776 (all reasons for leaving) Retirement age: 4466 (16.7%) Average age 58.4 Voluntary early retirement 620 (2.3%)^ Average age 55.6 Flexi-retirement n = 185 (0.7%) Average age 56.8	** October 2016 to October 2017 Data Midwives: 2620 (all reasons for leaving) Retirement age: 428 (16.3%) **^ Average age 58.1	Not available	* NHS Digital: Leavers from the NHS by age and reason for leaving 2016-2019 AH3120. https://digital.nhs.uk/data-and-information/find-data-and-publica tion/supplementary-informatio n/2019-supplementary-informatio n-files/leavers-and-joiners/leavers- from-the-nhs-by-age-and-reason- for-leaving Accessed on 08 December 2020 **NHS Digital: Leavers from the NHS that were midwives by age with reason for leaving of retirement age. https://digital.nhs.uk/data-and-i nformation/find-data-and-publica tion/supplementary-informatio n/2018-supplementary-informatio n-files/leavers-and-joiners/leavers- from-the-nhs-that-were-midwise s-by-age-with-reason-for-leavi ng-of-retirement-age Accessed on 08 December 2020	^ Data for leavers from the NHS was reported by reason for leaving in numbers N and percentages % were calculated as follows: N of leaves by reason of leaving × 100/N of leaves by all reasons of leaving *Data reported for January 2017 to January 2018 **Data reported for October 2016 to October 2017	Moderate *Generalised evidence for nurses (including health visitors)	Moderate Sources are comparable for doctors, nurses and midwives but data not available for paramedics.
Bank Staff Headcount as percentage of total staff in England 2018 England	10.5% (12 252/116 191)	18.9% (60 004/317 884)	13.8% (3598/26 062)	4.4% (969/21 934)	NHS digital: Bank staff numbers June 2018. https://digital.nhs.uk/data-and-i nformation/find-data-and-publica tion/supplementary-informatio n/2018-supplementary-informatio n-files/bank-staff/bank-staff-nu mbers-june-2018 Accessed on 11 November 2020 NHS workforce statistics - June 2018 https://files.digital.nhs.uk/2E/8 BF819/NHS%20Workforce%20 Statistics%2C%20July%202018 %20National%20and%20HEE. xlsx	There were 181 073 bank staff in total across NHS trusts & CCGs in England in 2018, broken down as follows: HCHS doctors—12 252 Nurses and HVs—60 004 Midwives—3598 Ambulance staff—969 Figures represent payments made using Electronic Staff Record (ESR) system to NHS staff who are employed and directly paid by NHS organisations. Unlikely to represent all bank staff. Across NHS Trusts and CCGs in England in June 2018: HCHS doctors—116 191 nurses and HVs—317 884 midwives—26 062 Ambulance staff—21 934 Figures represent headcount totals not fulltime equivalents 2018	Moderate Data are reported in groups beyond those of interest (e.g. nurses include health visitors, and paramedics is encompassed within all ambulance staff). Health visitors only represent about 3% of the population.	High Data for all professions are from the same source

(Continued)

Table 3 Continued

	Doctors	Nurses	Midwives	Paramedics	Source	Notes	Strength and reliability of evidence — Within group	Between group
Staff vacancies	6.1% vacancy rate (includes doctor and dentist)	10.3% vacancy rate (includes nurses, midwives and health visitors)	10.3% vacancy rate (includes nurses, midwives and health visitors)	12% vacancy rate	*NHS Vacancy Statistics England April 2015 – June 2020 https://digital.nhs.uk/data-and-information/publications/statistical/nhs-vacancies-survey/april-2015---june-2020-experimental-statistics Accessed on 19 August 2021 **Recruitment and retention of ambulance staff. https://www.unison.org.uk/content/uploads/2015/11/Recruitment-and-retention-of-ambulance-staff-PRB-November-2015-FINAL.pdf	*Vacancies by profession reported for June 2020 The vacancy rate is a calculation of the FTE number of vacancies as a percentage of planned FTE workforce levels. Data from NHS England and NHS Improvement	Moderate *Data are reported in groups beyond those of interest. Doctors include dentists and nurses include midwives and health visitors)	Moderate Doctors/Nurses/Midwives all England only; Paramedics UK
Average annual basic pay (per FTE)	£68777	£34275	£36039	£33497	Accessed on 26 October 2020 Annual basic pay data taken from: https://digital.nhs.uk/data-and-information/publications/statistical/nhs-staff-earnings-estimates/march-2021		Moderate Data only include NHS earnings	High Data for all professions from the same source
Pay gap (by gender)	M: £73841 F: £65082 Difference: M 15% > F	M: £2730 F: £2699 Difference M 1% > F	M: £2936 F: £2826 Difference M 4% > F	M: £2415 F: £2292 Difference M 5% > F	NHS Digital. Ethnicity pay gap FTE basic pay comparison tool—by staff group https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics---march-2019-provisional-statistics Accessed on 31 March 2021	Using this tool and selecting the staff group of interest on the base sheet we have then selected the variables of interest on the right side of the spreadsheet (e.g. ethnic group or gender)	Moderate Generalized evidence for nurses (including health visitors) and for paramedics (data are for ambulance staff)	High Data for all professions from the same source
Pay gap (by ethnicity)	WHITE: £5734 BAME £5153 Difference White 10% > BAME	WHITE £2762 BAME £2568 Difference White 7% > BAME	WHITE £2820 BAME £2851 Difference White 1% > BAME	WHITE: £2368 BAME £2258 Difference White 5% > BAME		For ethnicity, BAME represents the average pay across the following ethnic groups - Asian/Asian British - Black/African/Caribbean/Black British - Mixed/Multiple ethnic groups - Other ethnic group - The only group excluded is 'unknown'		
Shift work patterns	Doctors may work up to 48 hours a week (but many opt-out of EWTD and work in excess*).	Nurses usually work standard hours of 37.5 hours per week. Many nurses will work 8, 10 or 12-hour shifts across the 24 hour day, especially in hospital settings. Some work the traditional Monday–Friday 9–5 pm shifts with weekends off or various times throughout the week while covering the weekends.	Midwives usually work 37.5 hours per week. Midwives working on maternity wards are likely to work 12 hour shifts, while those in the community are more likely to work a 9–5 day but could be on call for home births	Paramedics usually work 37.5 hours per week on a shift pattern of 6, 8, 10 or 12-hour shifts.	NHS Health Careers www.healthcareers.nhs.uk Compare roles: Add GP, adult nurse, midwife, paramedic Accessed 16 June 2021 *Junior doctors who opt out of the European Working Time Directive (EWTD) https://www.bma.org.uk/pay-and-contracts/working-hours/our-open-working-time-directive/time-off-the-european-working-time-directive Accessed 8 February 2022		Moderate Generalized evidence for doctors (based on GP) and nurses (based on adult nurse)	High Data for all professions from the same source

(Continued)

Table 3 Continued

	Doctors	Nurses	Midwives	Paramedics	Source	Notes	Strength and reliability of evidence	
							Within group	Between group
%Staff working additional unpaid hours	75.3% (31212/ 41403)	64.3% (91168/ 141788)	43.4% (4295/ 9897)	79% (13837/ 10932)	NHS Staff Survey National Interactive Tables (2020) https://public.tableau.com/app/profile/picacct/viz/ST20nationaldashboardds_16213084823020/Aboutthesurvey Accessed on 8 February 2022		Moderate Representative samples but relies on self-report	High Data for all professions from the same source
Education/ clinical practice	5 years undergrad Registration 2 years foundation training Registration GMC upon completion of Y1 Foundation Programme 3–7 years Specialisation* Clinical practice^ 2% in Year 1 4% in Year 2 28% in Year 3 27% in Year 4 61% in Year 5	3 years undergrad Registration with NMC** Clinical practice** 50% practice-based learning (2300 h)	3 years undergrad-uate education Registration with NMC** Clinical practice** 50% practice-based learning (2300 h)	2–4 years approved qualification in paramedic science Registration HCPC*** Clinical practice^^ 50% practice-based learning	*GMC https://www.gmc-uk.org/education/becoming-a-doctor-in-the-uk Accessed on 23 October 2020 **NMC https://www.nmc.org.uk/education/becoming-a-nurse-midwife-nursing-associate/ Accessed on 23 October 2020 ***College of Paramedics https://www.collegeofparamedics.co.uk/COP/Become_a_Paramedic/COP/BecomeAParamedic/Become_a_Paramedic.aspx?hkey=d10838de-b671-44a0-8367-8140d6edba83 Accessed on 23 October 2020 ^ University of Exeter website ^^ University of Surrey website	To become a registered doctor a minimum of 6 years To become a registered nurse or midwife a minimum of 3 years To become a registered paramedic a minimum of 2–4 years	Moderate Reliable evidence regarding curriculum via GMC and NMC and HCPC. Clinical Practice Hours variable for Doctors and Paramedics and sources are therefore examples.	Moderate Clinical Practice Hours are not taken from similar sources for Doctors and Paramedics.
CPD	50 hours of CPD per year Re-commended 250 credits over 5 years*	35 hours over 3 years 20 of which participatory learning (activity with other professionals e.g. conference, training)**	35 hours over 3 years 20 of which practice-participatory**	No set number of hours***	*Royal College of Physicians https://www.rcplondon.ac.uk/education-practice/advice/cpd-revalidation Accessed 04 November 2020 **NMC http://revalidation.nmc.org.uk/what-you-need-to-do/continuing-professional-development.html Accessed 04 November 2020 ***HCPC Continuing professional development and your registration. Information for registrants https://www.hcpc-uk.org/globalassets/resources/guidance/continuing-professional-development-and-your-registration.pdf?v=637106442760000000 Assessed 04 November 2020		High Sources are reliable for the individual profession	High Sources are comparable – Regulatory/ professional bodies.

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Table 4 Comparison of 'workforce wellbeing' information for doctors, nurses, midwives and paramedics working in hospital and community health services

	Doctors	Nurses	Midwives	Paramedics	Source	Notes	Strength and reliability of evidence	
							Within group	Between group
Sickness absence/ sick leave rate	1.49%*	4.73%	5.11%	5.8%	NHS Digital, NHS Sickness Absence Rates, April 2019 to March 2020, Annual Tables https://digital.nhs.uk/data-and-information/publications/statistical/nhs-sickness-absence-rates/march-2020 Accessed on 21 October 2020	Data reported for April 2019–March 2020 *Data reported for Hospital and Community Health Service (HCHS) Doctors	Moderate Generalized evidence for nurses (including health visitors); and paramedics (ambulance staff)	High Data for all professions from the same source
% Sickness absence due to anxiety, stress, depression, other psychiatric illness	24.1%*	30.2%	34.7%	25.5%	NHS digital, Sickness Absence by Reason and Staff Group, June 2020 https://digital.nhs.uk/data-and-information/publications/statistical/nhs-sickness-absence-rates/june-2020 Accessed on 10 November 2020	There is also data available on reasons not related to mental health problems Data reported for June 2020 *Data reported for HCHS Doctors	Moderate Generalized evidence for nurses (including health visitors); and paramedics (ambulance staff)	High Data for all professions from the same source
Presenteeism (working when unwell)	30.3%	49.3%	55.3%	56.3%	NHS Staff Survey Results 2020 https://www.nhsstaffsurveys.com/results/interactive-results/ Accessed on 19 August 2021	% staff responding 'yes' to the question 'In the last three months have you ever come to work despite not feeling well enough to perform your duties?'	Moderate Reliable data representing respondents to staff survey. Generalized evidence for doctors (including dentists)	High Data for all professions from the same source
Unrealistic time pressures	80.8%	81.5%	89.7%	81.9%	NHS Staff Survey Results 2020 https://www.nhsstaffsurveys.com/results/interactive-results/ Accessed on 19 August 2021	% staff responding 'sometimes', 'often' or 'always' to the question 'I have unrealistic time pressures'	Moderate Reliable data representing respondents to staff survey. Generalized evidence for doctors (including dentists)	High Data for all professions from the same source
Stress (report feeling unwell as a result of work-related stress)	39.8%	48.5%	54.9%	58.2%	NHS Staff Survey Results 2020 https://www.nhsstaffsurveys.com/results/interactive-results/ Accessed on 19 August 2021	The % of staff answering 'yes' to the question 'During the last 12 months have you felt unwell as a result of work-related stress?'	Moderate Reliable data representing respondents to staff survey. Generalized evidence for doctors (including dentists)	High Data for all professions from the same source
Suicide	2015: 14 2016: 15 2017: 19 2018: 18*	2015: 43 2016: 51 2017: 32 2018: 55	2015: 2 2016: 1 2017: 1 2018: 3	2015: 4 2016: 5 2017: 5 2018: 3	Office for National Statistics, Number of suicides among health professionals, England and Wales, 2011–2018 https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/10471numberofsuicidesamonghealthprofessionalsenglandandwales2011to2018 Accessed on 23 October 2020	Data reported for 2015 to 2018 *Data for doctors is 'Medical Practitioners' Data reported as cases per year N not % Data include England and Wales	Moderate Cases reported as intentional harm or injury/poisoning of undetermined intent may not be reliable.	High Data for all professions from the same source

NHS, 59.4% doctors, 68.4% nurses, 91.5% midwives and 74.2% paramedics were from the UK, with the remainder from the EU/EEA and the rest of the world. In the latest NHS Staff Survey (2020), over a third of paramedics (40.6%) and midwives (35.9%) reported often thinking about leaving the organization they worked in, compared to 27.5% of nurses and 21.4% doctors. Similarly nursing and midwifery students were more likely to drop out of their undergraduate courses than doctors (24% and 21% compared to 5% medical students). It is also important for workforce planning to consider the age at which healthcare staff retire. The average retirement age was similar for doctors, nurses and midwives (61.1 years; 58.4 years, 58.1 years, respectively) yet only 21% of paramedic retirements in 2018/19 were aged 60+, compared to 36% for all NHS workers.[22]

Bank staff and vacancies

Nurses have the highest proportion of bank staff, at 18.9%, compared with 10.5% doctors (where they are more commonly called locums), 13.8% midwives and 4.4% ambulance staff. The data relating to staff vacancies are less readily comparable, but show that in England there is a 6.1% vacancy rate in doctors and dentists; 10.3% in nurses, midwives and health visitors taken together; and in the UK there is a 12% vacancy rate in paramedics.

Salary and pay gaps

The average annual basic pay for doctors (£68 777) is nearly double that of the other three professions, with midwives (£36 059) earning slightly more than nurses (£34 275) and paramedics (£33 487). It is important to note that this figure only includes NHS earnings, and excludes any additional salary from private practice. Doctors are also more likely to receive additional payments for working on-call (34.3% vs 17.4% midwives, 7.9% ambulance staff and 4.1% nurses, data taken from same source as salary). Across all four professions, there is a gender pay gap with average pay for female staff less than the average pay for male staff, and this varies from 1% in nursing to 15% in medicine. Across all four professions, the average pay for staff who report as BAME (Black, Asian or Minority Ethnic) in terms of ethnicity is less than the average pay for staff who report as White, and this varies from 1% in midwifery to 10% in medicine.

Working hours

All four professions typically work shifts or extended days, often involving early mornings, evenings, nights and weekends. A full-time doctor may be contracted to work up to 48 hour per week, in a range of shift patterns, dependent on specialty. Full time nurses and midwives are typically contracted to work 37.5 hour per week, through 8, 10 or 12 hour shifts in hospital settings, although working hours are often more traditional in community settings, albeit sometimes with on call commitments. Paramedics are typically contracted to work 37.5 hour per week on a shift pattern of 6, 8, 10 or 12 hours. Results from the latest NHS staff survey (2020) show that a significant proportion of staff work unpaid hours in addition to these contracted hours. Over three quarters of paramedics (79%) and doctors (75.3%) reported working additional unpaid hours, compared to 64.3% nurses and 43.4% of midwives.

Education and training

All four professions now require a university degree for entry to the profession and all four are required to pass examinations to allow them to register as a professional with their respective registering body. As undergraduates, doctors spend a smaller proportion of their time in clinical practice (around 25% overall), whereas the other three professions spend 50% of their time as undergraduates on placements in clinical practice. Doctors also spend much longer in training, both as undergraduates and after graduation, compared to the other three professions. Medical training typically involves 5 years of undergraduate study and 5–9 years of postgraduate training, whereas the other three professions typically

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involve 3 years of undergraduate study and have no requirement for postgraduate training (though many opportunities exist, including advanced practice Masters and doctoral qualifications and specialist practitioner courses).

Continued professional development

There are fixed requirements for continued professional development (CPD) in terms of numbers of hours per year for doctors, nurses and midwives, but no set number of hours for paramedics. For example, doctors who are members of the Royal College of Physicians are expected to undertake 50 hours of CPD per year, whereas for most nurses and midwives it is 35 hours over 3 years (~12 hour per year).

Workforce well-being

Sickness absence appears to be significantly higher in nurses, midwives and paramedics (4.73%, 5.11% and 5.38%) compared to doctors (1.49%; Table 4). When we look at the proportion of sickness absence due to anxiety/stress/depression/other psychiatric illness, this ranges from 24.1% for doctors to 34.7% for midwives. Presenteeism also appears to be higher in nurses, midwives and paramedics (49.3%, 55.3% and 56.3%, respectively reporting working when unwell in the NHS Staff Survey 2020) compared to 30.3% of doctors. The majority of all four professions report having unrealistic time pressures (between 80.8% of doctors to 89.7% midwives), and high proportions in each profession reported feeling unwell as a result of work-related stress (from 39.8% medical and dental staff to 58.2% paramedics). Data were also extracted for 2018 and 2019 in case there was a 'pandemic' effect of using the 2020 NHS staff survey data, but we found no evidence of this with little change in these variables in any of the groups over this period.

Discussion

The mental health and well-being of healthcare workers has been a pressing concern for many years,

and has been intensified by the ongoing COVID pandemic.[1,23] Poor mental health is the consequence of a complex interplay of bio-psycho-social-cultural factors, among these, the nature and structures of healthcare work may be major contributors. Although some of the features of work relating to poor mental health are common to all NHS staff, some key features and patterns indicate unique differences that are important to note and take into account when designing, implementing and evaluating interventions to improve well-being of NHS staff. This review presents some of this data, providing a resource to support this endeavour.

In relation to demographics, there are some stark differences by gender and whilst our focus is on work factors in this paper, various social and economic factors can put women at greater risk of poor mental health than men and thereby may go some way to explaining the high prevalence of poor mental health in the female dominated professions. These factors include being more likely to undertake caring roles, live in poverty and experience domestic abuse.[24] Furthermore, female dominated professions may be more open to reporting poor mental health. In relation to age profile of the workforce, medicine has a younger workforce, and nursing and midwifery have an ageing workforce. This suggests that there may be greater problems with workforce retention in medicine and/or that the peak at an earlier age in medicine is the result of greater investment in medical student numbers working their way through the system. This also indicates that there are difficult times ahead for nursing and midwifery, as many experienced professionals near retirement. In nursing this has been referred to as a demographic timebomb.[25] It is critically important to consider ways of encouraging the next generation into healthcare careers. We know that career choices for Generation Z (those born 1995–2010, so those entering the labour market now) are influenced by wanting to work for organizations that promote healthy practices and healthy working environments,[26] and research has shown the potential 'fit' between Generation Z values and caregiving careers.[27]

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In relation to diversity, the professions with lower ethnic diversity (nursing, midwifery and paramedic science) also have the highest vacancy rate. There are also considerable gender and BAME pay gaps across professions. In medicine the gender pay gap has been explored more comprehensively than the data we used here allows, and a greater gap than reported here was found (18.9% for hospital and community health services doctors, 15.3% for GPs, adjusted for differences in working hours).[28] The Workforce Race Equality Standard[29] highlights variations in staff experience according to ethnicity, across NHS trusts in England, and is challenging race inequality in the health and care system. Policies and strategies that aim to improve equality, diversity and inclusion within and across professions are not only a moral imperative, but are likely to improve recruitment and retention in Generation Z cohorts, improve the well-being of staff (e.g. reducing potential stigma and unprofessional behaviours including bullying) and also improve quality of patient care.[30]

In relation to 'service architecture' the four professions have many distinct features that may be important when trying to understand the causes of poor mental health. Although there has been net growth in numbers within each profession, there has also been an exponential growth in demand, and this is within a context of chronic under-investment and staff shortages,[31] and an exacerbation of the shortages caused by Brexit.[32] Thus it is unlikely that this growth in numbers will be sufficient. Furthermore, the numerical staffing levels we have reported can mask nuances that are important to consider, for example which NHS staff (in terms of grade and experience) are leaving and joining and the employment status of staff (e.g. nurses have a high proportion of bank staff). Replacing experienced leavers with newly qualified joiners does not plug the workforce deficits alone—it is critical to also implement strategies to retain experienced staff. Consideration also needs to be given to the speed at which healthcare professionals are trained. The F2 Career Destinations Survey for doctors[33] shows a rapid decrease in recent years of the proportion of doctors who, 2 years after graduating, continue directly onto the next stage of training. These doctors are not necessarily leaving medicine but are slowing down their progression, either to support personal or professional development,[34] and/or to manage stress, regain control of their life and work.[35] Ensuring evidence-based support for staff throughout their training and practice is essential to reduce this attrition.

All four professions experience poor levels of workplace well-being, according to all of the metrics presented in this paper. A notable finding is the difference in sickness absence rates between doctors and the other professions (over a 3-fold difference), a pattern that continues for rates of presenteeism. It is unclear why this is. It may be explained in part by gender socialization theory and gender traits: that it is more acceptable for women to report being stressed than men, and therefore the female dominated professions having higher rates.[36] This does not explain why the rates are similar in paramedics though who are a more gender-balanced profession. It is more likely a complex interplay of the bio-psycho-social-cultural factors that interact with gender and these professions, for example those with lower income and status being at greater risk of poor mental health. The barriers to taking time off sick may be greater for doctors, including that it may be harder for them to report poor well-being either culturally and/or practically, as they are less likely to be registered with and/or consult with their own GP.[20,37] The stigma of mental ill-health and impact on colleagues has been reported by doctors, nurses, midwives and paramedics.[38–40]

Media reports and now published research on experiences of staff during COVID-19 tell us that NHS staff have long been experiencing a mental health crisis, but that has been made significantly worse by the COVID-19 pandemic.[41–43] This is not reflected in the NHS Staff Survey findings reported here perhaps as the measures were not sensitive to the impact of COVID on the mental health of staff, or because they were collected too early in the pandemic. Increasing support for NHS staff well-being is thus vital. Our current research study Care under Pressure 2 (nurses, midwives and paramedics) will complete summer 2022, and the next steps

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are to ensure a pathway to impact by embed this research into practice by testing and refining this knowledge and optimizing its implementation in the NHS. To do this we aim to create resources to augment the NHS Health and Wellbeing Framework (HWF).[44] This Framework was first launched in 2018 by NHS England and Improvement and NHS Employers and provides an interactive toolkit that makes the case for staff health and well-being, sets out clear actionable steps and includes guidance on how organizations can plan and deliver a staff health and well-being strategy. This framework takes a 'systems and multi layered' approach to health and well-being (from prevention to treatment, and individual and organizational strategies). Although an excellent resource, currently the NHS HWF has a generic NHS workforce focus (not specifically for doctors, nurses, midwives and paramedics), and our ongoing planned work (through new studies Care Under Pressure 3 and 4) aim to add resources to this framework and optimize their use and implementation in practice.

Through completing this critical review, we have learned that this type of comparative work is not as straightforward as it might seem, that some key data are not available, or need transforming to be comparable for example, but it can generate significant insights, and has significant potential for impact. The findings may help NHS managers, policy makers, leaders, etc. to see where improvement strategies from one profession/setting might be transferrable to another profession/setting, and can also help with targeting/prioritizing the implementation of different initiatives given finite resources (time/money).

This review is limited by the data available, which in some cases is either a few years old and/or has limited comparability across professions. There are important features of work or of the workforce that we do not have reliable data about and therefore could not include: in particular the primary care workforce, which is sizeable, and the settings in which staff work. In addition, sometimes the data do not reflect the true picture on the ground, for example sometimes posts are not advertised because it is not felt they could be filled and workarounds are made to cover service needs, therefore masking the true vacancy rate.

This review presents novel inter-professional comparative work, enabling healthcare leaders, managers and other stakeholders to consider—and develop strategies to mitigate—the potential impact of these distinct demographic and service architecture profiles on well-being of the workforce. Healthcare relies on interdisciplinary working, and attempts to improve workforce well-being require multilevel systems approaches, from prevention to treatment, that take into account similarities and differences across professions. The development of more harmonized inter-professional national databases, could in itself be a resource to monitor and improve healthcare staff well-being.

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Conflict of interest statement

The authors have no potential conflicts of interest.

Data availability

The data underlying this article are available in the article and in its online supplementary material.

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Appendix 4: The effects of COVID-19 on nurses', midwives' and paramedics' psychological wellness

Introduction

As outlined in the methods chapter (Chapter 2), due to our reverse chronological screening process and the risk of including *only* COVID-19 literature if we didn't exclude in the first cycle of searching, we excluded such literature at first, but decided to come back to the COVID-19 related literature towards the end of this study. This was to ensure we were able to incorporate any extraordinary causes of psychological ill-health that may still be relevant to consider (given the pandemic is not yet over and has long-term impacts); and capture any innovative interventions to mitigate psychological ill-health that may differ from those pre-pandemic, and provide important learning. This short appendix presents a synthesis of this literature.

As shown in the PRISMA statement (Chapter 3, Figure 1) we included a total of 49 COVID-19 papers in this cycle of searching and synthesis. These are summarized in Table 1 below, with a longer version provided at the end of this chapter (Table 2). Twenty-two papers related to a range of healthcare professionals, some of whom may have been nurses or midwives or paramedics, but also include doctors and support workers and other staff (labelled general); 7 paramedic papers, 12 nurses and 8 midwife papers (some of which are both nurses and midwives). Table 2 (at the end of the appendix) details descriptors of author, date, year, country and type of paper. Table 1 below details a summary of the types of papers included.

	Empirical	Commentary	Lit Review paper	Editorial	Discussion paper	Theory paper	Report	TOTAL
General	11	1	3	3	2	1	1	22
Paramedic	2	3			2			7
Nursing	3		1	1	7			12
Midwifery	1	1	2	2	2			8
TOTAL	17	5	6	6	13	1	1	49

Table 1 COVID-19 papers included summary: type of papers

The literature indicates that the COVID-19 pandemic has significantly impacted the psychological health of staff, in an almost entirely negative way[1-3]. For example, a recent study reported NHS intensive care staff suffered double the rates of PTSD during the pandemic compared to British military veterans deployed in Afghanistan in a combat role[4]. Nurses made up over half of the sample (57%) of 6080 respondents in this study, with younger, less experienced nursing staff most likely to report probable change to psychological health. One of the few benefits that the pandemic offered was the focus on staff health and psychological wellbeing. There has been a proliferation of research in this area and considerable resources on offer for support and interventions. However, as described in this chapter, many of the interventions had unintended negative consequences and much of the research was undertaken at pace and unfunded, and is therefore typically cross sectional, descriptive and of poor quality. As in non-pandemic times, some authors note the importance of a whole-systems approaches to understanding the impact of COVID-19 on staff wellbeing, (for example Vera San Juan and colleagues[5].

This chapter provides a synthesis of the included COVID-19 literature. We have organised this into three sections as follows and highlighted our key findings (see Box 1) before presenting each of these sections in turn:

1. Exacerbation and acceleration of staff mental distress from already difficult pre-pandemic conditions

2. Innovation and immediate interventions introduced during the pandemic

3. Sustained, longer-term changes and interventions arising from the pandemic.

1. *Exacerbation and acceleration of staff psychological distress from already difficult pre-pandemic conditions* specifically caused by:

    a. Redeployment and new duties without sufficient training

    b. 'Deathscapes'; high numbers of deaths and distressing end of life care

    c. Unfiltered, constantly changing global stream of information, government rules and clinical protocols

    d. Fear of contagion and virus spread

    e. Impact of inadequate PPE access / PPE wearing especially for interpersonal communications

    f. 'Tragic choices' which caused moral distress and injury

    g. An inability to always provide excellent care

    h. Reports of losing the human side of care during the pandemic

    i. The pandemic exposed health, global and societal inequalities

    j. Staff feeling undervalued and embittered leading to workforce attrition.

2. *Innovation and immediate interventions introduced during the pandemic*

    a. National interventions were initially accessed minimally, healthcare staff preferring peer support and to connect with each other talk and be heard

    b. Access to psychological well-being services was limited with no paid allocated time and a reluctance to access in time off

    c. Provision of formal psychological support did not always reduce stigma and some staff felt the need to be stoic and conceal feelings

    d. Some taboos broken around staff psychological ill-health enabling staff to prioritise their health and talk about their experiences

    e. COVID-19 wellbeing guideline development placed greater emphasis on wellbeing at an individual level rather than organisational level

    f. Some innovative interventions were adopted or adapted during the Covid pandemic in the US, three that were multi-focal in approach (primary, secondary and/or tertiary levels: Code Lavender; HEAR and No One Cares

alone (NOCA)).

3. *Sustained, longer-term changes and interventions arising from the pandemic.*

   a. The pandemic has shone an important spotlight on staff psychological wellness and the importance of primary prevention

   b. On-going psychological health requires support and investment for sustainability

   c. The pandemic provided an opportunity to change professional norms and for staff to reclaim autonomy and power and speak up and raise concerns, although these were not always heard

   d. Intervention timing is important (in COVID-19): meeting essential needs in the immediate crisis with access to psychological support required later

   e. An increased sense of camaraderie and pulling together during the pandemic with calls for this to be harnessed to increase cooperation and collaboration going forward

   f. Innovation increased and new interventions were established and, whilst others that were not useful need to stop and be de-invested in.

Box 1 Key findings from COVID-19 literature synthesis

1. Exacerbation and acceleration of staff mental distress from already difficult pre-pandemic conditions

As indicated in previous chapters there was already substantial evidence pre-pandemic to indicate that nurses, midwives and paramedics were under considerable strain, with their psychological health suffering. Reasons included existing secondary stressors and Williams[6] highlight *"The huge importance of camaraderie, taking adequate breaks, having conversations with peers, reducing hassles over parking and eating, for example, demonstrated a decade ago, was re-emphasised"*(p7). The included literature provides strong indication that the conditions of healthcare delivery presented during the COVID-19 pandemic created an exacerbation and acceleration of staff psychological distress in relation to pre-pandemic workplace conditions[1, 7-9], describe in one paper as the 'perfect storm of psychosocial stress'[10](p380). We explore the reasons for this below.

Redeployment and new duties without sufficient training: Staff experienced increased stress from being re-deployed (being assigned a new role and/or moved to a new setting or area; usually to a COVID-19 ward or intensive care unit) in which they were required to work in unfamiliar environments and teams, often at short notice and without adequate training [9, 11].

'Deathscapes'; high numbers of deaths and distressing end of life care: Nurses reported 'Deathscapes' (COVID-19 environments with high mortality rates) where care could not be well-planned, relatives and friends could not be present during/at end of life and so farewells were by telephone or video, with nurses present in intimate moments they would not have been before, and unable to hold patients' hands or offer comfort as usual [9][48JM-CV]. Other papers also highlighted the stress on paramedics, "where death has so frequently characterised the most severe cases of the virus"[12](p319).

Unfiltered, constantly changing global stream of information, government rules and clinical protocols: Several included papers described the impact of constantly changing and differing messaging and protocols [10, 13, 14]. With Wong et al[10] highlighting that COVID-19 was the first pandemic in an age of deep digital integration. Staff reported being exposed to constant

streams of unfiltered clinical information and government rules and messaging that was constantly changing, reinforcing emotions of angst, confusion and despair, and frustration at the shifting and differing guidance at local and national levels: *"Our clinical environment faces relentless increases in patient volume and acuity while we experience unprecedented physical and psychological hardship. In addition, conflicting and rapidly changing information regarding personal protective equipment fuels our ongoing fears of exposure and uncertainty about our own safety in the workplace"*[10](p379).

Constantly changing directives led to great uncertainty in staff:

> *"We were getting different information every day from different sources, from Europe, within maternity, within the Trust, from PHE [Public Health England], and I think everything felt very, very different…I found that a bit stressful, this conflicting advice and nobody being quite sure what's the right thing to do. Do we break the Trust rules and do what we think is right ourselves?"* [15](p6).

The unique paradox of simultaneous global digital interconnectedness and social and physical isolation also shifted normal systems of coping. Frontline workers (e.g., paramedics) were being challenged to *"both grapple individually with our emotions and to work collectively to support resilience among our colleagues."*[10](p379). Paramedics expressed frustration with the media scaring people into not calling for emergency support when they had valid reasons to seek help unrelated to COVID-19[16]. At the same time, they were being called to homes of people who were in a state of fear and confusion from watching the news and needed professional reassurances that they weren't sick or dying.

Fear of contagion and virus spread: In the Impact of Covid on Nurses (ICON) study, nurses and midwives experienced considerable stress in terms of the fear around spreading the virus to their families and members of their households[17]. Similarly, paramedics reported developing traits close to obsessive compulsive disorder around cleaning and sanitizing stations[14]. Furthermore, the 'protect me to protect you' messaging to staff, while emphasizing the collective efforts needed to prevent transmission and interdependence of teams to practice

COVID-19 safety, also highlighted the heavy burden of responsibility that all staff were facing[14]. The literature highlighted the sense of "guilt" that nurses, midwives and paramedics felt if they were infected, firstly in terms of letting patients down, even when they were not at fault; and secondly letting each other down, for example, those sent home to quarantine may feel like they're letting coworkers down[18].

Impact of inadequate PPE access / PPE wearing especially for interpersonal communications: COVID-19 was reported as causing greater and different psychological issues (to those pre-pandemic) due to concerns over safety (lack of sufficient PPE), staffing unpredictability, and moral injury[19]. Maloney and colleagues[13] discussed the psychological impact of high rates of patient mortality and the need for more specialized training for emergency medical staff around death and dying.: *"even before COVID-19, performing death notifications was associated with increased burnout among EMS professionals. Appropriate targeted training in death notification procedures can mitigate this effect and may have become particularly important over the past year, with many areas seeing profound increases in unresuscitable cardiac arrest cases during the pandemic"* p 3.

Numerous papers discussed the impact of inadequate PPE [9, 10, 13, 20]. Paramedics described feeling scared to transmit the virus from their patients to their loved ones, particularly due to fear caused by ill-fitting PPE, or being told to use PPE that was old and out of date[14]. Llop-Girones et al[21] similarly discusses the lack of adequate PPE and how shifting policy around PPE put staff at risk. They write:

> *Lack of PPE was commonly reported by many health workers globally, also in rural areas and the private health sector…Evidence shows that nurses who do not consider the availability and quality of PPE to be adequate had significantly higher levels of depression, anxiety, and stress (p. 11).*

Various papers described the taxing use of PPE by nurses and midwives and paramedics during the pandemic e.g.[16]. This included the difficulty taking breaks and eating, going to the bathroom, and the additional time and labour caused by the need to don and doff PPE[16].

Paramedics often had to stay in full PPE for several hours whilst transporting a patient to hospital and waited for admission, and then had to spend further time and labour to decontaminate the ambulance after a COVID-19 patient transport, whilst concurrently receiving calls for more emergencies. Donning and doffing PPE often had to happen inside the ambulance en-route to patients and different patient cases required different levels of PPE based on a tiered system[16].

'Tragic choices' caused moral distress and injury: Staff experienced moral distress in relation to making difficult choices with limited resources[22, 23] and those working on the front lines in ICU departments experienced high rates of mental health disorders and thoughts of self-harm[4]. The literature indicated that staff experienced heightened distress during the pandemic due to making 'tragic choices'[14]; personal; organisational and societal. Rees[14] draw on the theory of Calabresi and Bobbitt who explored how societies allocate tragically scarce resources and make such 'Tragic Choices'. Examples of tragic choices meant that would inevitably mean some patients would not receive treatment.

An inability to always provide excellent care: Paramedics and nurses reported feeling they were unable to deliver the standard of care they would usually provide and described how this could result in moral distress and injury [14, 24], resulting in the following key message intended to aid managers to support staff:

> *"It is important to acknowledge facing the moral strain and distress that staff suffer now and later when they are unable to do everything possible for all patients. This includes advising staff not to fill gaps by heroic actions that place them at greater moral and physical risk and not to raise their expectations of what should be done for patients"*[24](p8).

Rees et al[14] discussed the rise of moral distress for paramedics when conducting home visits. Paramedics experienced decision fatigue and ethical dilemmas around advising (non-COVID-19) patients to go to hospital. One paramedic noted *"I would say at least about 50% (of patients) are refusing to go in...so you are really having to convince and weigh up the balance of fighting against that, because if you do take them in and they do catch it and they do die, it's weighing*

up the responsibility of that as well" (p. 6). Mitchinson et al[25] described the challenging circumstances in treating dying patients in intensive care:

> *'Nurses struggled with the changes to care delivery: 'as a gut feeling, as a nurse, you didn't feel it was right what you were doing' (Nurse, Palliative Care). Palliative specialists who would do anything to enable a good death and perceived themselves as 'rule breakers' (Nurse, Palliative Care) were now required to enforce policies which contradicted their care beliefs (p. 6).*

Reports of losing the human side of care during the pandemic was prevalent across all our professional groups [e.g. [1, 9], illustrated for paramedics here:

> *"their interaction pre-pandemic with people with mental health issues was often tactile, involving holding hands and using nonverbal communication. Participants explained how the pandemic had significantly changed this: "the human side of our job has been taken away, and its really put into sharp contrast how much humanity we usually have in our job…personally I have found it really difficult leaving relatives behind and especially when you have got time-critical, possibly not going to survive patients. We had a lady with a very dense CVA* [an early sign of ischemic stroke] *the other day…and had to leave her daughter standing crying on the side of the road"* [14]p. 6

The pandemic exposed health, global and societal inequalities. Several papers highlighted how the pandemic disproportionately impacted on those staff with minority backgrounds and revealed significant gender differences[26, 27], yet we know that there is a link between inclusive environments and staff psychological wellbeing[28]. A Nursing Standard practice feature[26] described reflections from black nurses and the extra risks that COVID-19 provided for this population, many of which were hidden and not talked about. "*As a profession we are good at what we do, but not always good at sharing our problems with others*". (p41)

Gender, social class, ethnicity/race, age and migrant status were described as inequality axes[21] that act as key relational mechanisms explaining why nurses (and often their families) are exposed to multiple risks and poorer health. They also highlighted other inequities such as

pay rises being offered to many other public sector workers including doctors and dentists but not to nurses. Similarly, inequalities were noted with regard to PPE[20]: *"Many HCWs reported failing their respirator fit-test and a lack of alternatives meant that they proceeded caring for patients with COVID-19 with these masks or used a lower level of protection. This was especially the case for female HCWs who experienced a lack of small sized masks and scrubs. Media analysis found reports of greater PPE supply problems for BAME HCWs. Powered air purifying respirator hoods (an alternative for HCWs with beards unable to shave for religious reasons) were especially lacking"*(p. 8). One paper noted that in some cases, stigma became associated with ethnic minority communities due to the higher rate of infection in those people[29]. This created an additional layer of stress of staff from ethnic minority backgrounds: *"For a minority [of non-BAME staff], the apparent disproportionate impact of COVID-19 on BAME staff and patients generated a certain level of fear and stigma. A few non-BAME participants admitted that at some point during the pandemic, they had perceived themselves to be at greater risk of contracting COVID-19 from BAME colleagues and patients"* (p. 9)*.*

Staff feeling undervalued and embittered leading to workforce attrition: The pandemic accentuated nurses extremely difficult working conditions and left many nurses, midwives and paramedics feeling undervalued and embittered This caused some professionals to prioritise their own wellbeing or job-hop to try and find improved work conditions and intrinsic value in their work which some had lost[30].

2. Innovation and immediate interventions introduced during the pandemic

The COVID literature highlighted both the on-going deficits in psychological support for staff, as well as some innovative calls-to-action that were established quickly as the pandemic emerged. Over the course of the acute phase of the pandemic (2020-22), numerous interventions were made available nationally[31]. These included free access to mindfulness Apps and online interventions such as an online mental health forum SilverCloud[17]; a network of NHS staff mental health and wellbeing hubs to support staff which includes self referral to NHS psychological talking therapies; and the implementation of the Professional Nurse Advocate

(PNA) role (adapted from midwifery, providing '*a safe and confidential space to allow time to reflect on and make sense of workplace issues*' [31](p14) and restorative supervision[31].

During the difficulties of COVID-19, the literature indicates at least in some instances organisations improving their workplace culture and co-operation through rapid innovation, for example: "*... the pandemic context appears to have simulated a significant amount of innovation and cooperation. For instance, the organisation initiated more provision of clinical support, better information, communication and digitalisation, factors which may have created an environment for improved professional growth. It should be recognised that such accelerated innovation and growth was forced rather than discretionary, which can occur to ensure the organisation's survival and because it had to*"[14](p.9).

2a. National interventions were initially accessed minimally, healthcare staff preferring peer support and to connect with each other talk and be heard: Online Apps and interventions were difficult for staff to access in their working hours and at home they often wanted to switch off and not think about work. Consequently, uptake was low[17], in one study only 12% of nurses and midwives reported using well-being apps to cope with the crisis; 17% reported making use of timeout rooms; and only 1% used the online mental health forum, SilverCloud. Instead, staff reported wanting peer support and opportunities to meet and speak with each other and such support was gained virtually through What's App or Facebook groups[8]: "*What has been shown to help healthcare staff is peer support; opportunities for staff to connect with each other and share experiences, talk to each other and be heard by those who understand as well as more formal one-to-one talking therapy support as needed in due course.*" (p5)[8]. The PNA role is relatively new to nursing and has not yet been nationally evaluated, but local evaluation from the first cohorts of PNA's has been overwhelmingly positive with many reporting how the training had helped them become more self-compassionate[31]. A key barrier is that the time for providing support to others is not protected or built into workforce budgets, and staff need to undertake these roles on top of their day job[31].

2b. Access to psychological well-being services was limited with no paid allocated time and a reluctance to access in time off: The lack of paid allocated time to access psychological wellbeing services was highlighted in one paper[27]:

> "many HCWs had to take time out of their busy work schedules to access this [psychological] support, which was nearly impossible for over-burdened HCWs. A consultant anaesthetist expressed her concern about the impact of this on certain groups, "I was quite surprised that there wasn't [psychological support] particularly for the high-risk groups, so the ITU nurses and all the ward staff who are being pushed into ITU, stretching their skills in a very upsetting environment, weren't being given allocated time, even on a fortnightly basis, paid to be there to get this psychological input and support" (p. 7).

2c. Provision of formal psychological support did not always reduce stigma and some staff felt the need to be stoic and conceal feelings: The pandemic highlighted the importance of well-functioning mental health service provision, yet existing stigma and under resourced provision prior to the pandemic had undermined this. For example, in a qualitative study on staff emotional wellbeing[32], it was noted that while hospitals increased the provision of formal psychological support available to staff, some [study] participants perceived a paradox, with implicit institutional rules that they should be stoic and conceal feelings that would enable them access to this support:

> "They used to do this [traffic] light system, like "amber" and "red", for how you were feeling, and you were encouraged to put your hand up in front of a hundred people to say how you were feeling. I think the pressure was for everyone to be "green" at the beginning of a shift. It's the wider feeling right now, to feel either amber or red every day when you come to work. But no one was amber or red. In a hundred people. I found it very weird." (p14).

2d. Some taboos broken around staff psychological ill-health enabling staff to prioritise their health and talk about their experiences: One important positive finding included the breaking of taboos around staff mental health challenges so that people could start talking about what

they were experiencing. Informally, the pandemic has created new norms for discussing psychological health amongst teams and networks of professionals. For example, McFadden et al[33] noted that the pandemic helped to start new conversations around mental health in the healthcare workforce precisely because the changes in circumstances caused by the pandemic were so substantial that previously stigmatizing disclosures of 'not being able to cope' became so common-place that the fear of being stigmatized was lost. Maloney and colleagues[13] writing in the USA, talk about the stoic narrative, seeing the pandemic as an opportunity to: *"replace the traditional and stoic EMS culture of "be in control, suck it up, and move on"* (p1) and a chance to advocate for emergency professionals' own health and reflect together on the work they do: *"Needing help and reassurance from others is human. Advocating for our own health must be seen as an intrinsic part of our duties to ourselves—and to others. This is not a call for non-productive criticizing and complaining, but rather more reflecting and confiding"*[18](p2).

Trepanier et al[34] report being inspired by the idea of the need for 'psychological PPE' advocated by the Institute for Healthcare Improvement (IHI) in the US. The model includes encouraging individuals to take a day off and create space between work and home life; avoid unnecessarily publicity and media coverage about COVID-19; receive mental health support during and after the crisis; facilitate opportunities to demonstrate gratitude and reframe negative experiences. It also offers actionable interventions for leaders such as limiting staff time on site; clear roles and leadership with visible leadership key; educating managers to be aware of key risk factors and monitor signs of distress; instituting a buddy system and offering peer support services[34].

2e. COVID-19 wellbeing guideline development placed greater emphasis on individual level than organisational level interventions: Akin to key finding 1 in our realist synthesis (Chapter 6), the COVID-19 literature placed emphasis on individual secondary and tertiary interventions. For example: *"Box breathing is just one of eight quick and easy interventions designed specifically out of concern for the mental health of frontline workers during the current pandemic"*[35](p177). The literature we reviewed was replete with discussion papers and reviews summarising what was known and developing guidelines. These guidelines placed

greater emphasis on wellbeing at an individual level, as did other papers[36], rather than actions that should/could be taken at an organisational level, with few providing recommendations for both levels[5]. Vindrola-Padros et al[37] recognise the benefit of organisations remaining agile in providing psychological support in times of acute distress for staff, but also the importance of adapting to the needs of local contexts:

> *…we would argue that these [wellbeing] guidelines need to be developed without losing sight of the realities of HCWs working on the ground, where fatigue and work pressures might not allow them to visit group support meetings or make use of quiet rooms for relaxation* (p. 6).

Some innovative interventions were adopted or adapted during the Covid pandemic: In terms of innovative practices, there were several noted in the literature, including three that provide multifocal level (primary, secondary and tertiary) support at the team and organisational wide levels (Code Lavender[38], HEAR[39] and NOCA[34]:

'**Code/Team Lavender'** is an example of a programme that existed pre-pandemic but was adopted by more organisations in the USA to support staff during the pandemic [13, 40]. 'Team Lavender'[40], is a hospital team based peer support psychological health intervention that includes an inter-disciplinary group of healthcare professionals dedicated to supporting co-workers during time of stress and/or hardship…and *'although it does not replace the services of an employee assistance programme or mental health and psychiatric counselling, the approach provides dedicated time and space for initial emotional peer support, offering team members a moment of pause, reflection, and teamwork"* (p16).

The programme reported by Maloney and colleagues[13] has two key components: 1) a proactive team is alerted and performs follow-up with involved responders after tragic or exceptionally stressful incidents or responses; and 2) a continuous pan-agency emphasis on both individual and group wellness, both physical and mental well-being, creating that safe harbour. When alerted, Code Lavender team members determine if they need to meet staff in person immediately after an incident, or if following up by phone or text is reasonable. *"Importantly, this follow-up process extends for several days, if not weeks, beyond the initial*

call" [13] and access to other (tertiary) resources, including therapy and support from chaplains for example was facilitated.

Healer Education Assessment and Referral (HEAR) was originally developed as a suicide prevention programme for doctors, but expanded to nurses in 2016 and other health workers soon after, and recommended in one paper as a promising intervention to mitigate psychological ill-health in a *"peripandemic world"[39]*. HEAR is a multifocal (primary prevention as well as secondary and tertiary referral) including a comprehensive educational programme, proactive screening for high distress and suicide risk coupled with "warm" referrals, crisis intervention and critical incident debriefing for clinical units and their individual providers under duress, a peer support programme as a first-line intervention, and Schwartz Center Rounds, to share and discuss social, emotional and ethical challenges of their work in a safe space[39].

'No One Cares Alone (NOCA)' is a system-wide caregiver support programme[41] within which coaching and support is provided by licensed behavioural health providers (BHPs), targeting leaders and the teams experiencing the highest stress levels. "*Leaders are paired up with BHPs who can help navigate various available resources and develop a plan in partnership with their caregivers"*[41](p57). The programme aims to be proactive, removing barriers to engaging help and interventions are bespoke and tailored, "*It starts with creating space for conversation and taking the time to listen"* (p58).

In the UK face to face Schwartz Rounds were adapted at speed in 2020, to online sessions i called 'Team Time'. These online sessions were shorter, more focused on specific teams (not organisation wide as Schwartz Rounds) and included sharing of more recent experiences and stories[42]. Gardiner et al[43] highlighted a new programme (called Here4HealthCare) developed by a mental health association in Canada for healthcare staff. Such new efforts may improve the delivery of specialist psychological resources into healthcare settings and build bridges between mental health and healthcare sectors. The authors state: *"Our case study should serve as a call to action for the governments at all levels to play a larger role in uniting*

capacity of our mental healthcare system and crafting a coordinated response to the emerging mental health crisis." (p88).

3. Sustained, longer-term changes and interventions arising from the pandemic

The Covid literature we reviewed described how the exposure of inequities and staff psychological health challenges led to calls for longer-term positive change to workplace conditions for staff psychological wellbeing[1, 44].

3a. The pandemic has shone an important spotlight on staff psychological wellness and the importance of primary prevention: The pandemic has also exposed the importance of understanding staff psychological wellbeing through a wider holistic lens rather than solely individualized perspective[45]. Indeed, the pandemic has provided more visibility for the upstream causes and the need for organisation-wide prevention interventions. Maben and Bridges[46] note that the health and wellbeing of the nursing and midwifery workforce had previously been considered important but not always an absolute essential priority. The COVID-19 pandemic changed this, by shining a light on the critical significance of the psychological wellbeing of healthcare staff, particularly nurses working on the frontline. The immense challenges and trauma that nurses, midwives and paramedics experience during their working lives was finally being recognised and acknowledged with the hope that*: "When health care is back to "normal," ongoing support for nurses' wellbeing will remain critically important*"[46](p7).

3b. On-going psychological health requires support and investment for sustainability:
Several papers noted the need for long-term/continued provision of support [13, 29, 43, 44]. There was concern expressed about supportive provisions being scaled back, whereas the need for psychological support would increase post-pandemic[29]:

> *Staff had felt valued by their employer during the pandemic and wanted to retain this feeling (...). However, almost all staff interviewed had concerns about supportive provisions being reduced in the future when the pandemic subsides, and they used terms such as 'slipping back' and services 'dropped off' when 'the NHS goes back to more*

normal operating standards'. Most staff alluded to the impacts of the pandemic on staff mental health as long-term and they were worried about the emergence of more serious psychological problems later down the line once the immediate threat of COVID had subsided: 'there's gonna be a lot of, delayed stress, guilt, mental health impact, because people have been in survival mode for crisis' (p10)

Maloney and colleagues[13] concur, highlighting the reality that the effect of witnessing tragedy does not go away overnight. Long after the public stop applauding healthcare staff as heroes, there will still be those who suffer the negative impacts of what they witnessed. Maloney and colleagues, speak also of the guilt that can accompany healthcare work, when patient outcomes are less than optimal (through no-ones 'fault'): *"Not only do all of us need to find better ways to acknowledge and 'forgive' ourselves for the human feelings of guilt, fear, betrayal, defeat, and the moral- and morale-injuring moments we experience, we also need to do the same for others and encourage a culture of safe zones among colleagues as we journey together through our challenges, past, present and future."*[13](p1).

Neil Greenberg[44] similarly advocates for the importance of adequate post-pandemic mental health resources for staff and a realistic longer-term plan, writing:

> *A poorly implemented post-COVID-19 plan, leading to seemingly false promises of support or of time to readjust to the new normal or managers making high work demands on staff who have been working 'flat out' has the potential to derail staff support efforts to date and to cause serious psychological harm. Put another way, the unwritten psychological contract between NHS staff, their managers, and the public, has been that staff members will give their all to save lives and in return the nation will give them the support, and time they need, to be able to recover (p1).*

3c. The pandemic provided an opportunity to change professional norms and for staff to reclaim autonomy and power and speak up and raise concerns: Several papers noted the positive changes caused by COVID-19. For example, stimulating innovation and cooperation: *"the pandemic context seems to have stimulated a significant amount of innovation, and*

cooperation. For instance, the organization initiated more provision of clinical support, better information, communication and digitalisation, factors which may have created an environment for improved professional growth." [14](p9). Eagen-Torkko et al[47] reflected on the impact of the rapid implementation of pandemic-related policies without much evidence, stating that it provided an important moment for staff (midwives in this case) to voice concerns and be heard. They write:

> *It is not enough to note the effects of the pandemic on midwives and patients with a restrained clinical eye. Instead, midwives are ethically obligated to speak up, and speak loudly, when these policies create additional or unintended harms. Identifying and giving voice to harmful policies or practices creates the opportunity to resolve moral distress, by directly addressing the tension between what one can do, and what one should do, and to reclaim the sense of autonomy and power that is often lost in trauma (…) raising one's voice can promote positive change for health systems, patients, and themselves. The sweeping wave of new policy brought by COVID-19 has the potential for harm but also the opportunity to enact change, and midwives can be at the forefront of that change. (p306)*

Yet it was not always easy for staff to speak up and raise concerns and challenge policies. Adams et al[48] writes: *"The COVID-19 crisis has laid bare the question for healthcare professionals over how—and to what effect—they can raise concerns for themselves and their patients"* (p1) yet *"some have reported cases of workplace bullying, retaliation, or threats of disciplinary action when raising legitimate concerns"* (p1). Abrams et al[49] also report nurses' and midwives' fear of repercussions when speaking up and of organisations 'deaf' to those who did raise concerns (see also chapter 6).

3d. Intervention timing is important (in COVID-19) - meeting essential needs in the immediate crisis with access to psychological support required later: The COVID-19 literature draws attention to the importance of timing of interventions and temporality. Citing Maslow's hierarchy of needs and relating this to immediate and then longer-term needs in relation to the

pandemic several authors note the importance of the right intervention at the right time. Wong et al[10] note:

"[Maslow] provides a hierarchic context for how individuals prioritize their needs, starting from the most fundamental (physiologic and safety) and progressing to more abstract and complex needs once more basic ones are met (love and belonging, esteem, and self-actualization)"[10](p382)

This thinking has been applied to the pandemic by Maben and colleagues, following research with nurses during COVID-19[8], writing: *"Staff in our study required very different support at different times. Thus, in the immediate crisis, staff needed their immediate basic physiological and safety needs to be met as per Maslow's (1943) hierarchy of needs (…). Only when these were met, and the threat receded, could they begin to access psychological support to meet these needs"* [50](p12). Supporting this, Williams et al[24] provide guidance for supporting staff during COVID-29, using a phased approach to understanding the needs of staff and what might be required to support them.

3e. An increased sense of camaraderie and pulling together during the pandemic with calls for this to be harnessed to increase cooperation and collaboration going forward: Baldwin and George[51] noted the increased sense of camaraderie seen across the frontline health professionals because of the pandemic, and how this could benefit staff longer-term:

> *"The pandemic has created a special professional bond among the staff where they felt that they were fighting this war together. In the military, bonds between team members have been reported to build resilience among troops, which echoes the messages from the participants in this study. Health professionals working together across professional boundaries is a welcomed move which will hopefully continue beyond the COVID-19 pandemic, resulting in more collaborative working among nurses, doctors and allied health professionals. (p. 9).*

	Ref #	Author	Year	Title	Aim / focus	Type of paper	Paper Focus (Cause vs Intervention)	Which profession (N, M, P or general)	Country Setting
General / mixed papers									
1	[38]	Barden & Giammarinaro	2021	Team Lavender: Supporting employee well-being during the COVID-19 pandemic	Team based peer support model	Empirical (survey)	Intervention	General	USA
2	[43]	Gardiner, M. DeMuy, A. & Tran, NK.	2020	Here4HealthCare: A response to the Emerging Mental Health Crisis of the Frontline Healthcare Workforce	Programme for front line healthcare workers: (1) website of mental health resources (2) service pathways for workers	Commentary	Intervention	General	Canada
3	[10]	Wong, A. Pacella-LaBarbara, M. Ray, J. et al.	2020	Healing the Healer: Protecting Emergency Health Care Workers' Mental Health During COVID-19	Details challenges in pandemic and compares to other pandemics and strategies that may be useful for staff at different stages	Editorial	Causes and interventions	General	USA
4	[52]	Labrague and Leodoro	2020	Psychological resilience, coping behaviours & social support among health care workers during the COVID-19 pandemic: A systematic review of quantitative studies.	A literature review of quantitative COBD-19 studies	Empirical systematic review	Causes and Interventions	General	China, Oman
5	[53]	Nursing Standard journalist (no author	2022	The attraction of working in a Magnet hospital: Why UK	Reports new research study evaluating Magnet hospitals in	Editorial / short report	Intervention	General-Nurses and others	USA

		identified)		hospitals are trialling the US model & what its staff well-being goals mean for nurses and patients.	UK / Europe - creating places where nurses want to work.			
6	[33]	McFadden, P. Ross, J. Moriarty, J. et al.	2021	The Role of Coping in the Wellbeing and Work-Related Quality of Life of UK Health and Social Care Workers during COVID-19	impacts of Covid 19 and coping strategies on health and social care workers' wellbeing.	Empirical [survey]	Interventions	General	UK
7	[24]	Williams, R. Murray, E. Neal, A. Kemp, V.	2020	The top ten messages for supporting healthcare staff during the covid -19 pandemic	Summarises ten core messages to aid managers & staff re how to reduce staff requiring additional assistance.	Discussion paper	Causes and Interventions	General	UK
8	[11]	San Juan, VN. Clark, S. Camilleri, M. et al.	2022	Training and redeployment of healthcare workers to intensive care units (ICUs) during the COVID-19 pandemic: a systematic review	Captures redeployment and training strategies and the needs of redeployed healthcare workers	Empirical; Systematic review	Causes and Interventions	General	UK team; International literature
9	[37]	Vindrola-Padros, C. Andrews, L. Dowrick, A. et al.	2020	Perceptions and experiences of healthcare workers during the COVID-19 pandemic in the UK	A review of UK healthcare policies; mass and social media and in-depth interviews with front-line staff.	Empirical; rapid appraisal	Causes	General	UK
10	[7]	Ntontis, E. Luzynska, K. Williams, R.	2021	The impact of COVID-19 on the psychosocial and mental health needs of NHS and social care staff: The final report on literature published to	To direct the attention of the People Directorate in NHSE/I to reliable new information about effective care for staff during the	Empirical literature review	Causes	General	UK

				mid-2021	pandemic.				
11	[5]	San Juan, VN. Aceituno, D. Djellouli, N. et al	2021	Mental health and well-being of healthcare workers during the COVID-19 pandemic in the UK: contrasting guidelines with experiences in practice	Qualitative study – rapid appraisal of applicability of well-being guidelines in practice, and interviews with front-line staff during current & future pandemics	Empirical	Causes and interventions	General – mostly Drs but 3 nurses	UK
12	[4]	Greenberg, N. Weston, D. Hall, C. et al.	2021	Mental health of staff working in intensive care during Covid-19	Identify rates of probable mental health disorder in staff working in ICUs in 9 English hospitals; June/July 2020	Empirical survey	Causes	General- includes nurses	UK
13	[22]	Williamson, V. Murphy, D. Greenberg, N.	2020	COVID-19 and experiences of moral injury in front-line key workers	Discussion of moral injury on healthcare staff	Editorial	Causes	General	UK
14	[44]	Greenberg, N.	2020	"Going for Growth" An outline NHS staff recovery plan post-COVID19	Recovery plan guidance Royal College of Psychiatrists	Editorial / guidance	Interventions	General	UK
15	[15]	Singleton, G. Dowrick, A. Manby, L. et al.	2021	UK Healthcare Workers' Experiences of Major System Change in Elective Surgery During the COVID-19 Pandemic: Reflections on Rapid Service Adaptation	Qualitative study of surgical staff (interviews)	Empirical	Causes	General- sample includes 4 nurses	UK
16	[20]	Hoernke, K. Djellouli, N. Andrews, L. et al.	2021	Frontline healthcare workers' experiences with personal protective equipment during the COVID-19 pandemic in the UK: a	Rapid assessment of media and frontline staff interviews	Empirical	Causes	General -8 nurses in sample	UK

				rapid qualitative appraisal					
17	[25]	Mitchinson, L. Dowrick, A. Buck, C. et al.	2021	Missing the human connection: A rapid appraisal of healthcare workers' perceptions and experiences of providing palliative care during the COVID-19 pandemic	Identify barriers to delivering end-of-life care	Empirical-rapid appraisal and interviews	Causes	General	UK
18	[27]	Regenold, N. Vindrola-Padros, C.	2021	Gender Matters: A Gender Analysis of Healthcare Workers' Experiences during the First COVID-19 Pandemic Peak in England	How gender shapes HCWs' personal experience	Empirical; interviews	Causes	General – 10 nurses in sample	UK
19	[29]	Blake, H. Gupta, A. Javed, M. et al.	2021	COVID-Well Study: Qualitative Evaluation of Supported Wellbeing Centres and Psychological First Aid for Healthcare Workers during the COVID-19 Pandemic	Qualitative interviews assessing wellbeing centres in NHS trust.	Empirical; interviews	Interventions	General – 3 nurses in sample	UK
20	[51]	Baldwin, S. George, J.	2021	Qualitative study of UK health professionals' experiences of working at the point of care during the COVID-19 pandemic	Frontline health professionals' experiences of working during the COVID-19 pandemic	Empirical; interviews	Causes	General – 8 nurses in sample	UK
21	[6]	Williams, R et al	2021	A social model of secondary stressors in relation to disasters, major incidents & conflict: Implications	Theoretical examination of primary and secondary stressors with new theoretical	Theoretical paper	Causes and interventions	General	UK

				for practice	approach				
22	[54]	World Health Organisation (WHO)	2021	Action required to address the impacts of the COVID-19 pandemic on mental health and service delivery systems in the WHO European Region	Recommendations from the European Technical Advisory Group on the Mental Health Impacts of COVID-19	Report	Causes	General	Europe
Paramedic papers									
23	[55]	Kosyluk, K. Galea, J., Baeder, T. et al.	2021	Using a chatbot to address psychological distress amongst first responders	Chatbots (TABATHA) used to screen and refer frontline workers to care e.g. mindfulness apps (conference poster)	Empirical	Intervention	Paramedic (first responders)	USA
24	[13]	Maloney, L. Hoffman, J. & Pepe, PE et al.	2021	Minding the mind of Emergency medical responders (EMS), Part 2	Examples of resources – e.g. CODE Lavender programme (team alerted and follows -up with responders after tragic / stressful incident)	Discussion	Causes	Paramedic (EMS)	USA
25	[14]	Rees, N. Smythe, L. Hogan, C. et al.	2021	Paramedic experiences of providing care in Wales (UK) during the 2020 COVID-19 pandemic (PECC-19): a qualitative study using evolved grounded theory	Paramedic experiences (interviews) of providing care during COVID-19 pandemic	Empirical	Causes	Paramedic	UK
26	[16]	Rengers, A. Day, E. & Whitfield, S.	2021	Describing a 12-hour ambulance shift during a second wave of COVID-19 in London	Case report, of 12-hour emergency ambulance dayshift in central London during the second COVID-19 wave	Commentary	Causes	Paramedic	UK

55

27	[18]	Maloney, L. Hoffman, J. Pepe, P	2020	Minding the Mind of EMS—Part I	Challenges of pandemic for emergency responders – including letting people down and stoicism	Discussion paper	Causes	Paramedics (EMS)	UK
28	[35]	Mendes, A.	2021	Protecting your mind amid a crisis	Discusses quick/easy interventions for frontline workers freely accessible on NHS in Mind platform.	Commentary	Interventions	Paramedics	UK
29	[12]	Hayes, C., Corrie, I., Graham, Y.	2021	Paramedic emotional labour during COVID-19.	Review of literature (not systematic) to raise awareness of the concept of emotional labour in role of paramedics.	Commentary	Causes	Paramedics	UK
Nurse papers									
30	[39]	Choflet, A. Barnes, A. Zisook, S. et al.	2022	The Nurse Leader's Role in Nurse Substance Use, Mental Health, and Suicide in a Peri-pandemic World	Reviews nurse suicide; promising interventions & practices e.g. Healer Education Assessment and Referral (HEAR) & peer support.	Discussion paper	Causes and interventions	Nurses	USA
31	[56]	Cunningham, T. & Pfeiffer, K.	2022	Post-traumatic Growth as a Model to Measure and Guide Implementation of COVID-19 Recovery and Resiliency	Suggests use of and Posttraumatic Growth (PTG) Inventory to guide leaders; identifies 3 science-based interventions to increase PTG	Discussion paper	Interventions	Nurses	USA
32	[34]	Trepanier, S. Henderson, R. & Waghray, A.	2022	A Health Care System's Approach to Support Nursing	Organisational approach to support - focused coaching/	Discussion paper	Interventions	Nurses	USA

				Leaders in Mitigating Burnout Amid a COVID-19 World Pandemic	support to leaders and teams experiencing the highest stress levels. Also offers concrete interventions to consider e.g. NOCA.				
33	[23]	Brooks, D.	2021	Acknowledge Pandemic-Driven Moral Distress, Mitigate Harmful Effects	Reports nurses' moral distress and how managers can work to reduce it	Discussion paper	Causes	Nurses	USA
34	[57]	The Lamp [NSW Nurses & Midwives' Association magazine - Editorial team]	2022	Aged care staff cop the blame for vaccine bungling	Reports issues arising from mandating vaccinations for aged care facilities in NSW Australia	Editorial	Causes	Nurses	Australia
35	[58]	Clancy, G. Gaissier, D. Wlasowic, G.	2020	COVID-19 and mental health: Self-care for nursing staff	Discusses the pandemic and effects on nurses and some strategies to support	Discussion paper	Causes and Interventions	Nurses	USA
36	[26]	Oshikanlu, R	2021	How we rose to the leadership challenges of COVID-19.	Five Black nurses report the affects on the pandemic on them and their work	Discussion paper / report	Causes and Interventions	Nurses	UK
37	[1]	Ustun, G.,	2021	COVID-19 Pandemic and Mental Health of Nurses: Impact on International Health Security	To identify literature to prevent & address psychological ill-health in nurses & identify strategies.	Empirical narrative review	Causes and Interventions	Nurses	International
38	[8]	Maben, J. Connolly, A	In press	Chapter 39: lessons for structure, workplace planning and responding to emergencies from nurses in the Covid-19 Pandemic	Covid-19 experiences of nurses (book chapter)	Empirical; interviews	Causes and interventions	Nurses	UK

39	[9]	Maben, J. Conolly, A. Abrams, R. et al.	2022	'You can't walk through water without getting wet' UK nurses' distress & psychological health needs during the Covid-19 pandemic: A longitudinal interview study	Covid-19 experiences of nurses	Empirical; interviews	Causes and interventions	Nurses	UK
40	[45]	Conolly, A. Abrams, R. Rowland, E. et al.	2022	"What Is the Matter With Me?" or a "Badge of Honor": Nurses' Constructions of Resilience During Covid-19	Covid-19 experiences of nurses	Empirical; interviews	Causes	Nurses	UK
41	[59]	Vogel S, Flint B	2021	Compassionate leadership: how to support your team when fixing the problem seems impossible.	Discussion paper examining the need for compassionate leadership because of COVID-19	Discussion paper	Causes and intervention	Nurses	UK
Midwife papers									
42	[47]	Eagen-Torkko, M. Altman, MR. Kantrowitz-Gordon, I. et al.		Moral Distress, Trauma, and Uncertainty for Midwives Practicing During a Pandemic	Reports on moral distress in midwifery practice	Commentary	Causes	Midwives	USA
43	[60]	Hall, S. White, A. Ballas, J. et al.	2021	Education in Trauma-Informed Care in Maternity Settings Can Promote Mental Health During the COVID-19 Pandemic	Reports need for education on trauma-informed care to support mental health of pregnant women, and staff	Discussion paper	Causes and Interventions	Midwives	USA
44	[21]	Llop-Girones, A. Vracar, A. Llop-Girones, G. et al.	2021	Employment & working conditions of nurses: where & how health	Aims to explain why nurses are exposed to multiple risks and/or poorer health as a	Empirical [Literature Review]	Causes	Nurses and Midwives	Spain and international

				inequalities have increased during the COVID-19 pandemic?	result of inequalities.				
45	[31]	Muscat, H. Morgan, L. Hammond, K.	2021	Staff burnout: how a nurse advocate course can help	Examines new professional nurse advocate role (PNA) & A-Equip model	Discussion paper	Intervention	Midwives	UK
46	[61]	Selçuk T. Gündoğdu, A. Filiz TA.	2021	Anxiety levels and solution-focused thinking skills of nurses & midwives working in primary care during the COVID-19 pandemic: A descriptive correlational study	To determine the state–trait anxiety levels and solution-focused thinking skills of primary care nurses/midwives during COVID-19 pandemic	Empirical (survey)	Causes and Interventions	Nurses and Midwives	Turkey
47	[62]	Murphy, P	2020	Midwifery in a time of COVID-19	Personal reflection in time of pandemic	Editorial	Causes	Midwives	USA
48	[63]	Teoh, K. Kinman, G. & Harriss, A.	2020	Supporting nurses and their mental health in a world after Covid-19	Reports Teoh, K. Kinman, G. & Harriss, A. SOM literature review in summary and reflects on this in light of pandemic	Empirical literature review	Causes and Interventions	Midwives and Nurses	UK
49	[17]	Uytenbogaardt, A	2020	Covid-19's effect on midwives' mental health	Reports Couper et al ICON Covid survey and response from RCM	Editorial	Causes	Midwives	UK

Table 2 COVID-19 Papers Descriptive Table

Appendix 5: Bibliographic database search strategies and results

Initial Database Search

Database: MEDLINE
Host: Ovid
Issue: 1946 to February 10, 2021
Date Searched: 12/2/2021
Searcher: SB
Hits: 405 (nurses); 40 (midwives); 6 (paramedics)
Strategy:

1. (nurse or nurses or nursing).tw.
2. nursing/
3. exp specialties, nursing/
4. or/1-3
5. (midwif* or midwives).tw.
6. Midwifery/
7. 5 or 6
8. paramedic*.tw.
9. Emergency Medical Technicians/
10. 8 or 9
11. ("mental health" or "mental ill health" or stress* or distress* or anxiety or anxious or depression or depressed or "wellbeing" or wellbeing or resilienc*).tw.
12. (pressure* adj3 (work* or "patient* demand*")).tw.
13. *Mental Health/
14. Stress, Psychological/
15. *Depression/
16. *Anxiety/
17. or/11-16
18. (retention or presenteeism or absenteeism or "sick leave" or burnout or "burn* out").tw.
19. Presenteeism/
20. *Absenteeism/
21. *Sick Leave/
22. or/18-21
23. exp United Kingdom/
24. (national health service* or nhs*).ti,ab,in.
25. (english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.
26. (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in.
27. (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or

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harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*))))).ti,ab,in.

28. (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in.

29. (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in.

30. (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in.

31. or/23-30

32. (exp africa/ or exp americas/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp australia/ or exp oceania/) not (exp United Kingdom/ or europe/)

33. 31 not 32

34. 4 and 17 and 22 and 33   [Nursing literature]

35. 7 and 17 and 22 and 33   [Midwifery literature]

36. 10 and 17 and 22 and 33   [Paramedics literature]

Hits: 243 (nurses); 9 (midwives); 3 (paramedics)
Strategy: Available on request from the authors.

	Nurses	Midwives	Paramedics
MEDLINE	405	40	6
CINAHL	844	60	16
HMIC	243	9	3
Total records	1492	109	25
Duplicate records	188	21	2
Unique records	1304	88	23

Table 1 Results for MEDLINE, CINAHL and HMIC Database Searches

Profession	Papers selected through Database Search	Papers selected through Key Journals Hand Search	Papers included through expert input including empirical papers and reports
Nursing	30 of 235	0	8
Midwifery	19 of 59	11	5
Paramedics	7 of 70	23	5

Table 2 Origin of papers for the Initial Search including Supplementary Searching

Revised paramedic search

Database: MEDLINE
Host: Ovid
Issue: 1946 to March 30, 2021
Date Searched: 31st March 2021
Searcher: SB
Hits: 24
Strategy:

1. paramedic*.tw.
2. (emergency adj2 (attendant* or personnel or responder* or technician*)).tw.
3. (ems or emt).tw.
4. (prehospital or "pre hospital").tw.
5. "first responder*".tw.
6. "emergency services".tw.
7. ambulance*.tw.
8. HEMS.tw.
9. "field triage*".tw.
10. "out of hospital".tw.
11. ("trauma risk management" or TRIM).tw.
12. Emergency Medical Technicians/

13. Emergency Medical Services/
14. Emergency Responders/
15. Ambulances/
16. Air Ambulances/
17. or/1-16
18. ("mental health" or "mental ill health" or stress* or distress* or anxiety or anxious or depression or depressed or "wellbeing" or wellbeing or resilienc*).tw.
19. (pressure* adj3 (work* or "patient* demand*")).tw.
20. *Mental Health/
21. Stress, Psychological/
22. *Depression/
23. *Anxiety/
24. or/18-23
25. (retention or presenteeism or absenteeism or a "sick leave" or burnout or "burn* out").tw.
26. Presenteeism/
27. *Absenteeism/
28. *Sick Leave/
29. or/25-28
30. exp United Kingdom/
31. (national health service* or nhs*).ti,ab,in.
32. (english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.
33. (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in.
34. (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*)))))).ti,ab,in.

35. (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in.

36. (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in.

37. (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in.

38. or/30-37

39. (exp africa/ or exp americas/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp australia/ or exp oceania/) not (exp United Kingdom/ or europe/)

40. 38 not 39

41. 17 and 24 and 29 and 40

Database: CINAHL
Host: EBSCO
Issue: n/a
Date Searched: 31st March 2021
Searcher: SB
Hits: 56
Strategy: Available on request from the authors.
Notes: EBSCO UK/Ireland geographic limit applied.

Database: HMIC
Host: Ovid
Issue: 1979 to January 2021
Date Searched: 31st March 2021
Searcher: SB
Hits: 7
Strategy: Available on request from the authors.

Database	Hits
MEDLINE	24
CINAHL	56
HMIC	7
Total records	**87**
Duplicate records	**8**
Unique records	**79**

Table 3 Search results for revised paramedic search

COVID search

Database: CINAHL
Host: EBSCO
Issue: n/a
Date Searched: 7/12/2021

Searcher: SB
Hits: Nurses: 1355; midwives: 75; paramedics: 227
Strategy:

1. TI (nurse or nurses or nursing) OR AB (nurse or nurses or nursing)
2. (MH "Nurses+")
3. S1 OR S2
4. TI (midwif* or midwives) OR AB (midwif* or midwives)
5. (MH "Midwifery+")
6. S4 OR S5
7. TI paramedic* OR AB paramedic*
8. TI ((emergency N1 (attendant* or personnel or responder* or technician*))) OR AB ((emergency N1 (attendant* or personnel or responder* or technician*)))
9. TI (ems or emt) OR AB (ems or emt)
10. TI (prehospital or "pre hospital") OR AB (prehospital or "pre hospital")
11. TI "first responder*" OR AB "first responder*"
12. TI "emergency services" OR AB "emergency services"
13. TI ambulance* OR AB ambulance*
14. TI HEMS OR AB HEMS
15. TI "field triage*" OR AB "field triage*"
16. TI "out of hospital" OR AB "out of hospital"
17. TI (("trauma risk management" or TRIM)) OR AB (("trauma risk management" or TRIM))
18. (MH "Emergency Medical Technicians")
19. (MH "Emergency Medical Services+")
20. (MH "Ambulances")
21. S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19 OR S20
22. TI ("mental health" or "mental ill health" or stress* or distress* or anxiety or anxious or depression or depressed or "wellbeing" or wellbeing or resilienc*) OR AB ("mental health" or "mental ill health" or stress* or distress* or anxiety or anxious or depression or depressed or "wellbeing" or wellbeing or resilienc*)
23. TI (pressure* N2 (work* or "patient* demand*")) OR AB (pressure* N2 (work* or "patient* demand*"))
24. (MM "Mental Health")
25. (MH "Stress, Psychological")
26. (MM "Depression")
27. (MM "Anxiety")
28. S22 OR S23 OR S24 OR S25 OR S26 OR S27
29. TI ((coronavirus* or coronovirus* or coronoravirus* or coronaravirus* or "corono virus*" or "corona virus*")) OR AB ((coronavirus* or coronovirus* or coronoravirus* or coronaravirus* or "corono virus*" or "corona virus*"))
30. (MH "Coronavirus")
31. (MH "Coronavirus Infections")
32. TI (("COVID-19" or "CORVID-19" or "2019nCoV" or "2019-nCoV" or "WN-CoV" or nCoV or "SARS-CoV-2" or "HCoV-19" or "novel coronavirus")) OR AB (("COVID-19" or "CORVID-19" or "2019nCoV" or "2019-nCoV" or "WN-CoV" or nCoV or "SARS-CoV-2" or "HCoV-19" or "novel coronavirus"))
33. (MH "COVID-19")
34. (MH "SARS-CoV-2")
35. (MH "COVID-19 Testing")
36. (MH "COVID-19 Vaccines")
37. S29 OR S30 OR S31 OR S32 OR S33 OR S34 OR S35 OR S36
38. S3 AND S28 AND S37   (Nurses)

39. S6 AND S28 AND S37   (Midwives)
40. S21 AND S28 AND S37   (Paramedics)

Database: MEDLINE ALL
Host: Ovid
Issue: 1946 to December 06, 2021
Date Searched: 7/12/2021
Searcher: SB
Hits: nurses: 210; midwives: 15; paramedics: 55
Strategy:

1. (nurse or nurses or nursing).tw.
2. nursing/
3. exp specialties, nursing/
4. or/1-3
5. (midwif* or midwives).tw.
6. Midwifery/
7. 5 or 6
8. paramedic*.tw.
9. (emergency adj2 (attendant* or personnel or responder* or technician*)).tw.
10. (ems or emt).tw.
11. (prehospital or "pre hospital").tw.
12. "first responder*".tw.
13. "emergency services".tw.
14. ambulance*.tw.
15. HEMS.tw.
16. "field triage*".tw.
17. "out of hospital".tw.
18. ("trauma risk management" or TRIM).tw.
19. Emergency Medical Technicians/
20. Emergency Medical Services/
21. Emergency Responders/
22. Ambulances/
23. Air Ambulances/
24. or/8-23
25. ("mental health" or "mental ill health" or stress* or distress* or anxiety or anxious or depression or depressed or "wellbeing" or wellbeing or resilienc*).tw.
26. (pressure* adj3 (work* or "patient* demand*")).tw.
27. "emergency services".tw.
28. *Mental Health/
29. Stress, Psychological/
30. *Depression/
31. *Anxiety/
32. or/25-30
33. (coronavirus* or coronovirus* or coronoravirus* or coronaravirus* or "corono virus*" or "corona virus*").tw.

34. Coronavirus/
35. Coronavirus Infections/
36. ("COVID-19" or "CORVID-19" or "2019nCoV" or "2019-nCoV" or "WN-CoV" or nCoV or "SARS-CoV-2" or "HCoV-19" or "novel coronavirus").tw.
37. COVID-19/
38. SARS-CoV-2/
39. COVID-19 Serological Testing/
40. COVID-19 Nucleic Acid Testing/
41. COVID-19 Testing/
42. COVID-19 Vaccines/
43. or/33-42
44. exp United Kingdom/
45. (national health service* or nhs*).ti,ab,in.
46. (english not ((published or publication* or translat* or written or language* or speak* or literature or citation*) adj5 english)).ti,ab.
47. (gb or "g.b." or britain* or (british* not "british columbia") or uk or "u.k." or united kingdom* or (england* not "new england") or northern ireland* or northern irish* or scotland* or scottish* or ((wales or "south wales") not "new south wales") or welsh*).ti,ab,jw,in.
48. (bath or "bath's" or ((birmingham not alabama*) or ("birmingham's" not alabama*) or bradford or "bradford's" or brighton or "brighton's" or bristol or "bristol's" or carlisle* or "carlisle's" or (cambridge not (massachusetts* or boston* or harvard*)) or ("cambridge's" not (massachusetts* or boston* or harvard*)) or (canterbury not zealand*) or ("canterbury's" not zealand*) or chelmsford or "chelmsford's" or chester or "chester's" or chichester or "chichester's" or coventry or "coventry's" or derby or "derby's" or (durham not (carolina* or nc)) or ("durham's" not (carolina* or nc)) or ely or "ely's" or exeter or "exeter's" or gloucester or "gloucester's" or hereford or "hereford's" or hull or "hull's" or lancaster or "lancaster's" or leeds* or leicester or "leicester's" or (lincoln not nebraska*) or ("lincoln's" not nebraska*) or (liverpool not (new south wales* or nsw)) or ("liverpool's" not (new south wales* or nsw)) or ((london not (ontario* or ont or toronto*)) or ("london's" not (ontario* or ont or toronto*)) or manchester or "manchester's" or (newcastle not (new south wales* or nsw)) or ("newcastle's" not (new south wales* or nsw)) or norwich or "norwich's" or nottingham or "nottingham's" or oxford or "oxford's" or peterborough or "peterborough's" or plymouth or "plymouth's" or portsmouth or "portsmouth's" or preston or "preston's" or ripon or "ripon's" or salford or "salford's" or salisbury or "salisbury's" or sheffield or "sheffield's" or southampton or "southampton's" or st albans or stoke or "stoke's" or sunderland or "sunderland's" or truro or "truro's" or wakefield or "wakefield's" or wells or westminster or "westminster's" or winchester or "winchester's" or wolverhampton or "wolverhampton's" or (worcester not (massachusetts* or boston* or harvard*)) or ("worcester's" not (massachusetts* or boston* or harvard*)) or (york not ("new york*" or ny or ontario* or ont or toronto*)) or ("york's" not ("new york*" or ny or ontario* or ont or toronto*)))))).ti,ab,in.
49. (bangor or "bangor's" or cardiff or "cardiff's" or newport or "newport's" or st asaph or "st asaph's" or st davids or swansea or "swansea's").ti,ab,in.
50. (aberdeen or "aberdeen's" or dundee or "dundee's" or edinburgh or "edinburgh's" or glasgow or "glasgow's" or inverness or (perth not australia*) or ("perth's" not australia*) or stirling or "stirling's").ti,ab,in.
51. (armagh or "armagh's" or belfast or "belfast's" or lisburn or "lisburn's" or londonderry or "londonderry's" or derry or "derry's" or newry or "newry's").ti,ab,in.
52. or/44-51

53. (exp africa/ or exp americas/ or exp antarctic regions/ or exp arctic regions/ or exp asia/ or exp australia/ or exp oceania/) not (exp United Kingdom/ or europe/)
54. 52 not 53
55. 4 and 32 and 43 and 54   (Nurses)
56. 7 and 32 and 43 and 54   (Midwives)
57. 24 and 32 and 43 and 54   (Paramedics)

Database: HMIC
Host: Ovid
Issue: 1979 to September 2021
Date Searched: 7/12/2021
Searcher: SB
Hits: nurses: 3; midwives: 0; paramedics: 0
Strategy: as per MEDLINE without MeSh headings (available on request from author)

	Nurses	Midwives	Paramedics
MEDLINE	210	15	55
CINAHL	1355	75	227
HMIC	3	0	0
Total records	1568	90	282
Duplicate records	63	5	9
Unique records	1505	85	273

Table 4 COVID search results

*note the UK filter was not applied to CINAHL so these search results include UK and international studies

Appendix 6: Sample of Excel spreadsheet

	A	B	C	D	E	F
1			**CUP-2 Identification Stage Exclusion Criteria:**			
2						
3			-physical health not mental health			
4			-undergraduate student context			
5			-not UK context			
6			-patient wellbeing (not health professional)			
7			-paper in nursing but about midwives and not nurses (or vice versa)			
8			-publication date older than 2010 OR papers beyond 30 most recent relevant papers, which ever comes first			
9						
10						
11						
12		Refer	JJ Exclude	CT Exclude	JM Exclude	Additional notes
13		1	MSK (physical not mental health)	not mental health		
14		2	Not about midwives mental health + not UK	patient wellbeing not health prof		
15		3	Not sure whether to include/exclude			
16		4				not about mental health but very
17		5	Not UK	not UK		
18		6				probably good for context
19		7				
20		8	not mental health	not mental health		
21		9				broader that just midwives
22		10				
23		11	not about midwives	patient wellbeing not health prof		
24		12	student context	student midwives not qualified		perhaps retain separately as ma
25		13	Not UK	not UK		
26		14				
27		15	student context	student midwives not qualified		perhaps retain separately as ma
28		16				
29		17	Not UK	Not UK and not midwife specific		
30		18				
31		19	Not about midwives mental health	patient wellbeing not health prof		
32		20				
33		21	Student context	student midwives not qualified/not UK		
34		22	Not UK	not UK		
35		23	student context	student midwives, not qualified		
36		24	Not about midwives mental health	not UK (ireland) and focus is on service effectiveness for patients predominantly		
37		25	student context	not midwifery		
38		26	Not UK	not UK		
39		27	Not UK	Not UK		
40		28	Not uk	not UK		
41		29				
42		30	Not about Midwives but hand search journal edition?			nursing standard is a magazine
43		31				
44		32				
45		33	student context	student midwives, not qualified		
46		34	Not UK	not UK		
47		35				although purpose is to inform st
48		36	student context	not uk and students, not qualified		
49		37	student context	students, not qualified		
50		38				nurses and midwives
51		39	Not UK	not UK		
52		40	student context	students, not qualified		
53		41	student context	students, not qualified		
54		42	student context	students, not qualified		
55		43	Not about midwives mental health	not UK, not mental health,training to improve patient care		
56		44	Not about midwives mental health	not uk		
57		45				
58		46	duplicate of 45	duplicate of 45?		
59		47				
60		48	Not about midwives mental health + not UK	not uk		
61		49	student context	students, not qualified		
62		50	Not about midwives health health	patient wellbeing not health prof		
63		51				
64		52	student context	students, not qualified		

Midwifery | Paramedics | Paramedics HS JPP | Nursing | Nursing HMIC

Appendix 7: Sample from appraisal journal

[20M-HS] How Do Power and Hierarchy Influence Staff Safety in Maternity Services?

Background There are considerable tensions for healthcare staff between their employee allegiance and contracts, patient safety, and their responsibilities to codes of conduct within professional registration, and the NHS Constitution. Aims The research aim was to identify how power and hierarchy influence staff safety in maternity services and this was achieved by reviewing research papers concerned with personal narratives of staff experiences and perspectives of employment in their profession. Methods This systematic narrative review was based on the approach of a narrative synthesis, with papers coded using Nvivo software. Findings Power and hierarchy influence staff safety in maternity services by creating challenges to staff safety, which appear to essentially derive from poor communication. The workplace adversity described by participants seems to be linked with 1) psychological vulnerability 1.1) anxiety about the job, and 1.2) dysfunctional relationships, alongside 2) working conditions 2.1) poor organisational and structural conditions 2.2) institutional normalisation of dysfunctional relationships and 2.3) interpersonal elements feeding into an obstructive culture. Conclusion The negative influences of the cultural concepts of power and hierarchy on staff safety are significant within maternity services. Disconfirmation findings, those which stood out as different from the rest, evidenced the possibilities that healthy, psychologically safe working conditions could offer for healthcare staff in improving their prevailing culture.

This research paper took a systematic narrative approach to investigating how power and hierarchy influence staff safety in maternity wards. The findings are disturbing and in line with other findings from the maternity literature. (Karen: this also resonates with some of the medical literature, particularly with junior doctors i.e. when viewed from the bottom of the hierarchy Jill: and definitely nurses - we have signposted phrase of nurses eating their young!!). The review cites a very hostile environment for midwives, that is characterized by psychological vulnerability DC signposting that we discussed psychological safety. (Jill: yes Amy Edmondson work). This is fuelled by a lack of support by supervisors, cultural normalization of dysfunctional relationships, poor working conditions, bullying, threats, and lying. The research suggested that

80% of midwives who have left the profession said they would return if the working conditions improved (jill: suspect v sim for N and P). It was interesting to note that bullying was experienced by front-line staff, both by superiors as well as clients: "*so much is done to support the clients, that clients then believe they have the right to abuse staff* [Cath: interesting that these are linked – that we provide good care and this leads to abuse?] *so that generally staff felt unsupported from both managers and patients*" p. 434. This presents an important tension about the need for patient-centeredness, but the potential negative impacts of patient-centeredness on staff when there are staff shortages. (Karen: very interesting point, that patient-centeredness can be at the cost of staff wellbeing - Jill: yes indeed have written about this!) DC – I think the move from 'triple' to 'quadruple aim' (which I mentioned elsewhere in this journal – and if not see here Bodenheimer T, Sinsky C. From triple to quadruple aim: care of the patient requires care of the provider. The Annals of Family Medicine. 2014 Nov 1;12(6):573-6) may be quite relevant to contextualise and discuss this tension. Jill: agree DC [Cath: agree and also the shift to consumerist language in healthcare in the last decades – setting expectations that cannot be met] The report cites cover-ups around bad births that are due to staff shortages and individual midwives are targeted as the cause. (Karen: individuals 'paying' for deficiencies in the system) "*the abuses of both power and hierarchy are feeding into a system so much so that it has become commonplace institutional behaviour with staff left unsupported and yet still held accountable, threatening their safety on a professional register. This was powered by the terror of potential emergencies and poor outcomes during deliveries*" p. 435. The paper should be revisited (Jill: yes sounds v important and an important new tension) as there is a lot of information about the toxic work environment faced by midwives. DC this may link to 'moral injury' as well. (Jill: agree and we have a lot of data re this in current ICON study – impact of Covid on nurses (and midwives!) [Cath: there has been lots of publicity around things like this in doctors and other professions: that individuals are blamed when mistakes are made but actually those mistakes are due to organisational systemic issues – another tension to bring out? That you are accountable for the quality of care provided but have little/no power/authority to ensure appropriate resources, staffing, training, systems etc]

Appendix 8: RAMESES Checklist

Guideline Item	Included at page#	Any Additional comments
Title		
1. In the title, identify the document as a realist synthesis or review	Page 1 main report	
Abstract		
2. While acknowledging publication requirements and house style, abstracts should ideally contain brief details of: the study's background, review question or objectives; search strategy; methods of selection, appraisal, analysis and synthesis of sources; main results; and implications for practice.	Included in abstract – page 2-3 of main report	
Introduction		
3. Rationale for review: Explain why the review is needed and what it is likely to contribute to existing understanding of the topic area.	Whole intro chapter (chapter 1- pages 18-23)	
4. Objectives and focus of review: State the objective(s) of the review and/or the review question(s). Define and provide a rationale for the focus of the review.	Chapter 1 main report – page 23)	
Methods		
5. Changes in the review process: Any changes made to the review process that was initially planned should be briefly described and justified.	Appendix 1 – protocol deviation table this document pages 2-9	
6. Rationale for using realist synthesis: Explain why realist synthesis was considered the most appropriate method to use.	Main report- Chapter 2 (methods) pages 25-27.	
7. Scoping the literature: Describe and justify the initial process of exploratory scoping of the literature.	Main report- Step 1A p29-31 Methods (chapter 2)	
8 Searching processes: While considering specific requirements of the journal or other publication outlet, state and provide a rationale for how the iterative searching was done. Provide details on all the sources accessed for information in the review. Where searching in electronic databases has taken place, the details should include, for example, name of database, search terms, dates of coverage and date last searched. If individuals familiar with the relevant literature and/or topic area were contacted, indicate how they were identified and selected.	Main report - Step 2 p 32-39 Methods chapter and Appendix 5 – this document pages 60-68.	
9. Selection and appraisal of documents: Explain how judgements were made about	Main report- chapter	

including and excluding data from documents and justify these.	2 (methods). Step 2 p32-37 and p38 for exclusion criteria; Step 3 p39-40	
10. Data extraction: Describe and explain which data or information were extracted from the included documents and justify this selection.	Main report- chapter 2 (methods). Step 4 p39-43	
11 Analysis and synthesis processes: Describe the analysis and synthesis processes in detail. This section should include information on the constructs analyzed and describe the analytic process.	Main report- chapter 2 (methods). Step 5 p44-46.	
Results		
12. Document flow diagram: Provide details on the number of documents assessed for eligibility and included in the review with reasons for exclusion at each stage as well as an indication of their source of origin (for example, from searching databases, reference lists and so on). You may consider using the example templates (which are likely to need modification to suit the data) that are provided.	Chapter 3 page 49 PRISMA (page 50 – mina report and Appendix 5 – this document pages 60-68.	
13. Document characteristics: Provide information on the characteristics of the documents included in the review.	Chapter 3 page 49 main report	
14 Main findings: Present the key findings with a specific focus on theory building and testing.	Main realist findings Chapter 6 page 85-86 main report and Appendix 12 – mina findings – this document – pages 97-98.	
Discussion		
15. Summary of findings: Summarize the main findings, taking into account the review's objective(s), research question(s), focus and intended audience(s).	Chapter 7 Main report; pages 149-156.	
16. Strengths, limitations and future research directions: Discuss both the strengths of the review and its limitations. These should include (but need not be restricted to) (a) consideration of all the steps in the review process and (b) comment on the overall strength of evidence supporting the explanatory insights which emerged. The limitations identified may point to areas where further work is needed.	Chapter 7 Main report; pages 164-166.	
17. Comparison with existing literature: Where applicable, compare and contrast the review's findings with the existing literature (for example, other reviews) on the same topic.	Chapter 7 Main report: pages 147-	

	155.	
18. Conclusion and recommendations: List the main implications of the findings and place these in the context of other relevant literature. If appropriate, offer recommendations for policy and practice.	Conclusions are chapter 7 Main report – pages 169-70. Recommendations are Chapter 7 Main report: pages 159-164 (including tables 11 and 12 and Box 2) and in Appendix 13 this document- pages 100-101.	
19. Funding Provide details of funding source (if any) for the review, the role played by the funder (if any) and any conflicts of interests of the reviewers.	Funding is reported on page 4 of Main report after abstract.	Study registration on Prospero reported page 4.

Appendix 9: Tables of included papers in the synthesis

Appendix 9: Tables of included papers

Citation	Type of paper	Paper Focus: causes, interventions or both	Approach (if empirical)	Brief Method (if empirical)
Chesterton, Tetley [64]	Empirical	Both	Qualitative	Phenomenological design
Anderson [65]	Empirical	Intervention	Quantitative	Pre/Post-Intervention evaluation
Andrews, Tierney [66]	Empirical	Both	Qualitative	Constructivist Grounded Theory
Cedar and Walker [67]	Commentary	Intervention	N/A	N/A
Higgins, Okoli [68]	Empirical	Causes	Quantitative	Secondary analysis of a cross-sectional survey
Laker, Cella [69]	Empirical	Both	Quantitative	Random-effects models
Rodriguez Santana, Anaya Montes [70]	Empirical	Both	Quantitative	Causal Analysis
Stacey, Cook [71]	Empirical	Intervention	Qualitative	Service Evaluation
Whiting, O'Grady [72]	Empirical	Intervention	Mixed-Methods	Appreciative Inquiry (AI) Approach
Younge, Sufi [73]	Empirical	Intervention	Qualitative	Exploratory Qualitative Approach
Berry and Robertson [74]	Empirical	Intervention	Quantitative	Cross-sectional design
Best [75]	Commentary	Causes	N/A	N/A
Brett Bowen [76]	Empirical	Causes	Qualitative	Interpretative Phenomenological Analysis (IPA)
Duncan [77]	Commentary	Both	N/A	N/A
Dunlop and Maunder [78]	Commentary	Intervention	N/A	N/A
Marran, [79]	CPD Exercise	Both	N/A	N/A
Fasbender, Van der Heijden [80]	Empirical	Causes	Quantitative	Survey
Goddard, de Vries [81]	Discussion Article	Both	N/A	N/A
Laker, Cella [82]	Empirical	Causes	Quantitative	Randomised Controlled Trial (RCT)
O'Neill [83]	Empirical	Intervention	Qualitative	Thematic Analysis
Webster, Jenkins [84]	Study Protocol	Intervention	Qualitative	Qualitative Design
Delaney [85]	Empirical	Intervention	Mixed-Methods	Observational Pilot Study (single group design)
Jackson [86]	Empirical	Intervention	Qualitative	Service Evaluation
Bosanquet [87]	Editorial	Both	N/A	N/A

Citation	Type of paper	Paper Focus: causes, interventions or both	Approach (if empirical)	Brief Method (if empirical)
Sanford, Lavelle [88]	Empirical	Causes	Qualitative	Ethnography
Beryl, Davies et al (2018) [89]	Empirical	Intervention	Qualitative	Thematic Analysis

Table 1: Nursing: Included literature from initial database searches (n=26 sources)

Citation	Type of paper	Paper Focus	Approach (if empirical)	Brief method (if empirical)
Rocca-Ihenacho, Yuill [90]	Empirical	Intervention	Qualitative	Critical Realist Ethnography
Iaschi [91]	Grey Literature	Intervention	Mixed-Methods	N/A
Cull, Hunter [92]	Empirical	Causes	Qualitative	Thematic Analysis
Hunter, Fenwick [93]	Empirical	Causes	Quantitative	Cross-sectional
Slade, Sheen [94]	Empirical	Intervention	Quantitative	Feasibility Study
Byrne (2018)	Commentary	Both	N/A	N/A
Warwick [95]	Commentary	Both	N/A	N/A
Warriner, Hunter [96]	Empirical	Intervention	Quantitative	Survey
Power [97]	Commentary	Both	N/A	N/A
Sheen, Spiby [98]	Empirical	Causes	Quantitative	Survey
Yoshida and Sandall [99]	Empirical	Intervention	Quantitative	Survey
Clarke [100]	Commentary	Intervention	N/A	N/A
Copp and Morton [101]	Commentary	Intervention	N/A	N/A
Hollins Martin, Beaumont [102]	CPD Exercise	Intervention	N/A	N/A
Winter [103]	Commentary	Intervention	N/A	N/A
Axcell [104]	Commentary	Both	N/A	N/A
Newman [105]	Editorial	Causes	N/A	N/A
Barker [106]	Commentary	Both	N/A	N/A
Barker [107]	Commentary	Intervention	N/A	N/A
Anonymous Blog (108)	Commentary	Intervention	N/A	N/A
Pezaro, Pearce [109]	Empirical	Intervention	Qualitative	PPI
Golden [110]	Commentary	Intervention	N/A	N/A

Citation	Type of paper	Paper Focus	Approach (if empirical)	Brief method (if empirical)
Wain [111]	Empirical	Intervention	Qualitative	Interpretive Phenomenological Analysis (IPA)
Barker [112]	Commentary	Both	N/A	N/A
Leversidge [113]	Commentary	Intervention	N/A	N/A
Brintworth [114]	Empirical	Intervention	Mixed-Methods	Online survey

Table 2: Midwifery: Included literature from initial database searches (n=26)

Citation	Type of paper	Paper Focus	Approach (if empirical)	Brief method (if empirical)
McDonald, Meckes [115]	Empirical	Both	Quantitative	Online Survey
Treglown, Palaiou [116]	Empirical	Causes	Quantitative	Online Survey
Wild, Smith [117]	Empirical	Causes	Quantitative	Structured Clinical Interview
Mendes [118]	Editorial	Intervention	N/A	N/A
Daubney [119]	Commentary	Intervention	N/A	N/A
Smith [120]	Commentary	Intervention	N/A	N/A
Mildenhall [121]	Commentary	Both	N/A	N/A
Daubney [122]	Commentary	Intervention	N/A	N/A
Mendes [123]	Editorial	Intervention	N/A	N/A
Johnston [124]	Commentary	Intervention	N/A	N/A
van der Gaag, Jago [125]	Empirical	Intervention	Mixed-Methods	Mixed methods Design
Gilroy [126]	Commentary	Intervention	N/A	N/A
Naumann, McLaughlin [127]	Empirical	Causes	Mixed-Methods	Cross-sectional observation study
Peate [128]	Commentary	Both	N/A	N/A
Sibson [129]	Editorial	Both	N/A	N/A
Paranjape [130]	Editorial	Both	N/A	N/A
Paranjape [131]	Editorial	Both	N/A	N/A
Quaile [132]	Commentary	Both	N/A	N/A
Miller [133]	Conference Abstract	Causes	Mixed-methods	Online Survey
Miller [134]	Conference Abstract	Intervention	Qualitative	Semi-structured Interviews
Rowe and Regehr [135]	Discussion Paper	Intervention	N/A	N/A
Michael, Streb [136]	Empirical	Causes	Quantitative	Postal Questionnaire

Maben, Hoinville [137]   Empirical   Both   Qualitative   Semi-structured Interviews

Citation	Profession	Report Type	Overview of contents	Causes/ Interventions/ Both

Table 3: Paramedic: Included literature from initial database searches (n=23)

NHS Health Education England: NHS Staff and Learners' Mental Wellbeing Commission [138]	N,M,P	Commissioned Report	**Aim**: Identify and review organisational good practice examples of NHS staff and learners' mental wellbeing. **Recommendations**: 33 recommendations addressing NHS culture, staff wellbeing, NHS support to learners.	Both
Royal College of Nursing: 10 unsustainable pressures on the health and care system in England [139]	N,MP	Report by Royal College of Nursing (RCN)	**Context**: The RCN has identified 10 areas reliant on nursing that demonstrate unsustainable, untenable conditions within the health and care system across England. **Recommendation:** Government must invest in core areas to sustain nursing workforce supply to meet the needs of the population now and in the future.	Both
Hunter, Warren: Investigating Resilience in Midwifery [140]	M	Funder Report	**Aim**: Explore midwives understanding and experiences of resilience; model the concept in collaboration. **Method**: A two stage exploratory qualitative study. **Key Findings**: Midwives described adverse workplace situations leading to resilience; practical coping strategies.	Both
Hunter et al: Work, Health and Emotional Lives of Midwives in the UK (UK WHELM Study) [141]	M	Funder Report	**Aim**: Explore relationship between work environment and emotional wellbeing of UK midwives. **Method**: The WHELM survey **Key Findings**: UK's midwifery workforce is experiencing significant levels of emotional distress. **Recommendations**: System level changes in resourcing and provision of maternity care are required.	Both
West et al: The courage of compassion: supporting nurses and midwives to deliver high-quality care [142]	N,M	Commissioned Report	**Aim**: Examine workplace stressors, organisational cultures, working contexts and leadership styles that impact on nurses and midwife's mental wellbeing. **Method**: Literature review, secondary analysis of data, semi-structured interviews, focus groups. **Recommendations:** 8 Key Recommendations on working environment and contexts for nurses and midwives.	Both
Kinman et al: The mental health and wellbeing of nurses and midwives in the UK [143]	N,M	Commissioned Report	**Aim**: Review research related to the mental wellbeing of nurses and midwives working in the UK. **Method**: Systematic review of 100 studies from last 10 years; Delphi Study **Findings**: UK's Nurses and midwives are struggling with their mental wellbeing **Recommendations**: 45 recommendations with 8 highlighted as	Both

			key priorities	
Larrey Society: The 'Ambulance Burnout' Issue [40]	P	Membership survey	**Purpose**: Canvass member views and the future direction of The Larrey Society **Priority issues**: Education and training, commissioning, burnout. **Proposed Actions**: Organisations to implement Society's 7-point code on Work-Life Balanced.	Both

Table 4: Key reports that informed the review (n=7)

Citation	Profession: M,N,P (sub-group)	Type of Review	Aim of Review	Causes / Interventions / Both	Number of Papers included (UK)
Brand [144]	Whole NHS	Systematic	Whole system approaches/Interventions	Interventions	11 (1)
Albendin-Garcia [145]	M (all)	Systematic	Burnout: Prevalence related factors	Causes	27 (4)
Welford [146]	M (all)	Narrative	Burnout: factors influencing	Both	4 (0)
Bacchus [147]	M (newly qualified)	Systematic	Factors affecting emotional wellbeing in newly qualified midwives	Both	4 (2)
Hunter [148]	M (all)	Critical Interpretive Synthesis	Evaluation of Mindfulness	Intervention	5 (0)
Elliott-Mainwaring [149]	M (all)	Systematic Narrative	Impact of power and hierarchy on staff safety	Both	10 (np)
Breseti [150]	N (neonatal intensive care)	Systematic	Interventions to reduce occupational stress	Both	6 (1)
Buckley [151]	N (paediatric nurses)	Scoping	Burnout in paediatric nurses	Both	78 (0)
Chamanga [152]	N (community)	Integrative	Recruitment and retention of adult community nurses	Causes	10 (1)
Freeling [153]	N (all)	Integrative	Presenteeism	Causes	17 (0)
Gribben [154]	N (adult oncology)	Integrative	Burnout and work-life balance: factors contributing	Both	20 (0)
McDermid [155]	N (emergency nurses)	Thematic Analysis	Factors contributing to turnover	Causes	20 (0)
Oates [156]	N (high secure forensic)	Integrative	Experiences and implications for recruitment/retention	Causes	15 (6 UK)
Webster [157]	N (all)	Scoping (Protocol)	Using technology for social and emotional wellbeing	Interventions	0 (0)
Aryankhesal	N (all) – and	Systematic	Interventions to reduce burnout	Interventions	18 (2)

[19]	physicians				
Hawkins [41]	N (newly qualified)	Integrative	Exposure to negative workplace behaviour	Both	16 (0)
Rajamohan [158]	N (nursing home)	Integrative	Relationship between staff and job satisfaction, stress, turnover	Both	11 (0)
Stacey [159]	N (all)	Scoping	Influences of nurse resilience conceptualisation on educational interventions	Interventions	16 (2)
Yu [36]	N (all)	Systematic	Personal and work-related factors associated with resilience	Causes	38 (np)
Cummings [160]	N (all)	Systematic	Leadership styles and outcomes	Both	129 (0)
Foster [161]	N (mental health)	Scoping	Interventions to support coping with stressful work environments	Both	18 (3)
Ejebu [162]	N (all)	Scoping	Experiences and preferences about shift patterns	Causes	30 (7)
Barleycorn [163]	N (emergency nursing)	Narrative	Awareness of secondary traumatic stress	Both	12 (np)
Dodd [164]	P (Ambulance service – all)	Methodical literature search	Post-traumatic stress disorder (PTSD)	Both	np
Anderson [165]	P (all)	Systematic literature	Impact of shift work on family system	Both	22 (np
Lancaster [166]	P (Ambulance service – all)	Thematic Analysis	Use of humour	Both	4 (np)
Brooks [167]	P (Ambulance – all)	Systematic	Predictors of PTSD	Causes	18 (np)
Clark [168]	P (Ambulance – all)	Evidence Mapping Methodology	Mapping wellbeing and Interventions for UK ambulance service staff	Both	45 (45)
Auth [169]	P (emergency service staff)	Qualitative Evidence Synthesis	Mental health and help seeking in trauma- exposed emergency service staff	Both	24 (5)

Table 5: Literature reviews included in the review (n=29)

Appendix 10: Interventions in included documents

Citation	Professional Group N/M/P	Intervention(s) (description)	Target: Primary/Secondary/Tertiary or Multifocal	Formal/informal	Single/Programme (or multiple interventions)
Anderson [65]	N (critical care)	Mindfulness-based stress reduction (MBSR)	Secondary	Formal	Single
Stacey [71]	N (newly qualified)	Resilience-based clinical supervision with compassion focused therapy (in addition to standard preceptorship)	Multifocal (primary and secondary)	Formal	Single
Whiting [72]	N (Children's palliative care)	CPD/Career Progression Programme for Children's Palliative Care Nurses London (CHaL) comprising Mary Seacole Leadership and Action Learning Sets (ALSs) 6mth programme for senior nurses	Primary	Formal	Programme
Younge [73]	N (inflammatory bowel CNSs)	CBT-based clinical supervision for inflammatory bowel disease clinical nurse specialists.	Multifocal (primary and secondary)	Formal	Single
O'Neill [83]	N (liaison psychiatry)	Psychologist-facilitated reflective practice groups (liaison psychiatry nurses)	Secondary	Formal	Single
Delaney [85]	N (all/mixed)	Mindful self-compassion training	Secondary	Formal	Single
Jackson [86]	N (newly qualified)	Facilitated peer support within preceptorship programme	Multifocal (primary and secondary)	Formal	Programme
Slade [94]	M - all	POPPY (PTSD prevention training) for midwives	Multifocal (secondary and tertiary)	Formal	Programme
Warriner [96]	M - all	Mindfulness training	Secondary	Formal	Single
Wain [111]	M (newly qualified)	Preceptorship Programme	Multifocal (primary and secondary)	Formal	Programme

Table 1 Empirical evaluations of interventions: characteristics

Citation	Professional Group N/M/P	Intervention(s) (description) Primary/Secondary/Tertiary/Multifocal	Target: Primary/Secondary/ Tertiary/ Multifocal	Formal/informal/both	Number of interventions
Cedar [67]	N (end of life)	**Primary:** Chaplaincy service; Creating positive workplace culture; Positive role models **Secondary:** Exercise; Hobbies/interest outside work; Diet and nutrition; Sleep; Mindfulness; Yoga/meditation; **Multifocal:** Schwartz Rounds	Multifocal	Both	10
Best [75]	N (all)	**Primary**: Creating positive workplace culture, Mentorship **Secondary**: Mindfulness practice; talking with colleagues/peer support	Multifocal	Both	4
Dunlop [78]	N (Children's N in rural/remote community locations)	**Primary**: Community of Practice clinical network	Primary	Formal	1
Bosanquet [87]	N (all)	**Primary**: Buurtzorg; creating positive workplace culture; **Secondary:** Space and time to care for self/self compassion; Mindfulness practice; reflective practice; cultivate/encourage positive beliefs/coping; team culture/relationships with colleagues; access to safe confidential spaces. **Tertiary**: telephone support line **Multifocal:** Clinical supervision	Multifocal	Both	10
Byrne [170]	M (all)	**Primary:** leadership training	Primary	Informal	1
Warwick [95]	M (all)	**Primary:** Safe staffing monitor and planning; remove pay cap/restraints; ensure student bursary remains	Primary	Formal	3
Clarke [100]	M (all)	**Primary:** social/professional networks and support **Secondary**: Space/time to care for self; exercise; hobbies/interest outside work; diet/nutrition; breaks/holidays; self-care herbal remedies/massage; stress management/coping; positive beliefs/coping; talking to family/friends;	Multifocal	Informal	10
Copp [101]	M (all)	**Secondary:** stress management training **Tertiary:** Talking therapies; complementary therapies	Multifocal	Formal	3

Winter [103]	M (all)	**Primary**: Manager/employee training to recognise early signs **Tertiary**: CBT/ACT	Multifocal	Both	2
Axcell [104]	M (all)	**Primary**: systemic approach to wellbeing **Secondary**: Team culture/relationship with colleagues	Multifocal	Informal	2
Barker [106]	M (all)	**Primary**: NHS acknowledge/take responsibility; **Secondary**: Space/time to care for self/others; cultivate positive beliefs/coping; learn to say 'no'/boundaries; talk with colleagues/peer support; **Multifocal**: clinical supervision	Multifocal	Both	6
Barker [107]	M (all)	**Secondary**: Lego as art therapy	Secondary	Informal	1
Anonymous [108]	M (all)	**Primary**: Mentorship **Secondary**: team culture/relationships with colleagues	Multifocal	Both	2
Barker [112]	M (all)	**Primary**: leadership training; positive role models **Multifocal**: Clinical supervision	Multifocal	Both	2
Leversidge [113]	M (all)	**Primary**: RCN Caring for You campaign	Primary	Formal	1
Mendes [118]	P (all)	**Primary**: Implicit bias training	Primary	Formal	1
Mendes [35]	P (all)	**Secondary**: NHS in Mind; Calm App; Headspace App; Talking to family/friends **Tertiary**: telephone support line	Multifocal	Both	5
Daubney [119]	P (all)	**Secondary**: humour	Secondary	Informal	1
Smith [120]	P (all)	**Secondary**: reflective practice	Secondary	Informal	1
Mildenhall [121]	P (all)	**Secondary**: debriefs; talking to family/friends	Secondary	both	2
Daubney [122]	P (all)	**Secondary**: TRiM; humour	Secondary	both	2
Mendes [123]	P (all)	**Primary**: Assault on Emergency Workers Bill; World Suicide Prevention Day **Secondary**: debriefs; exercise	Multifocal	both	4
Johnston [124]	P (all)	**Tertiary**: Counselling; SWAST Staying Well Service	Tertiary	Formal	2
Gilroy	P	**Primary**: NHS England Healthy Workforce Framework;	Multifocal	Both	6

[126]	(all)	Manager/employee training to recognise early signs; mental health awareness for family, friends, loved ones. **Secondary**: Road to Mental Readiness Programme **Tertiary**: EMDR **Multifocal**: Blue Light Programme			
Paranjape [130]	P (all)	**Primary**: public showing kindness and compassion	Primary	informal	1
Paranjape [131]	P (all)	**Secondary**: reflective practice. **Tertiary**: counselling	Multifocal	Both	2
Peate [171]	General workforce	**Primary**: World Mental Health Day	Primary	Formal	1
Sibson [172]	Emergency Care workforce	**Primary**: mentorship **Secondary**: debriefs; talking with colleagues/peer support **Multifocal**: clinical supervision; blue light programme	Multifocal	both	5
Quaile [132]	Ambulance staff	**Primary**: tackle retirement barriers. **Secondary**: talking with colleagues/peer support **Tertiary**: counselling **Multifocal**: Blue Light Programme; TASC	Multifocal	Both	5
		TOTALS	Multifocal: 16 Primary: 7 Secondary: 5 Tertiary: 1	Formal: 7 Informal: 7 Both: 15	Range 1-10 (Mean 3.3)

Table 2 Commentary/Editorials: recommended interventions

Paper ID	Profession	Type of Review	Focus of Review	Intervention(s) (number of included papers) Primary Secondary Multifocal	Target: Primary/Secondary/Tertiary or Multifocal	Formal/informal/both	Evaluated or emergent finding?
Brand [144]	Whole NHS	Systematic review	Whole systems approaches/interventions	**Primary:** implement Boorman whole system changes; Collaborative care Model; **Secondary:** Mindfulness; exercise; diet/nutrition; Multifocal: NHS workplace wellbeing intervention; Workplace Social Capital Intervention	Multifocal	Formal	Evaluation
Albendin-Garcia [145]	M (all)		Burnout: Prevalence related factors	**Primary:** Caseload Model; Leadership (protective)	Primary	Formal	Emergent
Welford [146]	M (all)		Burnout: factors influencing	**Primary:** Caseload Model; Tackle retirement barriers; Flexible working **Multifocal:** Preceptorship	Multifocal	Formal	Emergent
Bacchus [147]	M (newly qualified)		Factors affecting emotional wellbeing in newly qualified midwives	**Primary:** mentorship; positive role models **Multifocal:** Preceptorship	Multifocal	Both	Emergent
Hunter [148]	M (all)		Evaluation of Mindfulness	**Secondary:** Mindfulness	Secondary	Formal	Evaluation
Elliott-	M	Systematic	Impact of power and	**Primary:** Mandate	Primary	Informal	Emergent

Mainwaring [149]	(all)	c narrative review	hierarchy on staff safety	staff to challenge poor behaviour; Introduce minimum standards for working conditions; rotas based on realistic forecasting; learning and education throughout career			
Bresesti [150]	N (neonatal intensive care)		Interventions to reduce occupational stress	**Secondary:** Mindfulness, Stress Management Training, Positive Psychology Training	Secondary	Formal	Evaluation
Buckley [151]	N (paediatric nurses)	Scoping	Scoping review about burnout in paediatric nurses	**Secondary:** Mindfulness; Job/Role specific workshops **Multifocal:** Clinical supervision	Multifocal	Formal	Emergent
Chanmanga [152]	N (community)		Recruitment and retention of adult community nurses	NONE			
Freeling [153]	N (all)		Presenteeism	NONE			
Gribben [154]	N (adult oncology)	Integrative review	Burnout and work-life balance: factors contributing	**Primary:** positive workplace culture; positive role models; **Secondary:** talking with colleagues/peer support; team culture/ relationships with colleagues	Multifocal	Informal	Emergent
McDermid	N		Factors contributing to	NONE			

[155]	(emergency nurses)		turnover				
Oates [156]	N (high secure forensic)	Integrative review	Experiences and implications for recruitment/retention	**Primary:** Tackle retirement barriers; Planned time out of setting **Secondary:** Team culture/relationships with colleagues **Multifocal:** Clinical supervision	Multifocal	Both	Emergent
Webster [157]	N (all)	Scoping review	Using technology for social and emotional wellbeing	**Secondary:** mindfulness; stress management training; positive psychology training	Secondary	Formal	Evaluation
Aryankhesal [19]	N (all) – and physicians	Systematic review	Interventions to reduce burnout	**Secondary:** Mindfulness; Positive Psychology training; Communication skill; Professional Identity Development Programme; Job/Role specific workshops; Yoga/Meditation	Secondary	Both	Evaluation
Hawkins [41]	N (newly qualified)	Integrative review	Exposure to negative workplace behaviour	**Primary**: zero tolerance policies; leadership training	Primary	Both	Emergent
Rajamohan [158]	N (nursing home)		Relationship between staff and job satisfaction, stress, turnover	**Primary**: caseload model (person centred care model)	Primary	Formal	Emergent
Stacey [159]	N (all)	Scoping review	Nurse resilience conceptualisation	**Primary:** mentorship **Secondary:** resilience training;	Multifocal	Both	Emergent

				Care Provider Support Programme; Yoga/Meditation; Stress Management techniques; Talking to colleagues/peer support **Tertiary:** CBT/ACT; restorative supervision			
Yu [36]	N (all)	Systematic Review	Personal and work-related factors associated with resilience	**Secondary:** coping skills; social support	Secondary	Informal	Emergent
Cummings [160]	N (all)	Systematic review	Leadership styles and outcomes	**Primary:** Leadership training	Primary	Informal	Emergent
Foster [161]	N (mental health)	Scoping review	Interventions to support coping with stressful work environments	**Secondary:** Mindfulness; Stress Management; Resilience Training; Communication Skills; **Tertiary:** CBT/ACT **Multifocal:** Clinical supervision	Multifocal	Formal	Evaluation
Ejebu [162]	N (all)	Scoping review	Experiences and preferences about shift patterns	NONE			
Barleycorn [163]	N (emergency nursing)		Awareness of secondary traumatic stress	**Primary:** Leadership training; Manager/employee training to recognise early signs **Secondary:** exercise; diet/nutrition;	Multifocal	Informal	Emergent

				sleep; learn to say no/boundaries; time-out/downtime; talking with colleagues/peer support			
Dodd [164]	P (Ambulance service -all)		PTSD	**Primary:** Chaplaincy service; Manager/employee training to recognise early signs **Secondary:** TRiM; talking with colleagues/peer support; space/time for self-care **Multifocal:** Blue Light Programme; Beyond Blue	Multifocal	Both	Emergent
Anderson [165]	P (all)		Impact of shift work on family system	**Primary:** flexible working/plan own workload; Mental health awareness for family/friends **Multifocal:** Clinical supervision	Multifocal	Both	Emergent
Lancaster [166]	P (Ambulance service – all)		Use of humour	**Secondary:** humour	Secondary	Informal	Emergent
Brooks [167]	P (Ambulance – all)		Predictors of PTSD	NONE			
Clark [168]	P (Ambulance – all)		Interventions for UK ambulance service staff	**Primary:** Mindfulness; humour; coaching;	Multifocal	Formal	Evaluation

				Tertiary: CBT/ACT; EMDR; Complementary therapies **Multifocal:** Blue Light Programme;			
Auth [169]	P (emergency service staff)	Qualitative evidence synthesis	Mental health and help seeking in trauma-exposed emergency service staff	**Primary:** regular work partner; **Secondary:** exercise; TRiM; humour; time out/downtime; talking to friends/family; Talking with colleagues/peer support; Managers checking in **Tertiary:** telephone support line **Multifocal:** Schwartz rounds	Multifocal	Both	Emergent

Table 3 Interventions in the included literature reviews

Appendix 11: Mapping interventions to causes

KEY: <mark style="background:red">No/few interventions/much evidence needed;</mark> <mark style="background:yellow">some interventions/more evidence needed;</mark> <mark style="background:green">some interventions/good evidence</mark>

Risk factors for work-related stress (HSE Management Standards*)	Specific 'cause' N/M/P causes	Interventions: formal	Interventions: informal
Demands (workload, work patterns, work environment)	Staff shortages and high attrition	Primary: • All of the systems/healthcare models are aimed at attracting and retaining staff • Tackling retirement barriers may help with retention • Removing pay cap/restraints/ensuring student bursary remains	Primary: • Creating a supportive positive workplace culture
	Pressure of work in service in which demand continues to increase/unmanageable workload	Primary: • Safe staffing monitor and planning Secondary: • Stress management training	Primary • Working Conditions: minimum standards and delay and develop alternative roles • Planned time out of setting
	Working long shifts with no/few breaks	• Safe staffing monitor and planning	Primary • Working conditions: minimum standards/rotas based on realistic forecasting Secondary • Time out/downtime
	Inadequate work-life balance	Primary: • Adoption of WLB core standards	• Take regular breaks/holidays from work • Learn to say no/set boundaries
	Serve and sacrifice	Multifocal • Schwartz Rounds	• Policy for managing stress/staff mental health with action plan and strategy for implementation • Learn to say no/set boundaries • Take regular breaks/holidays from work

			• Interests/hobbies outside of work • Time out/downtime
	Exposure to repeated episodes of trauma	Secondary: All psychosocial interventions, education, PTSD prevention, group reflection/debriefs Tertiary All tertiary interventions Multifocal • Schwartz Rounds • Blue Light Programme • Beyond Blue • TASC	• Chaplaincy service • Rapid access referral pathways • Learning and education (re: mental health) throughout career • Manager/employee training in recognising early signs • Mental health awareness for family/friends • Support managers emotional wellbeing/needs • Social/professional networks and support Secondary • All stress management • All social support
	Experiencing Death	• Same as above?	• Same as above?
	Prolonged/cumulative stress	• All psychosocial interventions, education • Schwartz Rounds	• Same as above?
	Emotional labour		
	Profession-specific causes (potentially)		
	Working on-call		
	Lack of continuity of care		
	Unnecessary call-outs		
	Heavy cognitive load/rapid decisions	Secondary: stress management	Secondary: stress management
	High risk of sustaining injury		
	Being a profession under scrutiny		
Control (how much say in the way you work)	Lack of control/autonomy	Primary: • Systems/healthcare models – Buurtzorg, Magnet, Caseload	
	Not feeling supported/valued	• Mentorship	• Positive role models

Support (encouragement, sponsorship and resources provided by org, line managers and colleagues)		• Leadership	• Mentoring/leadership
	Stigma	• Frameworks/toolkits/standards to make mental health central to strategy and policy	• NHS acknowledging/taking responsibility for role in supporting staff wellbeing • Creating a supportive/positive workplace culture • Systemic approach to wellbeing • Chaplaincy service
	Not having space/time to debrief after trauma or having inappropriate support	• TRiM • #weCARE café • Tea and empathy group	• Space/time to care for self/others • Access to safe confidential spaces for socialising, sharing and discussing experiences • Managers checking in
	Not having basic 'hygiene' needs met	• Wellness Intervention • Time to Drink/Out of hours food initiatives	• Essential needs met • Basic needs being met at work
	Profession-specific causes (potentially)		
	Lone working	• Community of practice clinical networks	
Relationships (promoting positive working to avoid conflict; dealing with unacceptable behaviour)	Poor relationships with colleagues/ incivility / bullying	Primary: • zero tolerance policies • Implicit bias training • Teamwork and QI initiatives	Primary • Mandate staff to challenge poor behaviour • Having a regular work partner/team stability
	Challenging relationships with patients, public, clients	Secondary • Communication skills training	
	Not feeling able to speak out	• Leadership • NHS Health and Wellbeing Framework (Wellbeing Guardians and FTSUG)	
	Profession-specific causes (potentially)		
	Fear of assault/abuse from public/patients		
Role (clarity, not conflicting)	Transition shock/Reality shock (newly qualified)	• Preceptorship programmes	
	Values incongruence/theory-		

	practice gap; moral distress		
	Unclear role boundaries/clarity	• Clinical supervision	
	Role intensity	• Job/role specific workshops	
Change (organisational change management and communication)	Not being involved in change		
Other risk factors			
WHO?	Ageing population	Tackling retirement barriers	
	Gender		
	Ethnicity	Zero tolerance; implicit bias training; EDI projects	
	Sexual orientation/gender identity	Zero tolerance; implicit bias training; Rainbow Badge and EDI projects.	
	Disability	Zero tolerance; implicit bias training	
WORK CONDITIONS	Pay	Remove pay caps/restraints; ensure student bursary remains	
	Promotion opportunities		
ROLE/TYPE OF JOB	Newly qualified	Preceptorship programmes	
	Leaders		• Support managers emotional wellbeing/needs
	Working in orphan specialties		
	Working with high-risk patient groups		
WHEN	After trauma exposure	As per above exposure to trauma/death/cumulative stress POPPY	As per above exposure to trauma/death/cumulative stress
	When under investigation/during complaints		

Appendix 12: Overarching structure of Chapter 6 (realist synthesis): key findings, tensions and CMOcs

1. Key finding 1: Interventions are fragmented, individual-focused and insufficiently recognise cumulative chronic stressors

- 1.1. Tension 1: The tension between a focus on individuals versus a focus on systemic issues
  - **CMO #1: A focus on individuals blames staff for systemic issues**
  - **CMO #2: Messaging from leaders/managers to look after self is at odds with the reality of work conditions**
  - **CMOc #3: the importance of granting permission to practice self-care by managers and peers**

- 1.2. Tension 2: The tension between a focus on acute episodes of trauma versus recognising and supporting chronic cumulative stressors
  - **CMOc #4: There is a need to understand the cumulative nature of chronic trauma exposure**
  - **CMOc #5: There is a need to distinguish secondary trauma arising from acute dramatic rather than chronic 'low-level' events**

2. Key finding 2: It is difficult to promote staff psychological wellness where there is a blame culture

- 2.1. Tension 3: The tension between a lack of collective accountability, which blames individual staff for errors, versus a team/system-based approach
  - **CMOc #6: Attributing cause of blame to individual staff ignores the role of the wider system**
  - **CMOc #7: There are sometimes double standards in accountability**
  - **CMOc #8: Investigation of medical errors can cause psychological ill-health in staff**
- 2.2. Tension 4: The tension between needing to raise concerns to improve conditions and patient safety versus fitness to practice processes becoming an oppressive force
  - **CMOc #9: Knowledge that the fitness to practice process is rarely supportive creates reluctance in staff to voice concerns about psychological health**
  - **CMOc #10: The investigation of medical error can result in secondary victimisation and traumatic symptoms**
- 2.3. Tension 5: The tension between encouraging staff to speak up versus the 'deaf effect' response from managers and hearers
  - **CMOc #11: Encouraging staff to raise concerns can create problems if there is no action: a 'deaf effect' response**
  - **CMOc #12 Supervision interventions (encouraging staff to voice concerns) may backfire and create burden if there is no organisational action**

3. Key finding 3: 'Serve & sacrifice': the needs of the system often override staff wellbeing at work

- 3.1. Tension 6: The tension between a professional culture that promotes a 'serve and sacrifice' ethos, which persuades staff to prioritise institutional needs, versus a culture that promotes self-care
  - **CMOc #13: A 'serve and sacrifice' professional ethos may be used to persuade compliance to institutional needs**
- 3.2. Tension 7: The tension between supporting existing staff in the context of staff shortages versus perceived coercion to fill vacant shifts beyond contracted hours
  - **CMOc #14: Staff feeling unable to say no in a felt culture of coercion**

- 3.3. Tension 8: The tension between the lived reality of staff shortages versus the wish to deliver high quality patient care, which can result in moral distress
  - **CMOc#15: Staff shortages prevent staff from giving the quality of care that patients deserve**
  - **CMOc#16: A vicious cycle of staff shortages leads to an unworkable situation for staff who remain**
  - **CMOc#17: Staff shortages may lead to an over-extension of role scope**

4. Key finding 4: There are unintended personal costs of upholding and implementing values at work
- 4.1. Tension 9: The tension between the reality of healthcare delivery versus the taught theory and values, which can lead to guilt and moral and emotional distress
  - **CMOc #18: Moral distress: The theory learned through formative training may not match real-world expectations at work**
- 4.2. Tension 10: The tension between the benefits of staff empathy to patients (ensuring quality care) versus the harms of staff empathy to staff (increasing risk of vicarious trauma or unhealthy/negative coping strategies).
  - **CMOc #19: Empathic traits of staff members allows for better understanding of patient suffering and improved service provision but increases the risk of vicarious trauma**
  - **CMOc #20: Staff adopt maladaptive strategies such as controlling the environment or depersonalisation to cope with the risks of secondary trauma and as a consequence of burnout**
- 4.3. Tension 11: The tension between the excessive requirements for emotional labour inherent in healthcare practice versus the need to improve workplace psychological ill-health
  - **CMOc #21: Excessive demands on using one's emotional labour can lead to burnout**

5. Key finding 5: It is challenging to design, identify and implement interventions to work optimally for diverse staff groups with diverse and interacting stressors
- 5.1. Tension 12: The tension between making staff wellness interventions mandatory versus voluntary
  - **CMOc #22: Mandatory participation in psychological wellness interventions may stigmatise staff and be inauthentic**
  - **CMOc #23: Voluntary participation in wellness interventions provides choice but may reduce uptake**
- 5.2. Tension 13: The tension between the need for spaces to debrief with managers/leaders so they hear and can thereby offer support versus the need for peer-led spaces for debriefing
  - **CMOc #24: Psychologically safe spaces for processing work challenges can provide support and healing**
  - **CMOc #25: The importance of kindness, listening and space to be heard by mentors**
- 5.3. Tension 14: The tension between the need to act and offer support versus providing interventions that are ineffective because they are too soon, reactive and/or single timepoint
  - **CMO# 26: The importance of timing of psychological ill-health interventions.**

Appendix 13: Practical proposed solutions co-developed with Stakeholders and Advisory Group for further development into project guide

(To be aligned with the People Plan and the NHS Health and Wellbeing Framework)

1. **Normalise and anticipate psychological ill-health (burnout/stress) as normal outcome of the job** – on a continuum or spectrum not binary and requiring anticipatory planning, offer support, prioritise skills development:
   a. **At induction for all staff:** support at individual, team, organisational levels for wellbeing (culture and expectations – *"its difficult work and we're here to help you with it"* messaging)

   b. **At key points:** Career decision-making and recognise need for 'job-hopping' and breaks from some clinical specialties

   c. **Start early:** Within undergraduate curriculum (consider introducing Schwartz Rounds/other safe spaces to process work challenges – also for newly qualified staff)

   d. Normalising psychological health-checking-in with colleagues-How are you today?

2. **Develop practical 'how to do / implement interventions' case study examples** with others of wellbeing bundles; individual to organisational and prevention to treatment

3. **Consider organisation psychological health credential quality mark re psychological health**; signalling a good place to work re psychological wellbeing- e.g. Magnet or NHS organisations pledge (like Blue Light Pledge (Mind, 2016)) to show commitment to tackle stigma and implement organisation wide interventions to support staff etc.

4. **Industrial Injury/Risk – HSE approach to wellbeing: Collect and report on health and wellbeing 'near misses'**- develop thinking around this and consider how feasible to collect these & report on staff psychological wellbeing

5. **Prioritise Maslow's hierarchy of needs and Herzberg's hygiene factors** – hydrated, food, break rooms, parking, physical environment (no base, shifts and sleep?); salary/reward
   a. Upside down Maslow – address the base of pyramid as strong foundations
   b. Consider concierge for staff
   c. Parking – reduced rates / disabled parking for staff not just patients
   d. Access to good/hot food – nohungrystaff.com especially out of hours.

6. Long term organisational and individual plans to acknowledge and manage risk:
   a. **Individual level:** Design and implement all staff psychological health personal development plans to anticipate and prevent stress/burnout, but particularly:
      i. new starters (at all levels of seniority) and newly qualified staff
      ii. jobs with high risk of exposure to trauma
      iii. minority groups at risk of discrimination/exclusion
   b. meaningful, ongoing and regularly revised (not tick box!).
   c. Wellbeing conversations (People Plan)

d. **Organisational level:** multi-level systems approach needed – wellbeing bundles, modelling complexity (case studies and examples, guidelines)
   i. Risk assessment for impact on wellbeing in same way as impact on equality etc., impact of changes in one discipline/profession on another
   ii. Bringing staff from different professions together – e.g. Schwartz Rounds; and networks for health and wellbeing leads within and across orgs to cover different professions/rotation of professions.
   iii. Wellbeing Guardians to hold responsibility for plans with whole board (not just Guardians alone)

7. **Leadership: Identify and nurture future compassionate leaders and support in role**; everyone is a leader – role modelling/senior leaders defining the culture.
   a. Organisational approach to talent spotting
   b. Support
   c. Role modelling job
   d. Prioritising development of skills from student onwards/invest in trainees – long term approach

8. Provide further information on the **'informal' and 'promising' interventions in literature.**

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