

Priorities for research during COVID-19 pandemic and beyond: A UK survey of nurses, midwives and health visitors

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The CONNECT Collaborative conceptualised the study and were involved in the distribution of the survey. Manning and Cooper led the development and analysis of the survey. All co-authors contributed to the refinement of the findings, drafting of the manuscript and approving the final submitted document.

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Short Author Bios

Joseph Manning is a clinical academic nurse with a strong and growing national and international profile within the fields of nursing, paediatric critical care, and clinical academic capacity and capability development. In 2020, he was recipient of a Chief Nursing Officer Gold award for his lifetime leadership and contribution to Clinical Academic Careers and Nursing Research.

Louise Bramley is a senior nurse with a wealth of clinical, research and leadership experience in acute care and healthcare of older people and currently combines research and practice within a large NHS Trust. She holds an Honorary Associate Professor appointment at the University of Nottingham and has been recognised by the NIHR as one of their 70@70 Clinical Academic Nursing Research Leaders.

Jane Coad has a strong background in both arts and nursing, specifically complex and seriously ill health needs in children, young people and their families. She has been instrumental in developing Clinical Academic Research for Nursing, Midwifery and Allied Health Professionals and is current Chair of The Healthcare Professionals Clinical Academic Roles and Career Pathways Implementation Network (CARIN).

Catrin Evans is a nurse and health services researcher with expertise in evidence based healthcare and public health. She is Co-Director of the University of Nottingham's Centre of Evidence Based Healthcare, a Centre of Excellence within the global JBI network.

Kerry Evans is a clinical academic midwife with expertise in perinatal mental health research and maternity transformation. In addition to her NIHR ICA Clinical Lectureship/ Associate Professorship, she works as a project Lead for the Local Maternity and Neonatal System commissioning group contributing to maternity transformation work streams.

Linda Tinkler is a Clinical Academic Nurse and Health Services Researcher exploring the barriers and facilitators to research, experienced at the interface between clinical research delivery and clinical practice. She is responsible for leading the Nursing Midwifery and AHP (NMAHP) Research capacity and capability building agenda on behalf of the Chief Nurse's team at Newcastle upon Tyne Hospitals.

Joanne Cooper has a national reputation for advancing clinical academic career development and successfully leads the development of research and innovation, including career opportunities for nurses and midwives in the Institute of Nursing and Midwifery Care Excellence. She holds Honorary Professorships at the University of Nottingham and Coventry University.

Abstract

Background: The COVID-19 pandemic has had a significant burden on global healthcare systems. Nurses, midwives and health visitors remain critical to the rapid responses and innovative solutions required. Their views, however, on priorities for research is mainly muted, necessitating greater clarity to inform research that benefits patients and families across the life course.

Aims: To identify priorities for research in relation to COVID-19 pandemic and ‘beyond’, as recommended by nurses, midwives and health visitors across the four UK countries.

Methods: A cross-sectional, web-based survey design was conducted (5th May-4th June 2020). In addition to the completion of demographic information, respondents identified up to three research areas important to their clinical care/practice in the context of COVID-19 and beyond. Data were imported for analysis into NVivo 12 (QSR International). Descriptive analysis was used to summarise the demographic variables. Free text responses were analysed using a semantic, inductive thematic analysis approach.

Results: In total 1,296 responses were received from a self-selected sample of predominantly of female, registered nurses of white British ethnicity, located in England and working for acute care providers, providing 3,444 research priority recommendations. Four higher-order themes emerged, (1) New and unknown frontiers; (2) Care and treatment solutions; (3) Healthcare leadership and inclusive workforce; and (4) Emotional and mental health impact.

Conclusions: At a time of significant global uncertainty, the collective voice of nursing, midwifery and health visiting is never more important to inform clinical research. Whilst generalisability is limited by the homogeneity of the sample, this is the first survey to elicit the priorities for research in relation to the COVID-19 pandemic and beyond from nurses, midwives and health visitors in the UK. Novel findings developed through a rigorous analytical approach illuminate areas that require both urgent and long-term attention and provide a platform to direct priority refinement, future research and the basis for evidence translation.

Introduction/Background

In the COVID-19 pandemic the global burden on healthcare systems has increased significantly (Miller et al., 2020). This has resulted in unprecedented changes to the organization and delivery of healthcare at national, system, and organizational levels (Mayor, 2020; Kennedy et al., 2020; Markus and Brainin, 2020; Moreno et al., 2020). Conventional ways in which care has been delivered are being modified to accommodate social distancing, infection control practices, fluctuations to workforce and service capacity, and the demand on critical care resources. While the pandemic has provided a context within which to expedite some long-awaited NHS priorities to improve patient outcomes (Lewis et al., 2020), other policy directives have had largely negative impacts such as older adults living with frailty being disproportionately affected by the virus (O'Neill et al., 2020). In the current pandemic, the demand for critical care capacity rose exponentially, and healthcare workers with these skills were redeployed on mass. This resulted in unprecedented implications for surgical services and those with surgical conditions (Spinelli and Pellino, 2020). Even those awaiting non-essential elective surgery were adversely affected, often choosing to delay due to fear of contracting the virus. It is widely thought that this fear may also result in patients not seeking timely care for conditions that otherwise may have been correctable (Bansal, 2020; Soreide et al., 2020) which may well increase with the continued duration of the pandemic and its associated peaks in prevalence (Soreide et al., 2020). However, the impact of such changes on patients, professionals, communities and society is yet to be fully established.

Nurses, midwives and health visitors are recognised globally as pivotal to healthcare, including effective outcomes for patients and service provision within a pandemic context (World Health Organization, 2020b; The Lancet, 2020; Fernandez et al., 2020). A growing body of research is highlighting deep concerns about the impact of working during the Covid-19 pandemic on the health and well-being of this group. To date it is reported that thousands of health care workers worldwide have died of Covid-19 (Berger, 2021), and there is also evidence emerging of the high levels of psychological stress and burnout being experienced due to the sudden increase in demand and workload caused by the pandemic (Azoulay et al., 2020; Lasalvia et al., 2021; Greenberg et al., 2021).

Consequently, one in five health professionals across the UK have reported that Covid-19 has made them more likely to leave the profession (Thomas and Quilter-Pinner, 2020).

To date, in the United Kingdom (UK) there has been no coordinated approach to capturing nursing, midwifery and health visitor priorities for research during the COVID-19 pandemic, despite the wealth of research activity aimed at establishing the ‘new normal’ that transcends care systems and the life course. Whilst there are examples of research priority setting of specific patient groups, clinical conditions (Zanville et al., 2021) and disciplines (Aroniadis et al., 2020; Bedford et al., 2020; Holmes et al., 2020; Noel et al., 2020; Pareek et al., 2020; Smith et al., 2020), the nursing, midwifery and health visitor voice remains largely muted. Without this information we are unable to map existing COVID-19 nursing, midwifery and health visitor research activity, inform national funding and policy, and direct future research development for health and social care innovation. The limited literature that is known on this topic comprises mainly opinion pieces rather than empirical work (Gunawan et al., 2020; Pereira et al., 2020). To address this situation, the current study aimed to establish the UK nursing, midwifery and health visitor research priorities (across care systems and life course) in a COVID-19 pandemic and beyond into the ‘new normal’.

Methods

A cross-sectional, web-based survey was undertaken over a four-week period (5th May - 4th June 2020).

The survey consisted of six demographic questions (occupational group, part of care system work in, gender, ethnicity, country, and geographical region) and one question requesting the respondent to document up to three research areas deemed important to their clinical care/practice in the context of COVID-19 and beyond. The web platform Jisc Online Survey® was used to distribute the survey.

Consent to participate was implied through completion and submission of the survey. A number of strategies were used to support dissemination and awareness of the survey to promote participation, including utilising the established networks and reach of the CONNECT collaborative members, social media platforms, and mailing out through UK-wide networks (including: National Institute of Health Research 70@70 leaderships groups, and the Council of Deans UK Clinical Academic Role Implementation Network (CARIN)).

Data were imported into NVivo 12 (QSR International) for analysis to be undertaken. Frequencies and percentages were used to summarise the demographic (categorical) variables. Free text responses (which ranged from single words to structured research questions) were analysed using a semantic, inductive thematic analysis approach (Braun and Clarke, 2006). Initial coding of responses for each respondent and generation of themes was undertaken by Manning and Cooper independently. Subsequent discussion between Manning, Cooper, Coad and the CONNECT Collaborative enabled review, revision and refinement of the coding and subsequent themes.

Findings

In total 1,296 registered Nurses, Midwives and Health Visitors, from all four nations in the UK provided responses. Sample characteristics are outlined in Table 1. The majority of respondents were registered nurses (n=1027, 79.2%), female (n=1195, 92.2%), had white British ethnicity (n=1103, 85.1%), located in England (n=1180, 91%), and worked for acute care providers (n=841, 64.9%).

Table 1: Characteristics of the survey respondents

Characteristic (N=1296)	Frequency (%)
Professional Group	
Registered Nurse	1027 (79.2)
Registered Midwife	133 (10.3)
Registered Health Visitor	84 (6.5)
Both a Registered Nurse and Midwife	52 (4)
Gender	
Female	1195 (92.2)
Male	96 (7.4)
Prefer not to say	5 (0.4)
Prefer to describe as:	0
Ethnicity	
African	31 (2.4)
Any other Asian background	13 (1)
Any other Black background	3 (0.2)

Any other ethnic background	7 (0.5)
Any other mixed background	10 (0.8)
Any other white background	40 (3)
Bangladeshi	1 (0.1)
Caribbean	9 (0.7)
Chinese	5 (0.4)
Indian	16 (1.2)
Pakistani	5 (0.4)
White and Asian	6 (0.5)
White and Black African	5 (0.4)
White and Black Caribbean	6 (0.5)
White British	1103 (85.1)
White Irish	36 (2.8)
Country	
England	1180 (91)
Northern Ireland	21 (1.6)
Scotland	68 (5.2)
Wales	26 (2)
Care system	
Acute care	841 (64.9)

Care homes	13 (1)
Community care	171 (13.2)
General practice	42 (3.2)
Other*	229 (17.7)

* To include commissioning, education, research, policy. Percentages rounded to 1 decimal place.

Respondents provided 3,444 responses to questions relating to research priorities set out in the survey. Analysis of free-text responses resulted in the generation of 3,595 codes that were then grouped into 14 themes. Through consultation between Manning, Cooper, Coad and the CONNECT collaborative, the 14 themes were collated into four higher order-themes, that transcended priorities for research during the COVID-19 pandemic and the ‘new normal’ (See Figure 1). Higher order themes included: (1) New and unknown frontiers; (2) Care and treatment solutions; (3) Healthcare leadership and inclusive workforce; and (4) Emotional and mental health impact. These will now be reported in turn.

(1) New and unknown frontiers with local and global reach. Nearly half of all codes (44.7%) related to this higher order theme that reflected the uncertainties emergent from the COVID-19 pandemic and requirement for innovative solutions for now and the future. In this category, 10.8% of codes identified the need for further research into service transformations that have occurred during the pandemic and those required in the ‘new normal’. A large proportion of codes (22.3%) related to understanding the recovery needs and health outcomes of patients and families beyond the pandemic across the life-course. This included not only those that were confirmed or suspected COVID-19, but others with long-term health conditions, critical illness, public health and mental health issues. A further 11% of codes identified the importance of developing effective surveillance and treatment interventions for recovery and rehabilitation post-COVID, impact on COVID specific and non-COVID healthcare service transformation and patient outcomes. A small but noteworthy proportion of codes (0.6%) related to the

role of wider social determinants on health and social outcomes, specifically economic impacts on health and social care services and individual experience.

(2) Care and treatment solutions (24.1%). The themes within this category incorporated priorities for immediate care interventions in relation to both fundamental and advanced aspects of nursing, midwifery and health visitor care service provision (8.8%). Interventions included those minimising missed care, enhancing communication with patients and families, and family centred care across the life course. Patient and staff safety (6.6%) featured as a theme within this category with priorities relating to personal protective equipment for staff and patients, evaluating the safety of modifications to care pathways and services as a result of the pandemic, and managing and assessing risk in an ever-changing context. Four per cent of codes related to enhanced integration and collaborative working across health and care systems and capturing the benefits of system changes for future learning. Furthermore, 4.7% of codes focused on understanding how to maintain normality during pregnancy and the impact on maternal health outcomes.

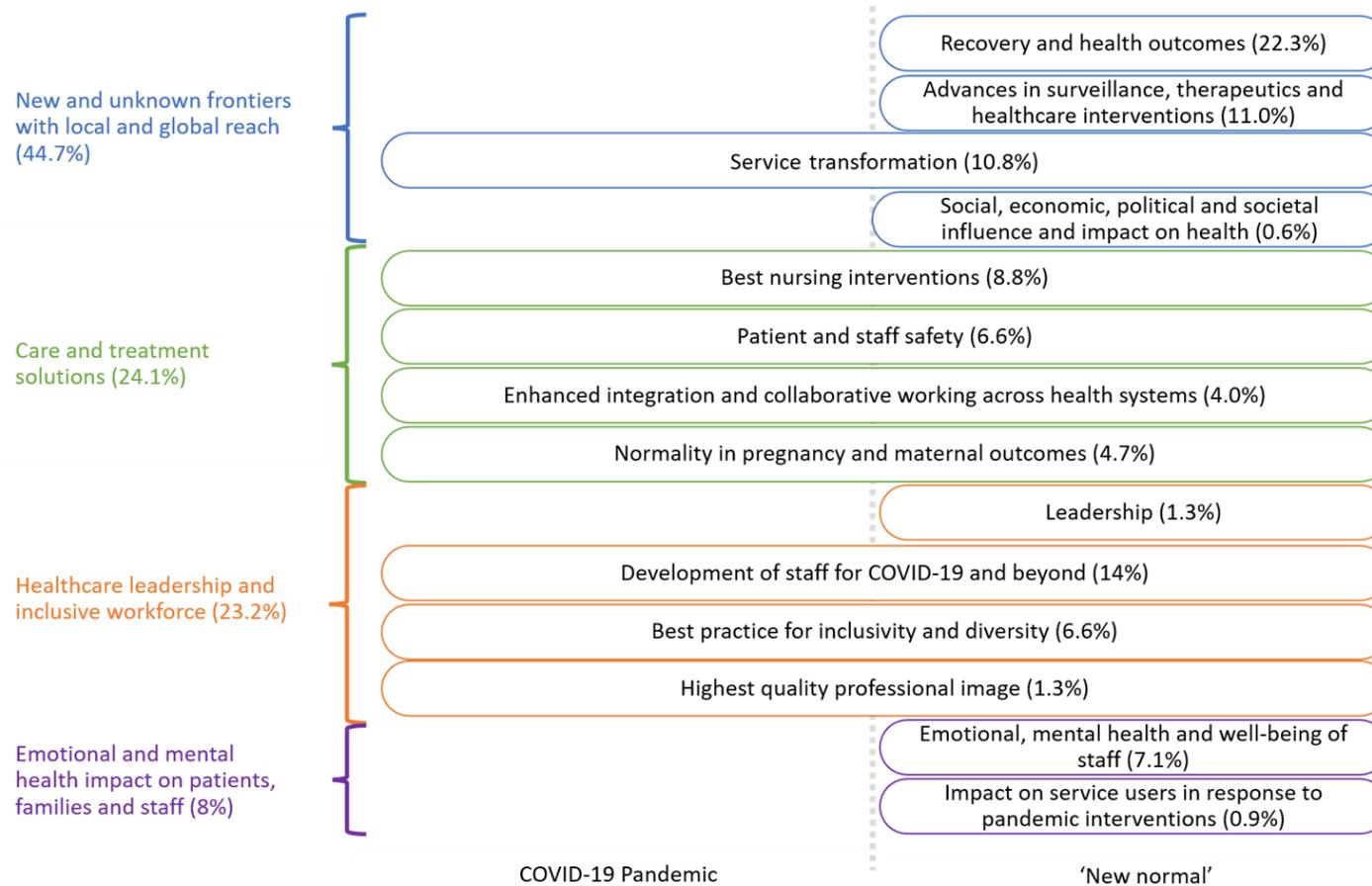
(3) Healthcare leadership and inclusive workforce (23.2%). Priorities within this theme centred on leadership strategies (1.3%) that aimed to maximise safety for diverse cultural needs including ethnicity (6.6%). In addition, priorities for leadership strategies included effective educational interventions, and application of evidence-based practice (14%) to address the uncertainties in current and future care contexts emerging from COVID-19. Respondents identified the opportunities and threats to professional images (1.3%) considering population experiences and their future expectations of care provision by nurses, midwives and health visitors.

(4) Emotional and mental health impact on patients, families and staff. Priorities also related to the role of interventions to safeguard emotional and mental wellbeing of staff (7.1%), patients and families (0.9%) within the current and future context of COVID-19. Other key priorities included protecting vulnerable population groups, acknowledging the impacts of social determinants of health, uncertainties in new service models and the unknown impacts of the virus on clinical outcomes.

Figure 1: Themes of research priorities during COVID-19 pandemic and the ‘new normal’ identified by registered nurses, midwives and health visitors in the UK.



UK Nursing and Midwifery Research Priorities: Covid-19 and beyond



Discussion

This novel national survey highlights the importance of innovation through research for nurses, midwives and health visitors during the COVID-19 pandemic. History has shown us that developing creative and innovative solutions to challenges is fundamental to nurses (Nayna Schwerdtle et al., 2020) and unprecedented system redesign and transformation across care pathways has presented a unique opportunity for innovation in service delivery (Lewis et al., 2020). Understanding the full impact of this rapid transformation and redesign on patient outcomes and health care professionals emerged as a priority to the respondents in this research.

The main theme identified from this survey confirms the importance of understanding the recovery needs, rehabilitation and longer-term health outcomes of those affected by COVID-19. Therefore, as health and social care systems move into the recovery phase and we enter the 'new normal', it is paramount that knowledge is built to inform health and social care policy that reflects the needs of this patient population.

This survey highlighted staff safety as an ongoing concern and priority for focused research, which was particularly in relation to personal protective equipment (PPE) and potential critical shortages. The World Health Organisation agrees that alternative approaches to mitigate shortages of PPE should be based on scientific evidence and principles of safe care delivery (World Health Organization, 2020a). This approach is paramount as concerns about PPE may arise not just because of personal safety issues, but also that of other patients, and transmission of the virus to significant others outside of the workplace (Berlinger et al., 2020).

Key themes from this national survey highlight a range of uncertainties suitable for investigation by research related to the impact of the COVID-19 pandemic response on workforce innovation. Areas include the preparation of pre-registration students and rapid adaptations to the delivery of undergraduate training (Morin, 2020; Usher et al.; Leigh et al., 2020). The move to bring third year undergraduate student nurses, using the title "Aspirant Nurses" into the workforce as paid learners, is yet to be fully evaluated both from their perspective and that of the impact on workforce and patient care. The pandemic response triggered the introduction of temporary, emergency standards for nursing and midwifery

education (Nursing and Midwifery Council, 2020) and the rapid redeployment and re-entry to the workforce of thousands of clinical staff, including various approaches to their education. The recently published NHS People Plan (NHS England, 2020) identified the importance of ensuring the workforce is centre stage and acknowledges the increased pressure under which the workforce has operated during the pandemic. It is therefore imperative that research is undertaken to understand both the impact of innovations in workforce deployment and the benefits, which can be derived and sustained from it, but also to enable learning in practice and help those affected by the pandemic to understand and assimilate their own experiences of the pandemic.

This survey identified that psychological wellbeing and psychological safety is an important area for the sustainability of nursing, midwifery and health visiting services during the pandemic. The percentage of respondents identifying mental wellbeing as a priority area (8%) was perhaps surprisingly low. This may have been a result of the timing of the survey (May-June 2020) when the full impacts of the long-term burden of COVID-19 on staff and patients was still not fully appreciated. Nonetheless, there is growing recognition (West et al., 2020; Maben and Bridges, 2020) and evidence of the negative impact of COVID-19 on stress, burn out and the mental health of the population and the health workforce (Fernandez et al., 2020; Kisely et al., 2020). Additionally, the 'moral injury' suffered by staff dealing with ethical challenges for which they may not have been prepared, alongside the anxiety of being redeployed to areas without adequate training and support adds further complexity to the arena of mental health recovery (Vindrola-Padros et al., 2020; McKenna, 2020). National research funding streams clearly identify mental health as a priority area (National Institute for Health Research, 2020). Nurses, midwives and health visitors are ideally placed to develop and deliver focused psychological interventions to patients and the public. There are many unanswered questions regarding how this can be achieved most effectively in an era where much face-to-face contact has been lost. Likewise, the body of evidence of the negative mental health impacts of the pandemic on the nursing, midwifery and health visitor workforce is building, which necessitate research to promote resilience and wellbeing over the long-term in a context of already suboptimal staffing conditions (Lasater et al., 2020).

Study findings identified four novel over-arching thematic priorities for nursing, midwifery and health visitor research. In order to take forward the research agenda to address these areas, each theme requires further development, prioritisation and discussion with professional leaders, the National Institute for Health Research (NIHR), Research Councils (UKRI) and other relevant research funders. However, the capacity of nursing and midwifery to shape national research commissioning policies or to respond to the identified priorities is unclear. The NIHR and UKRI have already set out a range of broadly defined ‘COVID-Recovery Research’ funding priority themes. These reflect many of the topics of key importance to nursing, midwifery and health visiting practice as identified in this survey. Nonetheless, the list of funded NIHR/UKRI-funded COVID-19 -response and/or recovery studies shows that only one to date is linked to, and led by nursing (‘COVID-NURSE’ study, <http://blogs.exeter.ac.uk/covid-nurse/>) and two to midwifery (ASPIRE-COVID-19, <http://aspire-covid19.com/> and ‘Changing Maternity Care Study’, <https://www.arc-sl.nihr.ac.uk/research-and-implementation/our-research-areas/maternity-and-perinatal-mental-health/changing>).

Priorities identified from this UK study mirrors the wider global situation. The latest ‘State of the World’s Nursing’ Report (World Health Organization, 2020b) highlights three particular areas of concern: (i) ongoing gaps in the evidence underpinning key nursing interventions, (ii) gaps in evidence to inform nursing/midwifery workforce development policies and, (iii) a methodological preponderance of small scale studies that hinder the development of generalisable insights. There are two direct consequences of these ongoing challenges. First, the nursing and midwifery research response to COVID-19 is muted, lacking visibility and impact. Second, there has been a proliferation of small scale initiatives which, arguably, contribute to research fatigue, duplication and inefficient use of resources (Lamb et al., 2020). In a ‘post-truth’ era where ‘alternative facts’ and misinformation are widely circulating (Parmet and Paul, 2020), nurses and midwives now, more than ever, need to be able to draw upon accurate, up to date and directly relevant evidence based resources to adapt their practice and address patients’ key concerns. As seen in other areas of evidence-based healthcare (e.g. COVID-END), a nursing and midwifery-led coalition may be required to drive forward and coordinate the urgent research response.

Limitations

Web-based surveys expedite the design and publication of cross-sectional studies that have particular advantage in capturing the views of a large number of participants during the rapidly evolving pandemic (De Boni, 2020). However, the results cannot be generalised to the wider population and, although aimed to include perspectives from all four UK nations, reflected predominant responses from England. It should be noted that this may not be representative of present-day opinions during the evolving situation. The survey findings represent the views of a networked self-selected sample of healthcare professionals during a specific time point. It is anticipated that healthcare professionals' views on priority research areas may change as their learning and experiences develop. The results of this survey are limited due the unknown reach of the survey and the potential for selection bias. While attempts were made to distribute the survey through established research and clinical social media platforms, it is not possible to identify how many potential respondents were reached or to evaluate non-response bias. Most respondents identified as White British (85%), were from England (91%) and worked in acute settings (65%) which may reflect the digital media networks accessed by the study team. Within the UK, NHS, about 21% of staff are from minority ethnic backgrounds and there is evidence of disproportionate mortality and morbidity amongst Black, Asian and minority ethnic NHS staff who have contracted COVID-19 (Cook et al., 2020; NHS England and NHS improvement, 2020). Although Black, Asian and minority ethnic nursing, midwifery and health visitor social media networks were accessed for dissemination, only 9% of respondents identified as from a minority ethnic background. These limitations need to be urgently addressed in future studies, making particular efforts to actively seek and prioritise the voice of minority ethnic background staff members and networks in decision-making and priority setting activities (Royal College of Paediatrics and Child Health, 2020).

Conclusion

At a time of significant global uncertainty, the collective voice of the nursing, midwifery and health visitor workforce is never more important. Research is currently limited, and therefore this first UK survey to capture the perspectives and priorities of nurses, midwives and health visitors during the COVID-19 pandemic makes a novel contribution to the existing evidence base. Findings developed through a rigorous analytical approach illuminate broad areas that have urgent and long-term implications for clinical practice, policy and research. Whilst it is recognised that some of these themes align to the nursing, midwifery, or health visiting domain in relation to scope of clinical practice, many themes identified are commensurate with priorities from other professional groups (Norton et al., 2020; Aroniadis et al., 2020; Holmes et al., 2020; Noel et al., 2020). However, the unique outlook that nurses, midwives and health visitors have through their professional standpoint (e.g. holistic/multidimensional), offers new perspectives that go beyond organ systems or a specific patient group.

Recommendations and implications

We believe these findings provide a foundational framework for discussion and further development of research that accurately addresses the uncertainties present for nurses, midwives and health visitors. These include directing the funding, generation and implementation of evidence during the COVID-19 pandemic and beyond in relation to service transformation and impact on recovery and health outcomes; interventions, patient safety and treatment solutions; healthcare leadership and inclusive workforce support and development; and emotional and mental health impact on staff and patients.

This paper reports the first analysis of the survey data which offers insight as to the global, cross cutting themes from respondents. Further exploration and analysis are warranted to understand and explicate any differences in research priorities across professional groups, geographical regions, and different parts of the health system. Moreover, more targeted exploratory research is required to understand the priorities for those underrepresented in this survey, which may require the adoption of alternative methods for approach and data collection. Lastly, we recognise that the COVID-19 pandemic is not static and the status of the science is evolving at pace. Therefore, it is important that we continue to take stock of the

relevance and importance of the priorities identified from this study. We recommend further refinement and prioritisation of the themes, such as through a formalised prioritisation process, would enable sense checking, revision and development.

However, it is hoped that findings from this study stimulate a global call to action to advance the science for nursing, midwifery and health visitor practice, which transcends care systems and the life course, during and beyond the pandemic. Whilst this survey has captured the perspectives of some nurses, midwives and health visitors from across the UK, the applicability of these findings may be limited to other contexts and health systems. Therefore, there is definite scope for the international community of nurses, midwives and health visitors to identify research priorities for COVID-19 and beyond in order to build an enhanced global picture. From this, commonalities of focus for research can be identified that could strengthen collaborative efforts, as well as align expertise and resources in order to address uncertainties whilst building the evidence base. This is never more current in the international year of the Nurse and Midwife.

Key points

- This national survey highlights the requirement for innovative solutions, now and the future in terms of service transformations and understanding the recovery needs, rehabilitation and long-term health outcomes of those affected by COVID-19 across the life-course.
- Nurses, midwives and health visitors clearly identified the need for improved care interventions to enhance key issues that have arisen in the pandemic, such as communication and safety, and improved collaborative working across health and social care systems.
- Improved healthcare leadership strategies were drawn out including effective educational interventions, and application of evidence-based practice in order to address the uncertainties in current and future care contexts as a result of COVID-19.
- Interventions are required to safeguard emotional and mental wellbeing of staff, patients and families within the current and future context of COVID-19.
- Nurses, midwives and health visitors must be involved in supporting and influencing transformational change in improving staff uncertainties, care contexts and patient outcomes, now and in the future.

Ethical Permissions

This study was classified as a service evaluation and therefore Nottingham University Hospitals NHS Trust provided governance approvals (Ref: 20-218C).

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