Establishing information needs and research priorities in response to the Covid-19 pandemic in the local maternity setting

Dr Kerry Evans, RM, BSc, MA, PhD
HEE / NIHR Clinical Lecturer, Clinical Academic Midwife
Nottingham University Hospitals NHS Trust UK
Institute of Care Excellence , City Campus,
Hucknall Road, Nottingham, NG5 1PB.
Kerry.evans@nuh.nhs.uk Tel: 07596783920

Helen Janiszewski, RM, BSc, MSc
Clinical Lead for Nursing, Innovation and Research
Nottingham University Hospitals NHS Trust UK
Institute of Care Excellence, City Campus,
Hucknall Road, Nottingham, NG5 1PB.
Helen.janiszewski@nuh.nhs.uk

Dr. Catrin Evans, PhD, MA, BSc, RN.
Associate Professor & Director of Knowledge Exchange
School of Health Sciences, University of Nottingham,
B Floor, Queens Medical Centre,
Nottingham NG7 2UH UK
catrin.evans@nottingham.ac.uk

Professor Helen Spiby, MPhil, SRN, SCM
Professor of Midwifery, School of Health Sciences, University of Nottingham.
12th Floor Tower Building
Nottingham
NG7 2RD
Helen.Spiby@nottingham.ac.uk

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Abstract

The purpose of this project was to identify gaps in the current evidence base and to identify research priorities in the local context during the Covid-19 pandemic. This paper reports on the application and adaptation of the CHNRI methodology which follows a series of criteria setting, filtering and

scoring exercises. The views of maternity care professionals, midwifery managers and leaders, women and families were continually sought throughout the project stages. We found the CHNRI methodology to be a useful framework to highlight topics with greater or smaller consensus within a relatively short time frame and with minimal burden to participants. The criteria were defined to focus on research topics where no existing or on-going studies were identified and topics likely to lead to improvements in care with relevance beyond the Covid-19 pandemic.

Introduction

Renfrew et al. (2020) highlight how the severity and speed of transmission of the Covid-19 pandemic has taken maternity care services by surprise causing fear, workforce pressures, frequent policy changes and crisis responses. The two Royal Colleges, whose members are most involved in maternity provision, have endeavoured to provide up-to-date information in the form of rapid reviews, responding to the emergent evidence base (Renfrew et al 2020, Royal College of Obstetricians & Gynaecologists and the Royal College of Midwives 2020). Although such national guidance is welcomed, there is a need to support local response and address the needs of the local community. This project was commenced in response to information and guidance requests received from midwifery practitioners to the Nottingham and Nottinghamshire Local Maternity and Neonatal Service (LMNS) during the Covid-19 (SARS-CoV-2) pandemic. A collaboration project with the University of Nottingham Maternal Health and Wellbeing Research Group aimed to provide a timely response to service requests, locating and evaluating the evidence base around key maternity care questions and focusing future research strategy to address. Across many areas in the UK, there have been restrictions on home birth services, birth centre access, companionship and continuity of care in response to service refocussing, staffing pressures and social distancing policies (Renfrew et al 2020). Such restrictions have impacted local services and have required complex decision making within a rapidly changing context.

Maternity services in the UK are currently in the middle of the second wave of the pandemic and anticipating the social, psychological, and physical consequences for women and families. As Renfrew et al (2020) highlight: well intentioned, intuitive policies implemented at speed with little evidence base to guide decision-making may result in unintended adverse outcomes. However, such initiatives may also result in safe, efficient, and highly valued innovations to inform future care and research activities. There is a need to 1) quickly access and use the best evidence possible to support decision making; 2) capture and disseminate good practice innovations and lesson learnt; and 3) identify and respond to gaps in the evidence base which are urgently needed to inform care. This paper reports our approach to address objectives 1 and 3.

Methods: priority setting

Powell-Kennedy et al (2016) completed a maternity research priority setting project following the adapted Child Health and Nutrition Research Initiative (CHNRI) methodology (Rudan et al. 2008). This method has been used to develop health research priorities for reduction of maternal and perinatal mortality, preterm birth and stillbirths (Chalmers 1991, Bahl et al. 2012). For this project, the team adapted the Child Health and Nutrition Research Initiative (CHNRI) methodology to focus on identifying research priority areas for midwifery care provision during the covid-19 pandemic and beyond. A project team was formed to represent expertise in midwifery and maternal health research, midwifery care commissioning, clinical practice and service users. Stakeholders from LMNS workstreams (midwives and midwifery managers), multi-disciplinary and service user groups and national midwifery organisations were asked to submit their views and feedback on priority topics area. The 15-step process is detailed in table 1. A long list of topics was compiled, which was filtered to identify topic areas which had an existing evidence base or were more focused on service improvements. Recommendations or links to the existing evidence base were reported back to the LMNS workstreams. The next stage involved defining the context to assist in filtering research topics (see table 1, step 2). The project team then compiled the potential research topics in terms of their relevance, significance, and potential future implementation based on five criteria:

1. Answerability (research ideas that are well framed and endpoints well defined; ethical; acceptable; feasible)
2. Novelty (research ideas more likely to generate novel research ideas and where no existing or on-going studies are identified)
3. Effectiveness (research ideas more likely to generate/improve effective health interventions)
4. Sustainability (relevance beyond the Covid-19 pandemic)
5. Equity (consider whether research ideas which will lead to interventions that will only be accessible to the privileged in the society/context, thus increasing inequity)

Following the filtering stages, priority areas were then developed into a series of research questions for wider stakeholder and service user groups engagement via an online questionnaire. The women-facing on-line questionnaire was co-designed with service user representatives ensuring the language was accessible and acceptable for women. Project leaders, service users and local maternity care professionals scored each topic on the five criteria. The project team also considered cross-cutting themes: care in all settings; care for women with complex social needs; sexual / gender identity; ethnicity and culture; communication and consent; empowering women / individualised care plans (RCM 2018).

Table 1: Midwifery research priority setting exercise (adapted from Rudan et al. 2008)	
Step 1	
Selection of project leaders	Project team were selected to represent the interests, vision and expertise of maternity care provision and research in the local area: clinical practice, maternity transformation, evidence-based healthcare and midwifery research.
Step 2	
Project team specify the context to filter the research priorities	1. Population of interest: pregnant women and families or women in the postnatal period 2. Health and wellbeing outcomes: physical health, psychological wellbeing, women's (and families) experiences, women's choice and control 3. Context: midwifery care provision during the SARS-CoV-2 pandemic and extended periods of social distancing 4. Time scale: consider research questions which need to be addressed as a matter of urgency to meet the needs of clinical practice or which will have an impact for future midwifery care 5. Preferred style of investing: consider possible funding streams and expertise in the project team.
Step 3	
Project team discuss criteria for setting	The team discussed the criteria for priority setting and agreed on 5 main criteria with additional cross cutting themes: answerability, novelty, effectiveness, sustainability, and equity.
Step 4	
Project team choose a limited set of the most useful and important criteria	The team considered the long list of topics to identify where the evidence-base already existed, or where research was on-going or planned research in progress. Topics more suited to service evaluation were identified and fed back to the LMNS workstreams.
Step 5	
Project team assess the likelihood that proposed research options will satisfy selected criteria	The team assessed the long list of topics against the criteria. The long list was independently filtered by two members of the team and discussed with the wider team to identify a limited set of topics and questions to progress for further engagement.
Step 6	
Systematically list a large number of proposed research options	The team mapped the topics into research domains and identified potential methods of enquiry. Research questions were then developed from the long list of topics.
Step 7	
Pre-score all competing research options	The project team scored the filtered topics against the 5 criteria
Step 8	
Score research options using the chosen set of criteria	On-line surveys were developed and distributed to healthcare professionals and service users for scoring based on the defined criteria
Step 9	
Calculating intermediate scores for each research option	The findings were calculated as numbers and percentages and ranked in order of the questions/topics with the highest to lowest scores
Step 10	
Obtaining further input from stakeholders	The scores from service users, maternity care professionals and the project team were combined to produce an overall score
Step 11	
Adjusting intermediate scores considering the values of stakeholders	Weighting was applied to the scores against the five criteria and the scores across the different stakeholder group were compared
Step 12	
Calculating overall priority scores and assigning marks	The topics were ranked against the weighted mean across the stakeholder groups and as a total combined score
Step 13	
Performing an analysis of agreement between scorers	A Kappa calculation was not conducted to evaluate agreement between the project managers, service users and maternity care professionals as the items were presented / worded slightly differently for each group (following service user suggestions) and each group had different numbers of individual responders. The difference between mean scores and ratings were presented in a table for final consideration by the project team.
Step 14	
Linking computed research priority scores with investment decisions	This process is ongoing. The project team discussed the selected research priority topics with the stakeholder groups to identify potential research funding streams and assess potential collaboration to develop research funding protocols.
Step 15	
Feedback and revision	Planned future work will involve scoping work to 1) focus research questions where required; 2) tailor questions to a particular funding stream or 3) further develop the research question considering new evidence or changing context

Results

Between May – September 2020, 58 respondents contributed the priority setting project; 27 maternity care workers, 27 service users and four project leads from Nottingham and Nottinghamshire. This includes seven midwives in managerial, leadership and clinical roles who responded to the step-8 priority setting questionnaire. Of the twenty-seven women responded to the priority setting questionnaire, most identified as White British (89%), one woman as Asian, one woman as Black and one woman from a mixed ethnic background. Two women identified themselves to be in a coronavirus vulnerable group. Twenty women had given birth or were pregnant during the coronavirus epidemic. Our goal was to identify eight most highly ranked topic areas to focus future research activity (table 2).

Stakeholder groups identified topics areas relating to the impact on the psychological wellbeing of staff, women and families. This included identifying ways women had accessed services, sought support for their wellbeing and the need to develop interventions to support the mental health and wellbeing of staff, women and families. They also identified the need to capture and evaluate how managers responded to the crisis, the barriers and facilitators to implementing change at pace and assessing various workforce planning initiatives. Identifying midwives' training needs scored highly by maternity care professionals and project leaders which also included the quality of information regarding the correct and appropriate use of PPE. Provision of high-quality, tailored and equitable antenatal education and ways for women to their access maternity records and up-to-date evidence-based information were also identified. The topic of breastfeeding included assessing the impact on breastfeeding rates and exploring the provision of support for breastfeeding women during the pandemic. Supporting women's choice and decision making scored highly with reference to access to continuity of care and choice of place of birth including access to home birth services. The UK Obstetric Surveillance System report (UKOSS, Knight et al. 2020) and emerging data (Esegbona-Adeigbe 2020) have identified women living in areas of deprivation, women of Asian ethnicity and Black ethnic groups are more likely to be admitted to hospital with Covid-19 complications. The local priority setting exercise identified the need to develop maternity care services for women with protected characteristics and develop a greater understanding of the needs of the diverse local population through continued engagement activities and fostering a culturally competent workforce.

Discussion

The CHNRI methodology provided a systematic approach for discriminating between many different research ideas based on pre–defined context and criteria. CHNRI methodology was originally intended to inform investors in research about the strengths and weaknesses of differing research ideas. However, the context and the criteria can be altered to meet the needs of different priority–setting exercises (Rudan et al. 2016). The CHNRI enables a diversity of opinion from individuals with local knowledge and different motivations and interests to be collected quickly and is particularity suited to electronic distribution via emails and digital platforms. We found, in common with other researchers (Rudan et al., 2008, 2016, 2017., Yoshida et al. 2016) that the CHNRI methodology enabled data to be quickly converted into a collective result, highlighting topics with greater or smaller consensus on the defined criteria. This contrasts with other consensus methods such as the Delphi process which seeks informed opinion from experts and often requires background reading, discussions or interactions between participants and multiple rounds of engagement (Rudan et al. 2016). We adapted the CHNRI methods to focus on the diverse needs of the local setting during a specific crisis event. The context, methodological expertise of the team, clarity and equity of the questions, outcomes and impact were considered important aspects to focus future development work. Criteria focused on potential research costs, timescales and funding were not explored as this project was not targeted to specific funding steams. Future mapping work is required to identify relevant funding options to address the topic areas. We also adapted the criteria questions for different stakeholder groups; therefore, levels of agreement could not be statistically calculated between the raters. For example, workforce questions were not presented to the service user groups. The wording of the questions presented to service users were changed to improve the readability following feedback from service user representatives.

The priorities identified broad research domains which capture the needs, concerns and priorities of maternity care professionals and service users post first-wave Covid-19 pandemic in the local setting. The priorities were focused on midwifery aspects of supportive care and workforce needs and experiences. While most substantial research funding is targeted at pregnancy or birth outcomes, the topics identified in this project set out to capture important aspects of maternity care which are currently under- prioritised but impact on the experiences of women and staff (Sakala & Newburn 2014). This does not diminish the need to develop critical management and prevention strategies, as topics where research was on-going or focused on treatment of complications were deemed beyond the remit of the priority project. Local health services are complex systems with different challenges and finite skills and resources for innovation and improvement (Plsek and

Greenhalgh 2001). Recent research strategy has highlighted the need to support local NHS innovation and research activities to address the specific local challenges and address the health and care needs of the local population (NHS England and National Institute of Healthcare Research 2017). Involving the local population in defining research priorities to meet their specific needs, facilitates the translation and implementation of research findings into practice settings.

The priority areas identified have the potential to address the needs of maternity care staff, women and families, and identify ways to maintain access to care and information, promote choice and decision-making and improve experiences of care within current the safety guidelines. Renfrew et al. (2020) caution maternity services against making swift responsive action without assessing the evidence of effectiveness and ensuring quality of care. The balance between protecting staff and maintaining the rights of women must be upheld, and to achieve this the views of staff and women and families must be continually sought and services co-created. Robust national guidance, reinforced at a local level is required to enhance the safety and uphold compassionate care of women, acknowledging maternity as a distinct case when implementing service reconfiguration measures (Birthrights 2020). The topic areas identified by the stakeholder groups require further collaborative development with service users, healthcare researchers and maternity care professionals to focus specific research objectives and to consider the rapidly evolving context in which maternity care is provided and experienced.

Table 2 Combined weighted scores

	Summary of the priority theme	Priority sub-themes	Project team score	MCW score	Service users score	Combined scores
1	Wellbeing of the workforce	Supporting staff and promoting wellbeing	100%	100%	NA	100%
2	Women's mental health and emotional wellbeing	Impact to access / referral to perinatal mental health services	100%	100%	NA	100%
		Effectively supporting women's mental wellbeing	100%	100%	90%	97%
3	Experiences of maternity care leaders	Midwifery leaders experience of decision making	85%	100%	NA	93%
		Barriers and facilitators to rapid responses to service needs	92.5%	87%	NA	90%
		Identifying and evaluating workforce planning initiatives	92.5%	85%	NA	89%
4	Education, information and training	Midwives training needs	100%	83%	NA	92%
		Provision of high-quality antenatal education	90%	75%	87%	84%
		Women's needs from digitally available maternity care notes	82.5%	84%	77%	81%
		Quality of PPE information for staff	77.5%	80%	NA	78%
5	Choice and decision making	Impact on women's choice of place of birth	100%	99%	74%	91%
		Impact on continuity of care	87.5%	89%	NA	88%

		Promoting birth outside hospital setting	87.5%	87%	NA	87%
		Women's choice and decision-making labour and birth	100%	NA	67%	83%
6	Breastfeeding	Women's experiences of breastfeeding / breastfeeding rates and outcomes	100%	100%	70%	90%
		Women's experiences of breastfeeding support	100%	NA	79%	89%
7	Women with protected characteristics	Experiences women with disability	100%	77%	NA	88%
		Experiences women low-socio-economic status	100%	74%	NA	87%
		Experiences of LGBTQ women	100%	57%	NA	78%
		BAME women's experiences	100%	73%	55%	78%
8	Companionship	Meeting women and companions needs	100%	77%	76%	84%

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