Meeting the challenges of midwifery today: a critical analysis of educational requirements for safer childbirth and critical care

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Abstract

This research arises at a time when maternity outcomes in the UK seem to have worsened. The literature indicates that poor outcomes may be due to a lack of knowledge and training for midwives around critical illness during maternity. Research also indicates that such improved education can promote continuity of care for women and babies within the maternity unit whilst ensuring their critical care needs are met, rather than transferring expectant mothers/new mothers to critical care units. This thesis therefore explores the latest literature, key influential documents and the perceptions of experts in the field of midwifery education with reference to maternal critical care.

This thesis uses multiple methodologies: A critical review of the literature identifies key debates/issues surrounding critical care, midwifery practice, and undergraduate midwifery education. Critical Discourse Analysis (CDA) was used to examine policy and guidance documents that have an influential role in shaping the field. The Delphi technique was also used, amongst a range of experts in the field, to explore their views about improvements to the critical care education of student midwives.

This study adds to the existing debates on midwifery education and on caring for women with critical care needs. The findings of the literature review, CDA and Delphi study highlighted gaps in critical care teaching and, what a student midwife should be taught in order to enhance care. The study's results emphasise the importance of a skilled workforce; the need to have critical care nursing knowledge and critical care placements for student midwives; and implications for how key texts may talk about these matters. The thesis concludes with recommendations that HEIs and practice partners need to consider.

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Acknowledgements

I dedicate this thesis to my late mum and dad who instilled in me a love of learning. I miss you both.

My family have been instrumental in keeping me going on this journey and I thank them all so much.

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Chapter 1-Introduction

Purpose of the thesis and motivation to conduct the study

This thesis is about midwifery education in England. It focuses on the education around critical care and safety in maternity services. It is not written with the intention of polarising the professional debate regarding “normality” versus “safety”, but rather to attempt to find a middle ground to add to the conversation. The landscape of midwifery education has undergone many changes during my career and government documents, guidance and policies continue to be published. Better Births (2016) launched a huge programme of work designed to improve maternity services. More recently in 2022 The Ockenden report was published, highlighting the views of many service users on the safety of maternity services. This made salutary reading and added to the debate on education and safety. Some commentators (Titcombe 2024, Roy 2024) blame midwifery education for the failings in the service. The language surrounding “safety” is closely linked to better education of the workforce. Without an appropriately educated and informed workforce the service will remain inadequate. The main focus of this study has been to examine the discourse in the literature and policy documents, as well as views among professionals about midwifery education when pregnancy results in the need for critical care/high dependency care input.

My background as an intensive care nurse, midwife and midwifery lecturer, has led me to a specialist interest in maternal critical care but additionally, the causes of maternal morbidity and mortality in the United Kingdom point to the fact that more may be done to reduce the increasing death rates. The maternal death rate increased to 13.41 deaths per 100,000 pregnancies between 2020 and 2022, according to figures published by the MBRRACE-UK investigation into maternal deaths in the UK. The figure was 8.79 in the period 2017 to 2019. My motivations to conduct this study stem from teaching undergraduate student midwives ‘complex care’ and from following the intense debate surrounding the perspective that considers birth ‘normal only in retrospect’ and for whom childbirth is an increasingly

risky business, and the opposing view that advocates for approaching birth as a normal physiological event.

Educating Midwives

Pre-registration midwifery education in the United Kingdom is regulated by the Nursing and Midwifery Council (NMC) which states the competencies and standards which must be achieved during a midwife's education in order to become registered (NMC 2019a). While graduand midwives are required to be competent to care for women who may have complex *maternity* needs, they may not be suitably prepared to care for childbearing women with highly complex, acute, medical and maternity needs requiring high dependency care (Kingwell et al. 2017). Therefore, additions/improvements to the undergraduate midwifery curriculum may better prepare student midwives for the changing population demographics of pregnant women (CQC 2024).

The education of midwives in the UK has three distinct pathways. An undergraduate three or four year degree programme, a four year master's programme and a two year programme for those students who already hold a qualification in adult nursing. The principal standards for educating midwives are laid out in the Nursing and Midwifery Standards for pre-registration midwifery (NMC 2019a). The standards of proficiency (NMC 2019b) use the terms 'universal care' and 'additional care'. Domain 4 of the standards of proficiency states that at the point of registration the midwife will be able to "'demonstrate knowledge and understanding of pre-existing current and emerging complications and additional care needs that affect the woman". The proficiencies also ask that the midwife "responds promptly to signs of compromise and deterioration in the woman" (Outcome 4.6). This last proficiency is a key element that shapes this research. The professional regulator has set this standard and I interpret it as more than merely "recognising" illness but for the midwife to act, manage and treat appropriately within sphere of competence.

A lack of knowledge and training for midwives in the area of critical illness has been identified in the literature for many years (Skirton et al. 2012, Cooper et al. 2012, Hardy 2013, Schytt and Waldenstrom 2013). This may indicate potentially suboptimal care for this

cohort of women. More recently, Goemaes et al. (2025) explored the education of midwives in Belgium and conclude that an extension and advancement to midwifery programmes is needed to sufficiently arm midwives to meet the challenges and changes they are confronted with. Their research called for curriculum changes to enhance care for women, and to allow midwives to fulfil a more 'autonomous' role than at present.

Undoubtedly the key to reducing or preventing adverse outcomes is the timely recognition and prompt referral of women who are becoming ill. The role of the midwife is about identifying when care needs to be escalated to other members of the multidisciplinary team. The midwife will then provide extra care within this team framework. This is different to when pregnancy is not complex, and the midwife can provide all the care required. The evidence suggests that midwives must therefore be adequately equipped and trained to detect and assist in the care of all women. For example, in a study by Maude et al. (2022) midwives who had been involved in caring for acutely ill women felt under prepared to do this and felt that benefits of complex care education is essential when pregnancy and childbirth becomes complex.

Midwives who have nursing qualifications were perceived by Bench (2007) to be of value when educating other midwives about the care of women requiring critical care. James et al. (2019) also commented on this in their research. This is significant because maternal morbidity and mortality has increased from 8.79 to 13.41 per 100,000 maternities in the United Kingdom from 2017 to 2022 (Knight et al. 2022). There was also some debate in the UK literature 10-20 years ago as to whether undergraduate midwives from a non-nursing background have the necessary skills to recognize ill health in pregnancy (Fraser 2000, Vaughan et al. 2010). In a study by Hardy (2013) it was concluded that direct entry midwives felt disadvantaged in relation to caring for women with high dependency needs and the author calls for the midwifery curriculum to be adapted to address this issue in order that midwifery education remains fit for purpose. This was also suggested in 2011 by Cockerill et al. when they concluded that midwifery training programmes do not provide adequate high dependency care training. This position has not been commented on in recent years, indeed in many other countries across the world the students complete a combined nurse-midwifery programme of study.

The Royal College of Anaesthetists (2011) developed a competency framework for midwives at the point of registration and for qualified midwives who care for women who are ill. These competencies are not necessarily mapped to all curricula as they are recommendations and not requirements of the undergraduate midwifery programme. A further publication in 2018 (Royal College of Anaesthetists) set out guidelines for enhanced maternal care. This document was written in collaboration with the Royal College of Anaesthetists, Royal College of Obstetricians and Gynaecologists, Royal College of Midwives, Intensive Care Society and the Faculty of Intensive Care Medicine. The authors agree that early recognition of critical illness is a challenge for all maternity healthcare professionals, and they call for cross disciplinary education. They also suggest that midwives may benefit from attachments to theatre recovery and critical care areas in order to enhance their ability to recognize deteriorating health and to understand how to intervene appropriately. Although this may not be possible for all students, certainly a "virtual" placement may be useful (Morgan et al. 2024).

While it may be beyond a midwife's role to provide a definitive diagnosis and management of the complexity it is important that midwives gain competence in advanced assessment skills and recognize unexpected changes (Roberts and Ketchell 2012). Boyle and Bothamley (2018) suggest equipping midwives with the skill of heart and lung auscultation in order to promptly detect abnormal symptoms and refer early to an appropriate medical practitioner. I would concur and reason that a midwife is trained with the skills and knowledge to auscultate the neonatal heart and lungs but not the woman's. Traditionally, advanced physical assessment has been viewed exclusively as the remit of the medical profession, however, Hamlin et al. (2023) found that when nurses focus on conducting a systems-based physical assessment, fewer patients are admitted to the Intensive Care Unit and mortality is significantly reduced. Assessment has always been fundamental in midwifery, but the time may now be right for systematic physical assessment to become an integral part of the midwife's role, particularly with regard to high dependency care. This skill would then become part of the formal education of midwives pre-qualifying.

It can be argued that there may not be enough capacity within the midwifery programme to learn about critical illness, but this is a paradox, in that educators are tasked with preparing

midwives of the future (CNO 2010) and contemporary trends for the future suggest this might be a crucial skill for the future midwife. Some may be concerned that if midwifery education becomes more focused on pathology, there is a risk that the discourse of "normality" as regards maternity will not be preserved (McCarthy et al. 2014). A shifting of the 'midwifery model' may then be necessary. This will require a policy shift and may likely be greeted with hostility in midwifery circles. This research will examine the criticality of some of these issues.

It is apparent in the literature that the education and training of midwives with regard to high dependency care is mixed and usually determined by local needs and differences between maternity units (McCarthy et al. 2014). Standards published by Royal College of Obstetricians and Gynaecologists to address this imbalance (Standards for Maternity Care 2008) are now more than fifteen years old and may need revising. The most recent guidance published in August 2018 (RCA 2018) (also seven years old at time of writing) highlights the need for midwives to be competent in the care of the critically ill woman and therefore supports the need for this study.

Contemporary Context

There are increasing numbers of pregnant and recently pregnant women in the United Kingdom who require high dependency or intensive care because of co morbidities and obstetric complications (Royal College of Anaesthetists 2018). Cardiac disease remains the leading cause of indirect maternal death during or up to six weeks after the end of pregnancy (Knight et al. 2021). To put this into context, overall, 211 women died in the period 2017-19 during or within 42 days of the end of the pregnancy in the UK. 20 of these deaths were classed as coincidental, therefore 191 women died in this triennium. This is a maternal death rate of 8.79 per 100,000 maternities as classified by the World Health Organisation 2012. Of these 191 deaths, 36 were due to cardiac disease. Every year more than half a million women die across the world because of complications related to childbirth (UNICEF 2010). In the UK 229 women died in 2018-2020 during or within 42 days of the end of pregnancy (Knight et al. 2022). This is a maternal death rate of 10.9 per 100,000 maternities. In 2017-2019 the rate was 8.8 per 100,000 maternities. Women are

entering pregnancy with preexisting significant mental and physical health disorders. These problems inevitably lead to more difficult pregnancies and coordinated care across clinical specialties is therefore vital (Knight et al. 2017). Consistently, Confidential Enquiries have reported on suboptimal care attributing to maternal deaths (Lewis 2001, Cantwell et al. 2011, Knight et al. 2022). These enquiries are published every three years and collect data about all women who have died in pregnancy up to 42 days after the birth. Clearly this evidence suggests that urgent action is needed to attempt to reduce maternal death in the UK to achieve the proposed reduction of 50% by 2030 (Knight et al. 2017).

Saravanakumar et al. (2008) stated that up to 5% women in the United Kingdom will require maternity high dependency care during or immediately after pregnancy. These figures were published sixteen years ago so we could expect them to have risen in line with more complicated pregnancies. It is generally accepted that high dependency care is a level of care that is between a ward and an intensive care unit. The Intensive Care Society define high dependency care as level 2 care, level 0 meaning the patient can be adequately cared for in a ward area, level 1 care is still on a hospital ward but with advice from the critical care team and, level 3 care is for those patients who require advanced respiratory support (Anandaciva 2020).

Key issues facing midwifery and professional culture in health services

It has long been argued that a midwife is the lead professional in 'normal' childbirth (Walsh 2007). The most commonly cited definition of normal birth is that of the World Health Organization (WHO) from 1996. It requires that labour and birth be 'spontaneous in onset, low risk at the start of labour and remaining so throughout labour and delivery. The infant is born spontaneously in the vertex position between 37 and 42 completed weeks of pregnancy. After birth, mother and infant are in good condition' (WHO 1996). Midwives are educated to promote and support women through normal childbearing, even though some women will become ill or have underlying illnesses.

A further consideration is that midwifery is a distinct profession and although some midwives hold nursing qualifications, many do not (McCarthy et al. 2014). Although

midwives are considered to be experts in normality, they are also the lead professional charged with identifying risk factors and arranging prompt referral to medical colleagues when deviation from normal arises. The Lancet framework conceptualizes this and highlights that *all* women need a midwife whether they require high dependency or intensive care or are low risk (Renfrew et al. 2014). The responsibilities of the midwife are highlighted by the international definition of a midwife agreed by the International Confederation of Midwives and International Federation of Obstetricians and Gynaecologists (ICM and FIGO 2005 updated 2018). One of the standards set by the Nursing and Midwifery Council UK (2019a) is that Higher Education Institutions must ensure that students develop knowledge and skills in the recognition of critical illness. However, there have been suggestions in the literature that midwives are failing to predict and recognize clinical deterioration (Knight et al 2023).

Maternal critical care is an area which appears to have less discussion in the literature than other aspects of midwifery, obstetric and general critical care (Royal College of Anaesthetists 2011). However, there is a developing need to address this issue and to standardise care for women with increasing morbidities. It is apparent from the Confidential Enquiries that there are still a number of maternal deaths associated with sub optimal care (Knight et al. 2022). Maternity units frequently report a significant number of women with acute illness necessitating a level of cardiovascular and respiratory support that exceeds 'normal' practice (Kielty et al. 2023).

In 2008, Simpson and Barker conducted a study examining the role of the midwife and obstetrician in obstetric critical care in one hospital. They extended the role of the midwife to encompass physiological assessment, understanding of the effects of pregnancy on disease, interpretations of and acting on blood results including arterial blood gases and development of guidelines and undertaking audits. Following this role development there were reduced admissions to intensive care and increased patient satisfaction (Simpson and Barker 2008). This was an extension of the qualified midwives' role and has also been successful in other hospitals across the world (Eadie and Sheridan 2017, Kingwell et al. 2017).

Hancock and Hulse (2009) comment that the role of the midwife is constantly evolving in line with advances in medicine and technology. This may also be associated with changes in women's health such as obesity, smoking, heart disease, medically complicated pregnancies and comorbidities; all of which pose a challenge to midwives. Lee (2000) argued 25 years ago that the midwife could no longer only be concerned with 'normal' childbirth as they have to work alongside medical colleagues in providing care for these higher risk women. Hardy (2013) agrees that the traditional view of midwives only being concerned with 'normal' childbirth can no longer be seen as feasible. This is more recently reiterated by the Care Quality Commission in their National Review of Maternity Services in England 2022-2024 (CQC 2024).

The literature and the Confidential Enquiries demonstrate that childbearing women are not always young and healthy and there remains the potential for severe complications (Cranfield et al. 2023). It is essential that these women are cared for by professionals with the appropriate level of education and competency, irrespective if the care is provided in a maternity or intensive care setting (Cranfield et al. 2023). The importance of this type of care in the maternity setting was first highlighted in the Confidential Enquiry into Maternal Deaths 1991-1993 (DH 1996) and the document published in 1999 by Royal College of Midwives jointly with Royal College of Obstetricians and Gynaecologists (Towards Safer Childbirth 1999). It was suggested then that maternity units should be able to provide high dependency care and that a core group of midwives should be trained in this level of care. It may be argued that these women who require critical care would be better served by being cared for within a general intensive care unit but James et al. (2019) suggests that midwives do not think that nurses should be caring for women with obstetric high dependency needs as these women have their own unique challenges. Given this information it seems that the most appropriate place for mother and baby is the obstetric unit. Vercueil and Hopkins (2015) in their editorial, suggest that women with high dependency care needs would be best looked after on a properly staffed and equipped labour ward. However, more recently, Cranfield et al. (2023) suggest that there is no "one size fits all" model and the sick pregnant woman should be looked after wherever there is someone with the appropriate skills to do so. In a smaller unit this may be unlikely that there will be midwives with invasive monitoring skills. Larger maternity units will have a greater throughput of women requiring

critical care needs and should be able to provide enhanced maternal care on the labour ward with midwives. They go on to state that the psychological impact of being in a critical care unit as opposed to a labour ward should not be underestimated. Women have stated that it was their “worst nightmare” to be separated from their partner and newborn baby. This highlights how midwifery practice can alter perceptions and is exactly what Renfrew and colleagues were advocating within the Lancet Framework (Renfrew et al. 2014). Perhaps we need to move out of the past and embrace new opportunities to learn and therefore provide women with continuity of care. The importance of continuity of care and carer was highlighted in the report Better Births (2016) led by Baroness Cumberledge. This publication called upon all maternity services in the UK to ensure that all women had a midwife that is known to them and to ensure safe, multidisciplinary care working across boundaries to make certain women were referred to the appropriate professional rapidly.

The Royal College of Midwives (2022) published the ReBirth project which considered the language of birth and asked over 8000 people what their preferred language to describe birth may be. Their recommendations suggest a more positive, supportive, accurate and inclusive language around birthing and avoiding negative words such as ‘failure’. The project highlights the "Five As" - Acknowledge, Ask, Affirm, Avoid, Annotate - to guide healthcare professionals in having respectful conversations about birth experiences.

There is also media commentary that the use of “normal birth” should be avoided (Titcombe 2015). Most curricula focus on promoting normality according to McCarthy et al. (2014). There is certain irony to this as the Midwifery 2020 (CNO 2010) document asks educational institutions to prepare students to ‘fulfil the care role of the midwife and to combine normality with the reality of the future’. Jeffrey et al. (2017) discuss the wider discourse on ‘normality’. In their study many midwives felt that clinical observations were unnecessary and inconsistent with their view of birth as a natural process. This was a qualitative study using six focus groups. The twenty-six midwives involved in this study relied on instinct rather than clinical judgement. This behaviour was explained as a way to avoid the need to escalate concerns. This is extremely worrying in the light of the Kirkup report into the integrity of the midwifery unit at Furness General Hospital (2015) and the more recent report into maternity services as Shrewsbury and Telford NHS Trust (Ockenden

2022). These reports both highlighted poor clinical knowledge among the midwives, poor working relationships among staff, absence of escalation of concerns in critical cases and grossly deficient responses to adverse incidents. Between 2004 and 2012 at Furness General Hospital there were twenty instances of significant or major failings of care associated with three maternal deaths, ten stillbirths and six neonatal deaths. If the care had been better, then it was expected that thirteen of these cases would have had a more positive outcome (Kirkup 2015). As part of the Ockenden report (2022) a total 12 cases of maternal death were considered by the review team. They concluded that none of the mothers had received care in line with best practice at the time and in three-quarters of cases, the care could have been significantly improved.

Midwives have a long standing historical and social influence in society but also have been exposed to much debate about the biomedical model of care versus the social (normality) model (van Teijlingen, 2005). The social model emphasizes that pregnancy and childbirth are normal physiological life events and that the woman's social role changes to 'mother' (Oakley 1979). In contrast, the medical model shows us pregnancy and birth from a technological viewpoint and regards women as passive patients, normal only in retrospect. My belief is that the social and medical models of childbirth are ultimately incommensurable and also inadequate to the needs of the moment; they focus on quite distinct aspects of childbirth and present their own 'reality'. A model that goes beyond this binary and simplistic view is called for. Padilla et al. (2022) state that "the time is now" for addressing training in maternal critical care, by 'redefining' obstetric critical care education, and offering dual educational pathways that promote both obstetric anaesthesiology and critical care medicine. Such dual foci can move us away from bio-medical versus social model arguments.

In this backdrop, this thesis sets out to answer the following research questions.

Research Questions

- How are student midwives in the UK prepared for maternal critical care? Where are the areas for improvement?

- What can we discern from published literature in this area?
- What do policy documents and publicly available material from authoritative sources reveal about this issue?
- What do experts in the field say about student preparedness and midwifery education in the UK?

The combined answers to these sub-questions ought to reveal how midwifery education may be reformed to suit the needs of current and future populations that use maternity services.

My rationale for examining published literature, policy documents and asking "experts" was that these findings may draw on a wide range of issues related to the research question. These sources were chosen because research literature offers robust, quality evidence of the state of the field; because policy shapes curriculum and pedagogy - what is considered important, and how it is taught to students; because experts in the field, drawn from a range of positions offer experience for different vantage points that allow for important insights on the profession and arising demands. Taken together, they allow for a kind of triangulation of perspectives about the state of midwifery education. Clinical staff, lecturers and professors of midwifery may offer a diverse set of opinions. Asking students their thoughts would explore another perspective, and these may be considerations for future research in this area.

Organisation and Structure of the thesis

The terms "high dependency care" and "critical care" will be used interchangeably in line with the literature.

The thesis is organised in the following structure:

Chapter 2 discusses the design of the study; the theoretical framing includes the influence of feminism and the work of Foucault in underpinning the study.

There is no separate methodology chapter in this structuring of the thesis. Instead, the methodological rationale and design is discussed in each of the next 3 chapters – review of

literature; discourse analysis; Delphi method – followed by the analysis/summary of the findings in each section.

Chapter 3 is a review of the literature including why the review was necessary and a thematic synthesis of the papers and issue of critical care across several health professions, focusing on gaps in midwifery education, confidence and competence, complex needs of women and the traditional role of the midwife.

Chapter 4 considers the findings and analysis of the Discourse Analysis of policy and key documents, and the emergent discourses that impact on midwifery education and practice.

Chapter 5 explores the Delphi study and the findings gathered from the experts' opinions. Experts range from obstetricians to midwives and educators.

Chapter 6 reflects and offers concluding thoughts on the findings of the three segments of this study and discusses the implications and recommendations for the future of midwifery education.

Chapter 2

Design and Theoretical Framing

In this chapter I will be discussing how the perspectives of feminism and Foucauldian power orient this study. The methodological rationale for the literature review, Critical Discourse Analysis and Delphi will be discussed in more detail in chapters 3, 4 and 5 of the thesis.

Theoretical Framework

For the purposes of this chapter the terms conceptual framework and theoretical framework will be used interchangeably in the sense that they both influence perceptions, assumptions of reality and therefore the form of inquiry (Morse 1991). It has been suggested that "good" research is built on a strong theoretical framework (Ravitch and Riggan (2017). It is fundamental to consider how the conceptual/theoretical framework shapes the research and takes into account why the study matters and what form it takes. I have constructed a framework that brings together feminist and Foucauldian (power) perspectives within a qualitative interpretive and reflexive frame, which I explain in the sections below.

The conceptual framework accounts for my "world view" as a midwife, educator and researcher. As a researcher, the importance of self-awareness and the influence I may have on the study needs careful consideration. This reflexivity is described by Foucault as a "technology of the self". This ought to be something beyond an egotistical self-check for any bias in the research process. McCabe and Holmes (2009) discuss reflexivity and emancipation in their study and conclude that Foucault's work on the technology of the self can be employed during qualitative research to achieve emancipatory changes. Using research with specific populations (such as women or midwives) this concept of reflexivity in the Foucauldian sense can be utilised in helping me, as the researcher, to focus on subtle changes in the participants and myself. This use of reflexivity means that I can identify my own views and social position and consider the impact these may have on the research

process. However, reflexivity is more than a control mechanism, it is an acknowledgement of power. It is well documented that midwives have been oppressed, controlled and subjugated throughout history (Williams 1997). Many would say this continues today. Therefore, the emancipatory intention in this study is to elevate the position of the midwife and enhance their professional knowledge and standing in the field.

Design

Given that I wish to explore if student midwives are educationally prepared to care for women requiring high dependency care through an examination of the views of experts in the field, the Delphi Technique is a suitable research methodology. I have also used Critical Discourse Analysis (CDA) as described by Fairclough (1990) to examine the policy and guidance documents that have an authoritative voice on the field. CDA draws on the post structuralist theories of Foucault (1972). Theoretically both Delphi Technique and CDA sit within the interpretivist paradigm (Crotty 2012).

Qualitative research can be interpretivist in nature if it places emphasis on interpretation rather than objective observation (Parahoo 2012). Discourse Analysis is interactive and engages with the text and Delphi Techniques engages with the 'experts'. This thesis considered the fact that individuals or constituencies like the midwifery community, construct their reality and meanings out of situations they are confronted by. Therefore, examining pertinent texts and documents which shape everyday reality, helped me to establish the significant influences behind what it means to be a midwife in the 21st Century. This concurs with the ontological philosophy of possible multiple realities rather than one objective reality that can be measured or established through positivist (rather than interpretivist) approaches. In post structuralism, texts bring forth or contain discourses and are open to different meaning and interpretations, including contestations. The Delphi method is also open to construction of views on reality and acknowledges that participants are influenced by unfolding human experiences. Indeed, the post structuralist view is that "Truth" is not a fixed concept, but instead there may be many "truths" that are prone to constant changes shaped by one's cultural, political, social, and economic position in the world.

Feminist perspectives

Childbirth and midwifery are generally considered to be explicitly gendered, as female physical experiences, and through the position of midwives, as a predominately female profession, as principal care givers. The history of midwifery has had a very long battle between men and women to control childbirth (Donnison 1988). Some may say that this battle was won by men, resulting in the midwifery profession and maternity services constructed and maintained from a male standpoint (Reid 2002). This language of “fights”, “battles” and “campaigns” is a maelstrom of military language and perhaps not entirely fitting for a nurturing event such as childbearing. However, this narrative perpetuates across maternity services and Care Quality Commission inspections often cite “cultural differences between midwives and obstetricians” as unfavourable and combative. (CQC 2022). The growing involvement of men in midwifery care is, at times, told as a series of names: Chamberlen, Smellie, Hunter. These men considered that they transformed the safety of birth with their instruments and lectures and “saved” the lives of women that midwives could not help (McIntosh 2012). This powerful “conflict writing” as described by McIntosh (2012) began with doctors wishing to carve out a respectable and lucrative corner of midwifery practice. James Aveling in 1872 devised a scheme for training and regulation of midwives as subordinates to doctors. He described midwives as dangerous and responsible for high levels of maternal mortality. This conflict writing has endured and Donnison (1988) references the battle for the legal foundations for midwifery and discusses the rhetoric from the 1970’s and 1980’s with the rise of feminism and the demand for re-empowerment for midwives. This struggle between two professional groups has continued to be a powerful influence over the way the story of maternity has been told.

In the 1990’s a further battleground was exposed with motherhood at its heart. This was between women and everything that represented power and control. For women to get the experience of childbirth they wished for, they needed ‘weapons’ to avoid being pushed into hospital birth instead of home birth. The way the narrative of maternity care is told-either midwives forced into suppression by doctors or women forced into hospitals, remains relevant today. There is a sense that midwifery has come to represent a metaphor for the

broader struggles of society, such as race, gender and class. Midwifery through the ages has been characterised as a struggle towards or from the increasing use of technology, the hospital and regulation. The female body has been described as a defective machine and one that requires attaching to a better more effective machine (Davis-Floyd and Davis 1996). Historical facts demonstrate the male domination of women's health by obstetricians who viewed women as reproductive commodities (Oakley 1993). Indeed, terms still in use today, such as, "incompetent cervix", "failure to progress" and "blighted ovum" continue to demoralize and undermine women.

In 1992 Rothman stated that "it is very, very hard to conceptually put back together that which medicine has rendered asunder" (cited by Davis Floyd and Davis 1996 p 315). She crystallised the loneliness of midwives in a world of medicine. Childbirth became divided at the point of midwifery professionalisation in the UK in 1902. A discursive language of power was constructed and articulated in the language of risk (Rothman 2014). Female midwives cared for "low risk" women and "medical men" attended high risk, medialised labours (Donnison 1988). The professional boundaries continue to be debated and there are tensions about the possible erosion of midwifery practice (Spendlove 2018). Therefore, risk can be another way to erode what spaces, identities and powers midwives might have. This is not just about saving mothers and babies. The critical role of the midwife in reducing maternal morbidity and mortality was recognised by Renfrew et al. in 2016.

In the NHS in the UK, 99.9% of midwives are women (NMC 2018). Despite this statistic, UK maternity services continue to be described as a patriarchal hierarchy (Walsh et al. 2015). For example, Yuill (2012) believes that although childbearing is a uniquely female experience, research within maternity care is male dominated, scientific and medical. She suggests that this research is fundamentally sexist in its foundations because.it ignores or side-lines women's voices. Harkness and Cheyne (2019) state that feminism offers a relevant and important perspective for understanding midwifery practice. These authors believe that a gendered analysis enables an understanding of oppressions at the level of society, institutions, organizations, professions and individuals. Midwifery and childbirth are deeply impacted by gender. The current system is predominately hospital based and this has removed childbearing from its social roots. Government reports in 1992 and 1993 began

a sea-change with the introduction of the concept of placing women at the heart of maternity services. Many of the positive changes may be attributed to feminism, from the comprehensive feminist thinkers like Simone de Beauvoir (1953) to contemporary approaches such as maternal sacrifice (Lowe 2016).

In addition, there is a need to look at intersectionality – where matters beyond gender affect certain women. It is clear that membership of certain groups in society may render them more vulnerable and disempowered (Jugov and Ypi 2019). Black women in the UK are 3.7 times more likely to die in pregnancy than white Caucasian women (Knight et al. 2023). In 2022 there was a nationwide study of Black women's experiences of maternity care in the UK (Peters and Wheeler 2022). This study found that urgent work is required to recognise that not all women are equal, and to find ways to allow racially or ethnically marked women to have a positive birth experience.

Foucault – medicalisation and maternity care

Foucault (1979) used the concept of the panopticon (for example, the observational tower in jails) to help understand how surveillance is central to the operation of power. This surveillance Foucault called "the gaze". The person subjected to the "gaze" cannot know when they are being observed or when they are not. Once a subject understands that they may be observed at any time, they become their own observers, turning themselves into "docile" subjects. An increase in surveillance leads to an increase in disciplinary power – both self-disciplinary power, as well as broader sense of acceptance of disciplinary mechanisms in society (Foucault 1982). Relating this notion to maternity care and it can be suggested that when women come into hospital for antenatal care, they are subjected to the medical gaze of antenatal assessment. The panopticon has an architecture similar to that of labour wards. Foucault (1979) talked about "stones making people docile", referring to the architecture of jails.

The practice of placing women's' details on a large whiteboard for all to see is also part of this "gazing". Surveillance may be intensified and made more powerful by technological gazing-tests such as ultrasounds scans and cardiotocographs. All discourses also foster

contestations and resistances. So, the disciplinary power can fray in places and new, resistant practices can emerge either surreptitiously or more visibly. A doctor could potentially walk into any labour room and wield disciplinary power. Strategies for empowering individuals have helped mitigate this "gazing", such as keeping the door closed and use of signs to knock before entering.

Within the medical model of maternity services, the use of disciplinary power by the medical profession is also used to maintain the professional hierarchy between doctors and midwives (Brailey et al. 2017). Midwives are subjected to the "gaze" and disciplinary power of the medical profession. Midwives may be shunned or ostracised by colleagues for not handing over responsibility to the doctors. This leads to midwives becoming "docile" within the existing power structures (Sundin-Huard and Fahy 1999). Poor relationships between healthcare professionals continue to contribute to poor outcomes (Knight et al. 2022). It may be that midwifery is its own worst enemy, in that, it has an inconsistent professional identity. Pollard (2011) found that midwives sometimes challenged established hierarchies' and power, but, at other times reinforced the traditional notions of gender and the medicalisation of birth. This issue of "docility" of midwives was recognised by Bosanquet (2002) when she described midwives working in a "climate of fear" and suggested that in order to be good midwives, student midwives in particular must be "good girls" and be compliant within the medicalised culture of the hospital environment. For Foucault, power and knowledge are synonymous. This can be related to the medical profession, in that, the public accept the disciplines knowledge, and this has the effect of increasing the power of the discipline. Therefore, society decides who has the power that they accept and who is marginalised. Consequently, there are dominant discourses (knowledge) such as medicine and subjugated discourses such as midwifery. Why are midwives seemingly "docile"? This may begin at the university with timetables, set vacations and assessments at pre-ordained times. The wearing of uniforms may serve to depersonalise people and enforce the hierarchy. Simultaneously, some midwives support the letting go of responsibility to the medical model as this frees them from anxiety and worry (Fahy 2007).

The perspectives of feminism and Foucauldian power described above form the critical, conceptual basis for this study. The discourses of obstetrics differ to those of midwifery and

are dominant because they have the approval of society, they talk of reward and punishment (safety, risk or damage) to gain compliance. These persistently recurring issues of safety, power, risk and compliance are analysed by the Delphi study and the Critical Discourse analysis. The research questions relate to the curriculum and teaching of student midwives and the concerns related to safety in maternity services. These concerns cannot be fully explored in isolation and require more in-depth examination of the past, present and future of midwifery.

In the next chapter, I will offer an analysis of the research literature pertaining to critical care in midwifery as this has emerged as the main area of improvement in the evolution of the profession.

Chapter 3

Critical care in midwifery: A review of the literature

This chapter will help to clarify the extent, range and nature of existing literature and research on the subject of critical care education, primarily in midwifery. It will identify the evidence already in existence regarding critical care in undergraduate midwifery teaching whist exploring how other healthcare professions have developed critical care skills in their learners. Key concepts will be clarified and any gaps in the literature identified. I originally conducted a scoping review in my study, and have since updated/revised that review here, to include newer citations and material that is relevant to my study.

Critical care in midwifery is an emerging concept and is rapidly developing, with notable advancements in recent years. By that token, this review will not seek to answer specific research questions or assess the quality of the evidence but rather identify literature that currently exists on the subject and provide an overview from a wide range of resources such that we see an overarching map of research on critical care education here. This chapter sets out a brief rationale for the initial scoping review and its methodology. It then sets out the methodology for the overarching mapping exercise that combined findings from the original scoping and the later literature reviews. The chapter will then discuss in detail, the 4 main issues that cover the field: the traditional role of the midwife, changing demographics and specific populations, education and training and other health care professions. The chapter will conclude with a brief discussion of strengths and limitations of this review.

Rationale for the initial scoping review

At the start of the study, I undertook a scoping review based on the rationale that Davis et al. (2009) suggested: that scoping studies may be particularly relevant where there is emerging evidence. Khalil et al. (2016) also suggest that scoping reviews are of particular use when a body of literature has not yet been comprehensively reviewed or is particularly complex in nature. As this was felt to be the case with critical care and critical care education in relation to midwifery, this was my starting point.

A scoping review was also chosen for this study as it tends to address broader subject topics and is less likely to seek to address very specific research questions and not to significantly assess the quality of the included studies (Peters et al. 2015). For a novice researcher, this also felt useful as a starting point. Therefore, the review did not seek 'best evidence' but instead, identified the literature that currently existed on the topic and reported on the studies most relevant to identify gaps in knowledge (Mays et al. 2001) relating to critical care education in midwifery.

While scoping reviews employ a systematic search of the literature, the method is not restricted by study design and therefore includes grey literature and all types of resources (Cooper et al. 2019). Scoping considers wider conceptual issues and a broad range of research compared to the traditional systematic review. In general, scoping reviews are commonly used for "reconnaissance" to clarify the definitions and conceptual boundaries of a topic or field (Khalil et al. 2016). Davis et al. (2009) previously also used the term "reconnaissance" to describe scoping studies and suggested that the main strengths of them lie in their ability to "extract the essence of a diverse body of evidence giving it meaning and significance". They put forward the idea that scoping studies can be intellectually and developmentally creative. For all these reasons, a scoping review was attractive to me at the start of the study.

I also considered the criticisms that are levelled at scoping reviews. Daudt et al. (2013) for example, condemn the inattention to the quality of the studies reported in the scoping review. There is also concern surrounding the time required to complete a scoping review. Arksey and O'Malley (2005) suggested that scoping reviews could be completed fairly quickly whilst Daudt et al. (2013) claim that a thorough, thoughtful review takes time to complete. Dijkers (2015) comments that if a scoping review is undertaken to map the research in a particular area and identify gaps in research, the quality of the research should be assessed. Assessing quality however, may be defined in different ways. I looked to Munn et al. (2018) who offered a purposeful list for conducting a scoping review which includes ways of maintaining the quality of the review, if not attempting to assess the quality of each study that is included in it:

- To identify the types of available evidence in a given field

- To clarify key concepts/definitions in the literature
- To examine how research is conducted on a certain topic or field
- To identify key characteristics or factors related to a concept
- As a precursor to a systematic review
- To identify and analyse knowledge gaps

Munn et al. (2018) also suggest that a scoping review is the better option if the researcher does not wish to ask a single or precise question and is useful in cases where the researcher is more interested in identifying certain characteristics or concepts in papers and studies. This felt appropriate as a starting point as I adapted elements of Munn's list for my own scoping review.

Peters et al. (2015) make it clear that a scoping review should have a protocol developed at the outset. In order to take into account the criticisms of Daudt et al. (2013) and Dijkers (2015) I have ensured that the inclusion and exclusion criteria are addressed in all evidence and the PCC (population, concept and context) is adhered to. I did not prioritise the quality of each piece of the literature included as I aimed to access a broad range of literature in order to gain as comprehensive and overarching a list of emerging evidence as was possible. The criticisms regarding the necessity to take time to conduct a thorough review is negated by the fact that I was continually monitoring the literature and conducted 4 separate searches with the same search criteria at different points.

I used PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) checklist as the reporting system. This was developed by Tricco and colleagues in 2018. They suggested that although the number of scoping reviews in the literature are increasing, the reporting quality needed to be improved. My use of the PRISMA tool aided the search decision process and clearly details the review at each point.

Why were these reviews necessary?

Critical care in midwifery is a domain that is relatively new and is rapidly developing with notable advancements in recent years. An initial scoping review would help to clarify the

extent, range and nature of existing literature and research and provide the grounding for the subsequent elements of the study (Delphi). The aim of conducting the scoping review was to identify and map the evidence already in existence about critical care and undergraduate midwifery. I then moved forward with finding themes that may be useful to explore in greater depth with a Delphi study, aiding the development of questions to ask the experts. To this scoping review findings, I have added updated materials pertaining to, nursing, medical and paramedic teaching, to seek out any commonalities across these health areas with specific attention to critical care education.

Databases searched in the scoping review: CINHAL, MEDLINE, Cochrane library. A hand search of reference lists was also performed to capture any potential literature that may not have been identified by the database search. These approaches used were to ensure currency, thoroughness, and relevance of the literature review.
Grey literature: Mothers and Babies Reducing Risk through Audits and Confidential Enquiries across the United Kingdom, Better Births-National Maternity Review, Council Of Deans Advanced Clinical Practice Education in England, Royal College of Anaesthetists, Royal College of Obstetricians, Intercollegiate Maternal Critical Care Sub Committee of the Obstetric Anaesthetist Association, International Confederation of Midwives competencies.
For the updated search I used Google Scholar, Elsevier, EBSCO, SCOPUS and the university library data bases. I also hand searched reference lists for any other relevant literature. At this point, closer to the end of the study, I needed to explore how other healthcare professions had developed and educated regarding critical care skills and assessment. I therefore included physicians, paramedics and nurses in the search strategy.
Search terms for the original scoping review:
CINHAL: (student or undergrad* or pre-reg*) N3 (midwi* or nurs*)
"High dependency" or "critical care" or "Intensive care"
Medline search: (student or undergrad* or pre-reg*) N3 (midwi* or nurs*)
"High dependency" or "critical care" or "Intensive care"
Cochrane database: 360 Randomised Controlled Trials**,** further filtered by Pregnancy and Birth**,** 90 Randomised Controlled Trials, Filtered by subject 0.
Search terms for the updated review were interchangeable and changed depending on how many papers were identified. The search terms for the updated review included "critical

care skills", "critical care assessment", "critical care education", "paramedic education", "history of paramedicine", "pre-hospital care", "critical care paramedics", "maternal critical care", "severe maternal morbidity", "education and skill acquisition", "confidence and competence". I also searched the reference lists of the articles retrieved.

The updated search was limited to the last five years as I wished to examine what had happened to this area of practice since COVID-19, coupled with the fact that the original scoping review covered the years 2010-2020. In any approach to literature searching Aveyard et al. (2016) comment that it is never completely possible to know when to stop searching. This is a judgement call. The selection of the papers must be defendable. Therefore, it must be clearly and logically thought through. I trust my rationale for the reviews included in this thesis evidence such thinking.

Inclusion criteria

To include all papers, including qualitative, quantitative, mixed methods, commentary pieces and national reports and guidance from 2010-2020. However, the literature was revisited in 2024 and papers from 2020- 2024 then considered and reviewed. Several high profile reports were published during this time frame and are considered as part of the discussion. Over the last ten years there has been an increasing focus on managing critical illness in midwifery. Prior to this it was not as much of a priority. Papers were included if they addressed any aspect of high dependency care in midwifery, education of nurses or midwives in high dependency/critical care, advanced clinical practice in nursing and midwifery and obstetrics, clinical assessment of critically unwell patients/women, education of student midwives with regard to critical illness. In the subsequent review, education of other healthcare professions in critical care was also included.

Papers written in English.

Papers from United Kingdom, Europe, USA, Australia and New Zealand.

Exclusion criteria:

Papers not written in English. The rationale for this is that I was looking for papers from parts of the world with similar healthcare systems that will be easier to compare with UK maternity services.

Papers from African or Asian or South American countries as their health care systems do not reflect those in the UK.

Papers not exploring critical care or high dependency care

Findings

The original search strategy for the scoping review located a total of 2408 citations. After the removal of 16 duplicates and 2347 irrelevant citations, full text of 45 papers were read to determine relevance to the inclusion criteria. The irrelevant citations were removed because of several issues- title not relevant to research question, this related to the fact that many titles contained unconnected content (such as "How can family centred care be improved to meet the needs of parents with a premature baby in neonatal intensive care?"), content not relevant, not written in English, papers from countries in exclusion criteria. Following this, 29 papers were discarded. A total of 16 papers are included in the original scoping review. This search strategy is reported in a PRISMA flow diagram. The majority of the studies were qualitative in nature but quantitative studies, mixed methods studies, discussion pieces, guidelines and relevant reports were also included. This fits with the philosophy of a scoping review to not exclude papers on the basis of methodological quality/criteria but rather examine the breadth of the literature. The results of the original scoping review were set out as map in tabular form and the description of the studies set out in a data extraction table. This representation of results is recommended by Peters et al. (2015). The updated findings from the subsequent literature review are amalgamated within the analysis from the original reviews. This amounted to a further 88 papers being reviewed. These papers included commentary pieces, published guidance and original research.

Thematic synthesis of the papers

Thematic analysis is one of the processes of identifying patterns or themes within qualitative data (Maguire and Delahunt 2017). There are several ways to approach thematic analysis (Braun and Clarke 2006, Thomas and Harden 2008, Javadi and Zarea 2016). However, I have chosen to follow Braun and Clarke's six step framework because it offers a clear, useable structure and is commonly used in the social sciences. Braun and Clarke (2006) state that here are no hard and fast rules about what makes a theme but rather a theme is characterised by its significance. These authors (Braun and Clarke 2006) go on to comment that a particular theme does not need to be present in all the data. Researcher judgement is necessary to determine what is a theme. It is important that the theme captures an importance in reaction to the research question. I have therefore used a theoretical approach and provided minimal description of the data itself but rather a more detailed analysis of aspects of the literature that relate to the research question. Following reading and re-reading the literature selected by the scoping review and the updated literature, I then went through and coded significant features of the literature. I collated the codes into themes and analysed the specifics of each theme to refine them. This followed the six steps described by Braun and Clarke (2006). These steps are, familiarising yourself with your data, generating initial codes, searching for themes, reviewing themes, defining, and naming themes and producing the report. I reconsidered the original themes to allow for the information gleaned from the updated review. 4 main substantive themes emerged and are discussed hereafter. They were: "Traditional" role of the midwife, changing demographics and specific populations, education and training and other health care professions.

1. **"Traditional" role of the midwife or what is 'normal' for midwifery care** Several of the papers mention the role of the midwife and what may be considered the 'traditional role' (Kingwell et al. 2017, Eadie and Sheridan 2017, McCarthy et al. 2014). Kielty et al. (2023) comment that many midwives in their study did not constitute obstetric high dependency care as "normal midwifery work". McCarthy et al. (2014) state that the midwives' expectation is for the childbirth continuum to be uncomplicated, and midwives are educated to promote normal childbearing, despite

the fact that some pregnant women become ill. It is therefore established that midwives are sometimes required to care for women with pathological conditions. However, if the curriculum for student midwives is re-focused, the underlying 'midwifery model' may be placed in jeopardy. Kingwell et al. (2017) believe that the professional role of the midwife has changed and developed over time in response to the needs of childbearing women and the growth of modern medicine. This has, more recently, been reiterated by the Care Quality Commission (CQC 2024). Midwives are the predominant providers of maternity care and are therefore well placed to provide maternal high dependency care. Kingwell et al. (2017) go on to suggest that the midwifery profession should embrace maternal high dependency care and consider it an extension of the customary midwifery role. Eadie and Sheridan (2017) found in their study that most midwives did not see high dependency work as 'normal midwifery'. Kielty et al. (2023) concur. Participants in both studies perceived nurses as better suited to this type of care or specialist, dual trained midwives.

However, Eadie and Sheridan (2017) go on to comment that further research and training for all staff delivering care in these contexts would be helpful as keeping mother and baby together on a unit staffed by midwives would be of real benefit to women. For example, "you're also trying to put a midwifery slant on it and help her be as much of a mum as she can be…..that's where we sometimes do a better job than the nurses who…haven't got a clue about the baby" (page 4). The participants acknowledged the midwifery role as 'expert' in fostering women's transition to motherhood. Eadie and Sheridan (2017) suggested that midwives need knowledge and skills beyond those required to provide care to well women.

Skirton et al. (2012) concluded that whilst there is a need to acknowledge the importance of normality in childbearing there is a need to include in the curriculum, theory and practice regarding recognition and response to complex situations. More recently, in 2024 a study was conducted by Krawczyk et al. exploring the preparedness of healthcare professionals to respond to severe maternal mortality. The authors included anaesthesiologists, intensive care physicians, obstetricians, critical care nurses and midwives and was a multicentre international survey. This provided a unique international network of healthcare professionals dedicated to

obstetric critical care. The conclusions were that there was limited use of early warning tools and no standardised use of the modified early warning scores for obstetric patients (Knight et al. 2022). The authors also found that critical care facilities were not always available and if they were, they were often inadequately resourced. A challenging aspect of timely care in critical care obstetrics is anticipating critical deterioration (Tucker and Freestun 2024). The authors thus call for appropriately resourced facilities, screening tools and training of staff. Clearly, addressing gaps in provision and in training is crucial to improving patient safety.
Hardy (2013) discusses the traditional view of the midwife and believes that this can no longer be seen as only concerned with 'normal', but midwives need to work alongside medical colleagues to provide care to women who have complications. She believes that the role of the midwife is constantly evolving. The concept of "humanising" childbirth has been discussed in the literature for many years (Romito 1986). This supports the idea that women should be free to make choices in childbirth and control the environment. Perhaps it may be preferable and useful to promote the notion of "humanising" childbirth rather than "normality".
Brady et al. (2024) make the point following their research, that whilst continuity of care post childbirth is important, it is not a core essential and as such, woman centred care could and should be provided in any healthcare setting. Jackson (2017) suggests that there is a clear role for midwives to care for women with complex needs. The recent National Review of Maternity Services in England 2022-2024 concurs with this view and suggests that the Nursing and Midwifery Council review their standards in relation to establishing a minimum national standard for midwives delivering high dependency care (CQC 2024).

2. Changing demographics and specific populations

Many of the reports and papers in the scoping review mention the changing demographics of the maternity population and the increasing clinical complexities of these women (Knight et al. 2016, RCOA 2018, McCarthy et al. 2014, Kingwell et al. 2017). RCOA (2018) also highlight the fact that there has been an increase in the number of women who become unwell around the time of childbirth. They suggest

that this is due to factors including increasing maternal age, increasing rates and levels of obesity and other comorbidities.

UK maternal death rate has returned to levels that have not been seen in the last 20years. The maternal death rate in the UK was 13.4 per 100, 000 pregnancies in 2020-2022. This is much higher than 8.79 per 100,000 in the preceding 3 year period (Knight et al. 2024). There are clear examples of maternity systems under pressure (Knight et al. 2023). Key pressure points are, a rise in the number of women with thromboembolic disease, cardiac disease and the fact that there are still challenges to face in the care of black and ethnic minority women, as they are 4 times more likely to die in pregnancy or following delivery. A similar rise in maternal death rate is evident in the USA (Padilla et al. 2022). Similar to the UK, women in the USA are dying as a result of increasing medically complex pregnancies.

McCarthy et al. (2014) recognise that midwives are often faced with caring for childbearing women who have medical or social complexities, often without possession of the necessary skills and knowledge. Coupled with this, medical and social demographics of pregnant women has changed significantly, with midwives more frequently encountering women with complex needs (Knight et al 2023). Kingwell et al.(2017) noted that in Australia the picture is the same, with growing numbers of Australian women experiencing morbidity during their pregnancies. This is a challenge to the midwifery profession. Healthcare services are increasingly confronted with providing specialist care. Likewise, in New Zealand some women experience severe morbidity and then require an enhanced level of care and more intensive treatment (Eadie and Sheridan 2017).

Lewis (2011) noted in his paper that the care of the acutely ill patient presents a huge challenge for the NHS and significant numbers of patients requiring critical care are now being managed outside the critical care units, on the wards. This means that extremely vulnerable and clinically unstable patients may be placing demands on the staff, who may lack sufficient knowledge and skills to care for them. This was more than ten years ago but more recent evidence suggests that this continues to be a problem. Cranfield et al. (2023) comment that it would be extremely challenging to expect smaller obstetric units to provide critical care and maintain staff competence.

The authors also suggest that larger units may make a success of providing enhanced maternal care in the labour ward.

Ashley et al. (2022) purport that systemic injustice is a threat to sexual, reproductive, maternal and newborn health. The authors suggest that the effects of this injustice are reflected in the high maternal and neonatal morbidity and mortality rates in marginalised communities and underprivileged classes around the world. Midwifery is often put forward as a solution to the inequalities resulting from systemic injustices (WHO 2021). Simply recruiting more midwives (increasing this workforce) may increase access to care and reduce morbidity and mortality. However, Ashley et al. (2022) point out that midwifery cannot offer an effective alternative without fully understanding the roots of the injustice. Midwifery is not outside this unjust world, but part of it.

Maternal mortality is more common in women from ethnic minorities and those living in socially deprived areas. In the UK, there remains a nearly four-fold difference in maternal mortality rates amongst women from Black ethnic backgrounds and an almost two-fold difference amongst women from Asian ethnic backgrounds compared to White women. Twelve percent of the women who died during or up to a year after pregnancy in the UK in 2019-21 were at severe and multiple disadvantage (Knight et al. 2023). This suggests the need for improved identification and recognition of illness in this population and improved service, as they deserve the same level of care as white populations. The need for targeted education to care for these individuals is crucial and adds to the argument for enhanced maternal care for midwives and emphasise the need for a continued focus on action to address these disparities.

Peters and Wheeler (2022) authored the FiveXMore report about the maternity experiences of black women in the United Kingdom. This makes for stark reading. The overall experience of black women in maternity care is one of racial inequality perpetuated by individual clinicians and systemically within NHS maternity service. One of the recommendations made by the authors, for NHS England and the Department of Health, is for universities to ensure that all students of health disciplines have an awareness about the disparities for black and ethnic minority women and ways to improve outcomes. This would include lectures and seminars to

highlight to students the disparities noted in the MBRRACE reports. The authors of the report call for specific training on specific conditions that are more commonly seen in black women, for example, uterine fibroids, sickle cell anaemia, diabetes, preeclampsia, keloid scarring, and mental health conditions.

Black women's experiences in Canada were explored by Boakye et al. (2023) and their conclusions mirror the UK study. Obstetric racism may affect quality maternal care and contribute to poorer outcomes for black women. Black women in this study reported that their care was often dehumanising and lacking in quality. The narrative quotes in both the FiveXMore report and the Canadian study were overarchingly similar. Black women describe being "ignored", "neglected" and "invisible" (Boakye et al. 2023). This therefore results in the failure of healthcare providers to respond in a timely way to their needs and consequently results in increased risk for these women. The National Review of Maternity Services in England 2022-2024 by the Care Quality Commission (CQC) cited significant concerns where both staff and people using the service had experienced discrimination because of their ethnic background (CQC 2024). The CQC recommends that perinatal care for women from ethnic minority backgrounds should focus on preventative measures to optimise outcomes. NHS services have a statutory obligation under the Equality Act 2010 to have "due regard" to eliminating discrimination. Good quality interpreting services may be one way to do this. This would ensure that at least communication is enhanced and that this results in women receiving the right care at the right time, with informed consent and thereby improve health outcomes. This is a recommendation of the report and consistently mentioned in confidential enquiries.

3. Educational preparation; gaps in knowledge and confidence and competence

Most of the papers in the original scoping review discussed education of healthcare professionals to a greater or lesser extent. Skirton et al. (2012) examine the preparedness of student midwives to deliver care by evaluating their education. The findings essentially suggest that student midwives are equipped to work effectively as autonomous practitioners but lack confidence in certain key areas. Participants felt confident with their skills and abilities in normality and caring for women who

were considered to be low risk but felt that the training placed a great deal of emphasis on providing care to this group of women. One participant who was working on delivery suite reported feeling 'physically sick' as she had so little experience in providing complex care. Eadie and Sheridan (2017) had a participant in their study who worried about the lack of training 'for the type of woman we're getting', i.e. those who displayed a much higher dependency than notions of 'normal'.

One explanation of these findings is that contemporary midwives need to be more clinically competent than older counterparts because of the development of medical technologies and the possibility that detection of signs of complications have improved. Other explanations put forward by the authors is that the perception of risk has changed, delivery wards are busier, hospital environments may be more stressful and the chance of making competent decisions in an emergency may be less likely (Eadie and Sheridan 2017).

Severe outcomes highlight the need for awareness and timely interventions in high risk critical care obstetric patients (Tucker and Freestun 2024). Nove et al. (2021) demonstrated that midwives with adequate core competency could effectively reduce the incidence of maternal complications; and in 2009 Hofmeyr had suggested the obverse of this - that a lack of skills and knowledge on identifying and managing critical obstetric situations could lead to maternal death.

In 2019, Edwards et al. reviewed critical care training curricula for doctors across several countries and found that despite the acknowledged need for expertise in caring for the sick obstetric patient, the subject was not well covered in many training programmes and was often lacking in detail. The authors suggest that this may be because maternal critical care is an emerging speciality. Over the last ten years there has been an increasing focus on managing critical illness in midwifery. To have any sort of impact on the maternal death rate, knowledge and skills are essential.

Maude et al. (2022) explored the perspectives of midwives in New Zealand who had completed a post graduate qualification in complex care. The authors asked 90 midwives to complete a questionnaire. This study concluded that post graduate midwifery complex care education is key to improving outcomes for childbearing

women. The midwives in the study recognised that the training improved their knowledge, skills, and quality of their care. This training involved 400 hours of clinical learning experience, addressing several outcomes, including meeting the complex needs of clients, babies and family members when pregnancy, labour and birth become complicated. Although the study was conducted in New Zealand, the maternity care system is quite similar to the UK so the insights may be considered valuable.

Education has an effect on professionals' confidence in themselves. Kielty et al. (2023) investigated how confident nurses and midwives felt about working in an obstetric high dependency unit in Ireland. Only 20.7% of the participants felt they were adequately trained to work in an obstetric HDU. Nurses or dual trained midwives were more likely to feel adequately trained compared to midwives without nurse training. The survey undertaken by Kielty et al. (2023), identified self-perceived deficiencies amongst nursing and midwifery staff in managing critical illness in childbearing women. It also highlighted that 89.5% midwives were interested in critical care training. This finding was of great interest to me and appeared to show a dynamic workforce who were keen to master new knowledge and skills.

Kingwell et al. (2017) discuss midwifery education in Australia and states that it is a source of continuing debate. At the point of registration, a midwife should have foundational knowledge and skills for competent midwifery care. These skills can be equated to a novice practitioner. Challenges exist for continuing professional practice programmes to enable midwives to be equipped with specialised knowledge and confidence.

It is clear from the discussion paper by McCarthy et al. (2014) that these authors consider it is also essential that student midwives are well prepared through the undergraduate curriculum to care for the acutely ill woman. They developed a method of teaching critical care skills to undergraduate student midwives. Lewis (2011) had previously stated that effective and appropriate pre-registration

education can play a significant role in addressing shortfalls in clinician's knowledge and skills; particularly when a patient is deteriorating. His evaluation clearly demonstrated an increase in knowledge, confidence and comfort after undertaking his acute care study day. This concurs with more recent evidence from Zou et al. (2023) who reported on the impact of critical care simulation training on the core competency of Chinese midwives. Whist not directly transferrable to the UK midwifery context, this study offers insight into the future of critical care education. They concluded that scientifically constructed obstetric critical care simulation training courses could improve the core competency and satisfaction of midwives. Certainly, other healthcare professions have also found that simulation training greatly enhances learning (Kumar and Ameh 2022, Verkuyl et al. 2024). Kumar and Ameh (2022) explored effective undergraduate training for doctors and midwives and extolled the value of simulation in training doctors and midwives as well as the importance of interprofessional learning and fostering respect for interprofessional teams.

Eadie and Sheridan (2017) concur with earlier work, but their study was conducted in New Zealand. This study consisted of focus groups with sixteen midwives who worked in an obstetric high dependency unit. These midwives stated that they required more training to work in that environment and needed more knowledge and skills to care for women with more complex needs. Some of the participants in this study voiced that they felt fearful of doing harm to someone if they took action or by taking no action and perhaps failing to recognise when a woman was becoming seriously ill.

Kingwell et al. (2017) highlight the need for maternity high dependency care and midwifery education and, following their literature review, state that there are considerable deficiencies within the clinical practices of healthcare professionals, midwives specifically. More recently, Cranfield et al. (2023) acknowledged that recognition of critical illness in obstetric patients can be challenging and the use of Early Warning Scoring systems may support an accurate diagnosis.

McCarthy et al. (2014) identified a deficit in student midwives regarding the recognition and action in relation to deterioration of a previously well mother. These authors acknowledge that there is a gap in the curriculum. Their research sought to

close this recognised gap with extra training of critical care skills in the undergraduate curriculum. The National Maternity Review (CQC 2024) also recognised this gap.

The MaCriCare study (Krawczyk et al. 2024) did not explore training needs of staff but rather focused on how resource-prepared obstetric units are to manage critical illness. Krawczyk et al. (2024) considered gaps in care provision of obstetric patients with severe maternal morbidity. Their research was a multi-centre cross sectional study across 26 European countries. They did indeed find that disparities in care provision meant that patient safety was potentially compromised. Use of pregnancy-specific assessment tools to aid management was also variable across sites. By identifying these variances, the study aimed to stimulate discussion and drive action to improve the safety of women requiring critical care. Prompt recognition and management of critical illness is paramount, however, even in high resource settings, challenges can emerge if services are lacking. The Association of Anaesthetists and the Obstetric Anaesthetists association provide a suggested equipment list for a maternal high dependency unit (OAA 2023). Additionally, the UK Intensive Care Society specifies key equipment for the Intensive care unit to have if a maternity patient is admitted (ICS 2022).

Eleven of the papers in the original scoping review commented on confidence and/or competence of staff caring for patients with complex needs (Skirton et al. 2012, Hardy 2013, Eadie and Sheridan 2013, Scholefield et al 2011, Schytt and Waldenstrom 2013, Lakanmaa et al. 2013, Gallagher et al. 2011, Halcomb et al. 2011, McGaughey 2009, McCarthy et al. 2014, Lewis 2011).

Skirton et al. (2012) found that newly qualified midwives lacked confidence in key areas. Specifically, the areas that created the greatest anxieties were a lack of confidence in carrying out procedures and a perception that they would like more time to practice midwifery skills in a safe setting. Midwives described feeling competent and knowledgeable in some areas of practice, but the lack of confidence led to feelings of inadequacy. Successful handing of key events, such as delivering care to low risk women, reinforced confidence. These findings by Skirton et al. (2012) are echoed in a more recent study by Gabriel et al. (2023) who found in their

study that newly qualified midwives felt under prepared and unsupported. When it came to care for women in high-risk situations the midwives felt 'slow and awkward'. The midwives indicated in the study, that they were frustrated with their own speed when moving from 'novice' to 'expert' (Benner 1984). Gabriel et al. (2023) go on to state that supportive mentorship for newly qualified midwives is essential.

Renfrew (2021) suggests that the scaling up of care by midwives must now be global priority. Mary Renfrew had previously launched the Lancet Framework (2014) exploring the evidence that reminds us that educated midwives have the potential to save lives. Seven years later she continues to publish on this matter and calls for midwives across the world to be educated to international standards and this would be a powerful solution to ending preventable deaths of women and newborn infants.

Eadie and Sheridan (2017) conclude that midwives must be competent to work in an obstetric high dependency unit and they need specific knowledge and skills to do this. More recently, Adnani et al. (2025) explored what was necessary for midwifery students to develop their confidence and competence. Each midwifery student must develop self-confidence and competence before registering as a midwife and entering midwifery practice. These authors concluded that although competence can be gained through acquiring knowledge and skills, participating in research, undertaking clinical and simulated practice and engaging in independent learning, self-confidence came following the attainment of these things.

The International Confederation of Midwives published an updated set of competencies for midwives (ICM 2024), in which they state that all midwives should be able to:

"Implement critical care activities to support vital body functions (e.g. intravenous (IV) fluids, magnesium sulphate, antihaemorrhagics)" page 33.

In addition to the debate concerning competence, many of the papers in the original scoping review were concerned about lack of confidence among students approaching registration (Gallagher et al. 2011, Lewis 2011, McCarthy et al. 2014, Eadie and Sheridan 2017, Halcomb et al. 2011). Gallagher et al. (2011) concluded that, following introduction of a two-day critical care course, 89.6% participants

agreed that their confidence was improved when caring for critically ill patients. Although this is hardly a surprising finding, the students valued the opportunity to practice skills in a safe environment as many of them would not have a critical care clinical placement whilst training. The simulation increased competence and thereby resulted in increased confidence. The authors also went on to suggest that in order to achieve 'deep' learning and retention of confidence that a period of clinical placement would be advised. Halcomb et al. (2011) used a nine-point confidence scale and interest in critical care nursing to examine preparedness to work in a critical care environment. They used a cross-sectional survey design and analysis was quantitative. The researchers concluded that while many student nurses wished to work in a critical care unit, those that had had more than one week of clinical placement in the area demonstrated a higher level of confidence. The competencies and training for intensive care nurses have come into sharper focus since the COVID-19 pandemic, which required an exponential increase in critical care skills. Santana-Padilla et al. (2022) point out that training enhances both competence and confidence. This was also the conclusion of Baxter and Edvardsson (2018).

In 2009 McGaughey discussed confidence and competence in regard to knowledge and skills in managing deteriorating patients. She designed a module to be delivered to third year undergraduate student nurses to focus on the early detection and management of acute deterioration in patients. McCarthy et al. (2014) also address perceived problems of competence and confidence with the introduction of a study day focusing on acute illness management. These authors do not include an evaluation in the paper but call for the Nursing and Midwifery Council to explicitly include skills in managing acute maternal illness in the pre-registration midwifery education standards. More recently, Zou et al. (2023) evaluated the effects of a 2 day obstetric critical care training course for midwives. After completion of the training the core competence of the midwives had significantly improved. The midwives described being highly satisfied with the training.

4. The evolution of scope of practice and skill acquisition across healthcare professions

In this section of the literature review, I look at other healthcare professions which have faced similar demands to improve the competence and critical care skills of their workforce, with a view to comparing this with midwifery. I look specifically at paramedicine, medicine and nursing.

Paramedics have an ever-expanding repertoire of needs-led treatment and management. They are autonomous practitioners who have the knowledge, skills and clinical expertise to assess, treat, diagnose and administer medicines, manage, discharge and refer patients in a range of urgent, critical emergency or out of hospital setting (College of Paramedics 2015). Hence it is worth reviewing the ways in which paramedicine has dealt with the issue of critical care education of its professionals.

In the United Kingdom, paramedics emerged from the "ambulance men" of the 1970's and their training was focused on techniques to assess and treat coronary artery disease, cardiac arrest and traumatic injuries (Briggs et al. 1976 and Baskett et al. 1976). Skip forward 50 years and paramedics are providing advanced prehospital critical care techniques such as cricothyroidotomy (Aldred et al. 2022). This is in line with the ever-increasing needs of the NHS. Rather than merely providing patient transportation to the nearest emergency department, paramedics are equipped to provide comprehensive care at the location of the call (Eaton 2023). Jansson et al. (2021) suggest that when paramedics with advanced skills are assessing and treating at the prehospital stage, then unnecessary transports to emergency departments are avoided, leading to both reduced suffering and wise use of existing resources. Paramedics made this transformation in a similar way to midwives, that is they moved from a "learning on the job" role to a university educated role (HCPC 2021). Kleinpell et al. (2021) considered interprofessional practice in the intensive care unit and how this had evolved over the last 50 years. The collaboration of doctors, nurses, respiratory specialists, pharmacists, and physician assistants has resulted in shorter lengths of stay of patients. It is widely discussed about the suitability of

midwives working in general intensive care units or conversely whether critical care nurses could work alongside midwives in the labour ward.

The burden of critical illness is a global issue that is also felt across all the health care professions. Santesson et al. (2024) support the need for more training for healthcare professionals to identify and manage patients with critical conditions in ward areas. This may prevent admission to a critical care unit and improve the prognosis of the patient. Gaining competence in critical care skills is a complex process and is affected by many factors. Kolb (1984) suggests that learning is best achieved through experience and reflection. Clearly, in order to maintain skills, the practitioner would need to repeat them regularly as well as reflect on this experience. A mandatory annual update such as the PRactical Obstetric Multi Professional Training (PROMPT) course follows (Winter et al. 2017), may be appropriate for some of the critical care skills. Interprofessional simulation-based training seems to increase confidence and competence (Lugo et al. 2021) and provide good opportunities for improved team functioning (Buljac-Samardziv et al. 2020).

When we look at nursing, Segnev (2022) shows how the development of critical care nursing was linked to nurses on the battlefield in warzones being convinced that they could provide better care for the wounded with expanded roles and responsibilities. Generally, critical care nursing education is a special post qualification education. NHS England (2023) issued guidance for workforce considerations in adult critical care and suggested that staff should be suitably trained. The document asks that all critical care nurses are trained and competent to care for level 3 patients. The authors of the guidance do not offer any recommendations for the type of training they would require. However, the Faculty of Intensive Care Medicine offer advice and training forums for doctors, nurses, paramedics, pharmacists and physiotherapists (ficm.ac.uk).

Padilla et al. (2022) call for a standardized training for physicians in obstetric critical care as this population of patients are increasingly complex and require a unique focus on altered physiology and pharmacological principles. Given that invasive monitoring with arterial lines has been reported to be as high as 5% on delivery units

(as opposed to critical care units) in the United Kingdom, it would seem a sound recommendation (Knight et al.2020).

Coming back to midwifery, in the United Kingdom, the newborn infant is routinely examined by the midwife soon after birth (NICE 2006). An additional, more detailed examination is carried out within 72 hours of the birth. This was traditionally completed by a doctor. This Newborn Infant Physical Examination (NIPE) is now part of the undergraduate midwifery training (NMC 2019). There had been some persuasive arguments that NIPE should be included in the undergraduate midwifery programme (Blake 2012). The NIPE is an extremely detailed assessment looking at the back of the infants' eyes, listening to chest and heart sounds and recognising any abnormalities with the hips and genitalia (NICE 2006). If student midwives are taught these expert skills, then it seems reasonable to assume that they should also be taught to examine the woman in a more detailed way, given that more women are becoming ill during pregnancy or embarking on pregnancy with underlying medical conditions (Knight et al 2024).

Eadie and Sheridan (2017) had identified that midwives with adequate high dependency care training were well placed to provide care to these women on an obstetric unit. The authors also acknowledged that an obstetric high dependency unit can promote keeping mother and infant together. Eadie and Sheridan (2017) had also documented the voices of midwives with one stating that “I’d love to be better at listening to lungs and chests and all that basic nursing stuff”.

Paramedics, nurses and midwives can all follow a master’s degree route to becoming Advanced Clinical Practitioners (ACP Framework). This was something that nurses, midwives and paramedics may not have thought possible at the start of the professions’ history. The history of midwifery has been one of “fighting” to gain professional recognition. Some may say this continues today (Toll et al. 2024).

Higher competence of healthcare practitioners is associated with improved quality of care and a reduced proportion of complications (Aiken et al. 2017). The Care Quality Commission (CQC 2024) called for the Nursing and Midwifery Council (NMC)and the Royal College of Obstetricians and Gynaecologists to establish a minimum national standard for midwives delivering high dependency care and for

the NMC to review their proficiency standards for midwives. This recommendation presents a huge step forward for midwifery and one that this thesis also advocates. There are, however, critics of the proposal and the NMC and the Royal College of Midwifery have stated that high dependency care is only for the post registration space, and that they will not be changing their proficiencies or stance (Personal communication with Chief Midwifery Advisor at the NMC, November 2024).

Discussion

This scoping and updated literature review aimed to discover what literature exists about whether student midwives are adequately prepared to care for women with high dependency needs and what evidence is there in other health care professions for the development of critical care skills. The initial search offered almost 2500 papers for consideration. Using criteria supported by the evidence base in scoping reviews (Peters et al. 2015), this number was vastly reduced. Of the sixteen selected studies, the majority were conducted in the United Kingdom. All the studies were published in a ten-year period (2009-2019). Further reviewing was conducted in 2024, using the search terms above and several other databases, which resulted in a further 88 papers to include. Additionally, government documents were published following investigations within maternity services (Ockenden 2022, Kirkup 2022). These documents were read, and the contents explored considering the research questions.

The participants of the studies in the scoping review were generally students of midwifery or nursing but some of the study participants were qualified midwives and doctors. The updated review included other healthcare professionals such as paramedics. Research design was varied in the included papers. A structured process was used, and the results demonstrate that there are some gaps in the knowledge base and in practice, about midwifery and critical care. Using a thematic approach to the analysis of the papers focused the review into pertinent areas of consideration. The coding of the data prior to development of the themes followed an interpretative model as described by Braun and Clarke (2006). The thematic analysis provided a framework for further analysis and consideration of how the themes related to each other. I reconsidered the themes following the updated review and grouped some together.

It is not particularly clear in the literature and papers reviewed but there seems to be an underlying sympathy with the fact that midwives providing critical care to women are also ideally placed to provide the crucial psycho-social aspects of care that are required by women and their families. This is an emerging area of evidence in terms of research as highlighted by this review. Although this has not emerged directly from the literature reviews, other authors (Pitson 2019) discuss the importance of midwifery support for critically ill women and thus allowing for the improved likelihood of mother and baby staying together whilst receiving high dependency care. This was my main motivation for conducting this research. The implications for this model of care could be extremely significant, not only to maintain a degree of normality but to preserve infant bonding and emotional well-being whist also retaining critical resources for other patients.

Midwives, in my view, are undoubtedly in the ideal position to implement this philosophy of care, if their education spans the entire risk continuum. This opinion has limitations - if this is not acknowledged by obstetricians as a possibility, there may be reluctance, especially if not communicated effectively. The autonomy of midwives in the hospital setting may be difficult with the increasing risks of interventions and the philosophical views of obstetricians (Prosser et al. 2018). The continuous care by a midwife is a birth strategy but if the midwife has less and less autonomy this may not be effective.

In the UK in 2023 there were 41,716 midwives. It has not been possible to find out how many of these are also nurse trained. The impact of direct entry midwives will mean that most midwives will not have a nursing background. Eadie and Sheridan (2017) noted that most of the participants in their study felt that midwives who had trained as nurses first were better able and more skilled at providing high dependency care. The nurse trained midwives in the study stated that they relied heavily on their nursing knowledge and skills. There is currently not a high volume of studies to suggest one way or the other at present.

Confidence and competence were highlighted in many of the papers in this review. Consideration of the difference between the two issues requires further exploration. However, the regulator, The Nursing and Midwifery Council require a standard level of competence for all qualifying midwives (NMC 2019a). At the present time, this does not extend to high dependency skills. However, the National Maternity Review (CQC 2024) call for the NMC to review the proficiencies for undergraduate student midwives and consider including high dependency care. Many participants in the studies examined stated that they

did not feel competent to deliver high dependency care to critically ill women. Padilla et al. (2022) commented that many training programmes had not kept pace with technological advances in medicine.

This may also be related to the theme regarding **complex care and changing demographics.** The Confidential Enquiry highlights the fact that more women who may have been born with serious medical conditions are surviving to have children of their own (Knight et al. 2017). This issue has also been highlighted by other authors (Boyle and Bothamley (2018). Additionally, the care for Black and Brown women has been much worse than those white Caucasian women, with five times more probability of dying during pregnancy and childbirth (Knight et al 2023).

The traditional view of the midwife was a theme in the papers examined and this is related to **confidence and competence**. Kirkup (2022) reported that the focus on normality for some midwives led to problems in the recognition of deteriorating ill health. This is also a training issue and related to **educational preparation**.

The evolution of scope of practice and skill acquisition across healthcare professions was examined in the updated literature review and it became clear that other professions have faced similar challenges relating to training for critical care skills (Padilla et al. (2022).

Strengths

The strengths of the scoping review and subsequent literature review, are that it was conducted robustly using a systematic approach. The transparency of the process has been provided throughout to increase the credibility of the findings. The updated literature search was carefully designed to maximise the chances of identifying all the relevant studies. The studies were carried out in several countries including the UK, Australia, New Zealand and Sweden, therefore suggesting that many areas of the world share the same issues. One of the strongest arguments for a scoping rather than a systematic review was that it would identify what is not covered in the literature because the field may be moving fast, and there may not yet be sufficient research. A strength of the updated review was that the search included the discrepancy in services received by black and brown women

and the commonalities shared by midwives with other healthcare professionals. This gives a wider, richer, more robustly mapped view of the literature with regard to critical care.

Limitations

The limitations of this scoping review were that it was conducted by one primary researcher independently, therefore this may make the findings vulnerable to bias as one researcher is necessarily limited in time and resource, compared to larger teams of researchers. A further limitation may be that the quality of the studies was not specifically assessed. This is normal process in a scoping review but some readers may feel that this impacts on the validity and credibility of the findings.

Conclusion

This chapter (original scoping review together with updated literature review) has examined a body of literature that is emerging and identified that there are some crucial deficiencies in either knowledge or practice with regard to the education of student midwives and critical care for women. It is clear that the maternal morbidity rates remain high and that the role of the midwife will need to change or diversify to encompass this. The findings also suggest an examination of midwifery curricula to revise the education of midwives to keep abreast of changing social and medical demographics. Maternity services are now needing to provide specialist care to women, as identified in this review. The traditional role of the midwife is being questioned in the literature and gaps in the knowledge base are becoming evident. The issue is that midwives are accountable for their acts and omissions (NMC 2018) and failure to recognise clinical features of ill health and act promptly can lead to serious consequences for them and the populations they care for (Knight et al. 2023). Therefore, educating a midwife for critical care is crucial. Early recognition, identification and management of women who are becoming seriously unwell will improve outcomes for all. The next chapter will examine chosen texts in the light of the findings of this review.

Chapter 4

Critical Discourse Analysis

A critical discourse analysis of 3 key documents on improving outcomes and safety in midwifery practice

Structure of the chapter

This chapter undertakes a critical discourse analysis of 3 key texts that seek to shape maternity services in England. Between the two policy texts and the report, there are guidelines for improving maternity services and education and thus considered to be influential. This chapter explores the theoretical underpinnings of discourse analysis (as a method). It considers the work of Foucault, Fairclough and feminist perspectives for the analysis of power in and through discourse and the relevance to the field of midwifery and its education. Next, the chapter examines the method of doing a kind of discourse analysis (CDA – Critical Discourse Analysis) and how to maintain rigour and ethical standards in the doing of CDA. Then the chapter lists the key texts chosen for CDA, and reasons for their choice. Finally, the discourses that emerge from the analysis are set out. (I acknowledge that the language I have used is 'woman', 'women' and 'mothers'. This is the language used in the texts and therefore this analysis reflects this usage).

Discourse, Power, and Text

Power is one of the most central and contentious concepts in the social sciences (Wodak and Meyer 2016). These authors maintain that there is almost no social theory that does not contain, suggest, or imply a specific notion of power. Typically, CDA researchers are interested in the way discourse produces social domination, that is, power over people and how non-dominant groups may resist such abuse/oppression (van Dijk 2016). Foucault (1972) suggests that power and knowledge are intertwined, and that power may not be the power of one person over another but more significantly, the power (ability/capacity) to act. Fairclough (1992) talks about how social identities are manifested in discourse but also

how they are constructed in/through discourse. Hence his advice to consider power as - 'the power to', the power over' and the 'power behind'. Thus, analyzing the language used to detect agendas/priorities of texts is useful to understand the directions towards which the field of maternity care may be enabled, as well as the subject positions it offers to those who work in the field.

While the negative uses of power are important for DA - such as inequality, domination, and oppression (Rogers 2011), there is also a valued focus on the complexity, particularly of gender and power in feminist CDA (Lazar 2007). Lazar suggests that subtle, discursive workings of power are everywhere, and gendered norms are acted out routinely in the texts and talk of everyday life. This is of particular interest when analysing texts about midwifery, a female-led profession. The texts test our knowledge beliefs, attitudes, and values as much as they shape them (Fairclough 2003). The value of CDA in this study is to understand the influence of such powerful texts on the field, and on the identities and actions of actors within midwifery education.

Shifting professional identities and power

The purpose of the DA here is to conduct an exploration of how the language used defines/shapes midwives' scope of practice, particularly related to advanced assessment skills. Another desire is to promote discussion about the importance of language in representations of midwifes and the related education of midwives. The discourse of a profession is influenced by history, professional ideology, and social context (Candlin and Sarangi 2011) which distinguishes them from other professions (O'Malley-Keighran and Lohan 2016). The discourse of any profession creates and reinforces the activities, knowledge, and skills of that profession (Schnurr 2013), conferring it with its unique identity. Because of long standing historical, medical, and political inheritances, midwifery has had some difficulties defining itself and its professional identity (Zhang et al. 2015). For instance, the role of the midwife now needs to encompass much more than 'normality' in maternity therefore, the traditional identity of the midwife is being challenged (Bench 2007, Lee 2000). Fealy et al. (2018) state that professional identities are socially constructed through discourses and therefore it is important for midwives to be alert to the form and

content of their identity as proffered in texts pertaining to their profession. Fealy et al. (2018) recommend that authors of policy documents must recognize that their documents may be capable of constructing professional identity.

In CDA language choice is seen as ideologically significant, which may reveal assumptions about student midwives, education and the scope of practice (O'Malley-Keighran and Lohan 2016). Most UK midwives work in a hierarchical hospital setting where the medical model is dominant. Conducting a critical discourse analysis on key texts may expose some of these traditional views about midwifery or those that seek to change such views or perhaps, even the contradictory co-existence of such views. For instance, midwives may be positioned as of low status within the patriarchal hierarchy of medical institutions. In contrast, in 2016, the discourse is about 'partnership working' and greater choice and control for women (Better Births 2016). The ways in which midwifery becomes the site of such contestations thus becomes relevant.

Jordan's theory of authoritative knowledge maintains that there are several knowledge systems, some of which carry more weight than others (Jordan 1997). In maternity care medical knowledge has traditionally been regarded as authoritative (Donnison 1998). This authoritative knowledge may devalue other types of knowledge. For instance, the non-authoritarian concept of midwives as partners-in-care with women is significant to contemporary midwifery practice. Thus, these power and knowledge differentials within the health care system already suggest tensions and hierarchies at a time when greater co-ordination and professional working between the professions is desired.

Hence, the post structuralist interest in language and how it functions to create worlds, is relevant to my enquiry. Here, words and texts have no fixed, ultimate, or final meaning (Ryan 2001). Language and meaning are analysed as constituting 'discourse'. Texts are examined as if they are cultural representations, yielding insights into the functioning of power in a context, rather than as a neutral documentation of transparent facts. As such, texts do not provide direct access to 'the truth' but rather, they are manifestations of culture which can be interpreted through a close analysis (Crowe 2005).

Feminist post-structuralists have found this kind of discourse analysis of texts a rich ground from which to launch an examination of gender power differentials, how they are justified or sustained and how they may be critiqued. This has been useful in the social sciences, to examine professions that tend to display gender differences in identity – for instance, in teaching, nursing, midwifery (Blaise 2005, Boulton et al. 2022, Harkness and Cheyne 2019, Yuill et al. 2022).

There are countless discourses that surround midwifery practice, and it is important to explore a word or meaning or text in the context in which it occurs. In other words, context shapes how we understand, experience and approach practice. There is an almost inseparable relationship between text and con'text'. According to Davis-Floyd and Davis (1996) midwifery as a field, is more likely to accept that knowledge can come from experience and intuition. There is a counter argument here, and possible conflict, that some discourses about midwifery as a profession come from policy makers and authority sources. . It is thus important to analyse these policy texts/reports to explore the discourses they generate whilst considering the literature that discusses intuition as authoritative knowledge in midwifery.

In the following section, I consider the methodology of discourse analysis, through the works of Foucault and Fairclough.

Discourse Analysis - the work of Foucault and Fairclough

The application of CDA in this study is for the purpose of examining the documents' use of knowledge and power, and the ways in which powerful documents can set expectations and influence the direction of maternity services and lay the ground for their reform. However, it is important to recognise that documents are not just hammers that powerfully establish truths but also subtle instruments that can help uncover latent meanings. CDA is particularly concerned with power, in its obvious or latent forms, as the work of Foucault on power, medical practice and the body illustrates (Fairclough 1992). The value of CDA in this study is related to the ability to examine the way in which language functions to shape perceptions of, as well as the direction of, maternity services. However, as Foucault (1982) asserts,

wherever there is power, there is the possibility for resistance and change from actors with less power. CDA is a method of enquiry that takes language in-use as its data; it analyses language for both explicit and latent meanings. This means that the analysis goes beyond what is overtly stated in the text to reveal underlying assumptions and ideas (Fairclough 2010).

According to Potter and Weatherall (1987) simply conducting a content analysis (focusing on the words on the page) fails to recognise the subtlety of the discourse. Texts are regarded as cultural representations rather than transparent facts and are always shaped by other discourses (Crowe 2005). Therefore, texts do not provide direct access to the truth but rather are accounts that may attempt to constitute truths. The chosen texts were analysed not just for what they actually said but also to speculate about what may lie behind the stated narrative (Graham 2011). This analysis involved identifying the effects of the text's discourses on midwifery and obstetric practice. Discourse analysis thus, offers a position from which to systematically analyse inequalities and power relations which may be inherent in health care practices and provision (Redwood 1999).

Discourse analysis is concerned with the analysis of texts, which can broadly be defined as 'any form that can be given an interpretative gloss' (Parker 1992). In my analysis the texts will be official documents including, government policy documents and national reports published by the Confidential Enquiries into Maternal Death. My focus will not be on what the individual author or authors were thinking or meaning at the time – discourse analysis admits that it is hard to pin down authorial intention, because meaning cannot be unambiguously fixed, but rather arises in situations where there is room for interpretation. I am interested in what they can reveal about structures of power and knowledge through an exploration of what the midwifery and medical professions consider to be acceptable and in women's best interests. For similar reasons, discourse analysis has gained recognition as a useful research approach in nursing and midwifery (Barclay and Lupton 1999, Crowe 2002, Quested and Rudge 2003, O'Malley-Keighran and Lohan 2016). DA as a methodology will also allow me to optimize my advantages as an insider with knowledge in and of the professional worlds of midwifery and midwifery education.

Critical Discourse Analysis

Discourse analysis is a method that has been approached from several different theoretical orientations within a number of disciplines (Fairclough 1990, 2010, Parker 1992). The specific method that I will be using is **critical discourse analysis** (CDA) as described by Fairclough (1990). In this method discourses "provide frameworks for debating the value of one way of talking about reality over other ways" (Parker 1992). More than just ways of speaking, discourses are 'systems of thought and ways of carving our reality. They are structures of knowledge that influence systems of practice' (Chambon et al. 1999). CDA examines the use of discourse in relation to social and cultural issues such as race, politics, gender and identity.

A key element of Fairclough's work is the relationship between different genres and his attempts to describe, interpret and explain the relationships between texts and social practices at local, national, and international scales (Fairclough 2015). This means analyzing the text at three levels, described by Fairclough as the sociocultural level, the discourse practice level, and the textual level (Fairclough 1995). For my study this meant analyzing the cultural and social context of the midwifery key documents, considering who reads them and how they are distributed across the profession and finally examining the text exploring language, vocabulary, and style to produce meaning. Fairclough and Wodak (1997) describe several principles for critical discourse analysis; two of which are: attending to how social and political issues are constructed and reflected in discourse and, how power relations are negotiated through discourse.

McCloskey (2008) states that the ultimate challenge for the researcher is to be able to select amongst the countless possible texts and documents to use in a study. One of the ethical issues cited by McCloskey (2008) is that many of the documents that are sometimes used in discourse analysis are informal, such as minutes from meetings, memos, and informal correspondence. The people who wrote these texts would not be expecting their writings to be used in a future research project. This may make it a challenge for the researcher to gain ethical approval. In my study I have used documents that are already in the public domain to avoid this problem. The texts chosen for this study were recent, deemed influential for

the field of midwifery, and relevant for their focus on quality and safety, which are watchwords in how maternity services and midwifery education in the UK are being shaped.

Establishing rigour for Critical Discourse Analysis

In terms of establishing methodological robustness of a CDA, the largely qualitative nature of the technique limits strict approaches to reliability and validity testing (Osbourne and Neale 2009). I used Crowe's (2005) suggestions below, to ensure a degree of methodological rigour.

- Does the research question fit discourse analysis?

Discourse analysis has the potential to reveal valuable insights related to the research question. Exploring how well-prepared student midwives in the UK are for maternal critical care is not just about education but also about the political and social contexts that the midwifery profession finds itself in currently. The critical discourse analysis approach assumes that there are powerful interests within the context of midwifery that can influence how midwives practice. CDA methods align with the values of the midwifery profession and can shed light on critical insights related to more vulnerable women in society by exploring the way the power of language can be used to dominate and oppress in the context of maternity care (Fairclough 2015).

- Do the texts under analysis fit the research question?

The chosen texts echo the findings of the scoping review. Namely, safety, training, curriculum review, maternal mortality and morbidity and complex needs of women.

- Have sufficient resources been sampled?

The three chosen texts are a mix of government published reports about safety in maternity services with recommendations for the future and a more clinically focussed report publishing findings from real cases with recommendations. These texts highlight the social and political landscape of maternity services in the UK and how power is used, who uses it and the context within which this usage takes place. The purposes of the texts is to

influence the direction of maternity services and the application of CDA to examining the texts offers insight into the forces that drive the changes.

- Has the interpretative paradigm been described clearly?

The work of Foucault and Fairclough underpin the CDA and have a particular relevance to midwifery. Shifting relationships between power, patriarchy, medicine and midwifery are examined in the texts and this fits with the examination of language as a cultural practice. The value and authority offered by the texts is scrutinised and this suits the interpretative paradigm of CDA.

- Are the data gathering and analysis congruent with the interpretative paradigm?

The texts were read and re read and content examined in words and phrases for analysis. This corresponds with the paradigm. However, it must be mentioned that CDA does not expect to gain "results" as such, rather it seeks to "discover" hidden meanings in texts and how they are constructed.

- Is there a detailed description of the data gathering and analytical processes?

The data gathering process is described in terms of subsequent readings of the same data, going back to the data and getting re-acquainted with the texts. The process of naming and categorising the data is explained.

- Is the description of the methods detailed enough to enable readers to follow and understand context?

The methods of thematic analysis were employed, and dominant themes and recurring words were noted. This was to get close to the words on the page as a first step (what the text is saying), before unpacking its influence (what the text is doing).

- Have the linkages between the discourse and findings been adequately described?

The process of reflexivity is discussed and the necessity to be aware of personal opinion acknowledged. The findings are structured around the themes of safety, changing needs,

curriculum, and the ways that the discourses of the field of maternity care in shaping these will be described - this is the aim of the CDA.

- Is there adequate inclusion of verbatim text to support the findings?

Many verbatim comments are utilised to highlight themes.

- Are the linkages between the discourse and the interpretation plausible?

CDA is an interpretative process and acknowledges the multiple interpretations that can emerge from the text. However, the contribution of the analysis in shaping knowledge, values and beliefs adds to the body of midwifery wisdom in a political, social and cultural way.

- Have these linkages been described and supported adequately?

Yes, the linkages are supported by evidence/text from the documents including support from texts including the work of Foucault and Fairclough.

- How are the findings related to existing knowledge on the subject?

The findings are consistent with discussions in the literature surrounding power, language, society, patriarchy in maternity services and changing maternal demographics. This work adds to the body of literature on the subject and offers a possible direction for how reform of curricula may be discussed.

Discourse analysis is an interpretative process that can result in different researchers examining the same data yet arriving at different findings. Therefore, the trustworthiness of the findings relies on the strength and the logic of the researcher's argument (Van Dijk 1997) and how well this is supported by the data. To ensure trustworthiness of the study, Kingdon (2005) recommends that researchers should engage in reflexivity and self-reflection. Reflexivity is often referred to how the researcher is positioned within and influences the research process. This includes the assumptions and biases the researcher brings to a project (Stige et al. 2009). A theoretical convention within CDA is that we cannot completely step outside of social discourse to take an objective view. However, we can view the discourse

from different perspectives. This entailed making sure that the steps in the data analysis process were illustrated effectively, and the findings were not based upon personal opinion but on a rigorous transparent process. However, personal positions/stances are also acknowledged as useful while being careful that my "insiderness" does not blind me to new insights. I am very familiar with the language, and this may cloud my judgement/blunt my analytical ability. This required careful monitoring to ensure that a thorough critical perspective was cultivated and maintained. I came to the research with life experience, but I believed the topic to be important and to that end, I attempted to move beyond opinion to build a plausible argument through the interpretation of discourse and counter discourse discovered within the texts. The main strengths of discourse analysis according to Osbourne and Neale (2009) is that it can lead to fundamental changes in the practices of an institution, a profession or society as a whole, if it becomes accepted, and its critique is seen as worthy of advocating for change. This was very appealing to me as a novice researcher. The process of analysis may reveal what the dominant discourses are, regarding midwifery education and additional care needs of women. It ought to open up to scrutiny the dominant ways of thinking and traditional practices in caring for a more diverse client base.

Process of Critical Discourse Analysis

1. A decision as to the selection of texts for analysis needed to be made. With this in mind, I familiarized myself with a range of distinctive and influential documents related to maternity services and finally chose three key texts (described in next section)

2. The second stage of the process was to analyse the texts in order to identify features of the language, how language works.

3. Identify the dominant discourses both overt and covert (including what is considered so obvious that it is not stated)

4. Identify the full range/scale of discourses that contribute to the shaping of the profession and professional conduct and education.

5. Discuss the policy and practice implications of these discourses.

CDA also has a strong theoretical base that offers it weight and authority. It is important, however, to explicitly justify what epistemological assumptions are driving the analyses. One of the criticisms of CDA is that it is "unscientific" and therefore tends to be not replicable (Nixon and Power 2007). My reflection on this is that what it does do is provide a welcome alternative to traditional positivist paradigms, particularly through revealing the discursive power of texts which do not require replicability to be trustworthy. I understand that this methodology may or may not offer evident solutions, but it can reveal what may have always been taken for granted and therefore expose potential targets for change.

Choice of texts for analysis

When selecting the texts for analysis I purposely selected policy documents related to safety in maternity services. The rationale for the selection was that I believed the sample were exemplars of the policies and practices in contemporary maternity care. The issue of safety in maternity care has become the single most important contemporary issue that preoccupies the field (Knight et al. 2021, HSIB 2021, Ockenden 2022, Kirkup 2022. Therefore, I wanted to critically explore the dominant (and less dominant) discourses they carried. The research question asks about preparedness of student midwives therefore the issue of ensuring patient safety is an important consideration. Coming from inside the discipline as a midwife and educator, I am familiar with the issues and the broad content of the texts. To all professionals within the sector, these texts are key, they are frequently consulted, highly valued and believed to intimately shape everyday practice.

1. The National Maternity Review-Better Births, Improving outcomes of maternity services in England, A five year forward view for maternity care (2016).

This document suggested recommendations to improve maternal satisfaction and safety of maternity services in England. Continuity of Care (CoC) being a key principle in implementing safer care. The more recent Ockenden review (2022) also focuses

on safety and 'safe birth' following a catalogue of adverse outcomes at one hospital trust.

2. Knight M., Bunch K.,Tuffnell D., Shakespeare J., Kotnis R., Kenyon S., Kurinczuk J. (eds) (2019) on behalf of MBRRACE-UK. Saving Lives, Improving Mothers' Care-Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2015-2017. Oxford National Perinatal Epidemiology Unit, University of Oxford 2019.

The Saving Lives, Improving Mothers' care (2019) report focuses on all deaths in pregnant and post-natal women over a three-year period (2015-2017). This report describes the adverse incidents and makes recommendations for future maternity care and relevant actions for health professionals. This enquiry is published approximately every three years and thereby guides maternity care practice for the following three years. The report used for this CDA is focused on cardiac conditions in pregnancy, hypertensive disorders, early pregnancy conditions, accidents and critical care in maternity services. The report is a monograph and consequently its main target audience is health care professionals in the UK.

3. Department of Health (2017) Safer Maternity Care. The National Maternity Safety Strategy-progress and next steps.

The third document reviewed for the CDA was Safer Maternity Care (2017) which is a national maternity strategy document published by the Department of Health which focused on guidance for health care professionals to improve safety for women and babies. This document was published only a year following the publication of the National Maternity Review (2016) and makes many comments on that report within its narrative.

All three documents are focused on safety, improvement, and quality. All the documents are endorsed by eminent experts in the fields of maternity safety and leaders in maternity services across the UK. The documents are written to be read and used by healthcare professionals, leaders in the NHS, service users and educationalists and students. . In the

analysis that follows therefore, I do not analyse each text separately but move across the three to look for commonalities and differences.

In CDA there is no single form of approach and researchers tend to use a variety of approaches and techniques (Siegal 2022). A range of discourses have influenced midwifery practice - political, medical, psychological. The approach I am taking is a socio political one. The rationale for this is that this is the approach most concerned with how language forms and influences the social context (Miles 2012), particularly through policy and practice texts. I combined this with the six stage approach to thematic analysis described by Braun and Clarke (2022).

1. Familiarising yourself with the dataset
2. Coding
3. Generating initial themes
4. Developing and reviewing themes
5. Refining, defining and naming themes
6. Writing up

I read and reread the documents to gain familiarity with them. I needed to make sense of the texts, ask questions of it, and challenge the overt or covert messages of the texts. This included reading with the text, reading against the text and even reading between the lines. Initially, I highlighted words and phrases and copied them into a word document. I then coded these words/phrases using a colour-coded method, I used Microsoft Excel to list the words and phrases and gain a quantitative view of the texts – how often words were used. This content analysis established categories and incidences of occurrences. On its own, this is over simplistic (Silverman 1993) because some of the subtleties of the discourse may be missed. Hence, I combined this kind of content analysis with a more detailed critical approach. I initially considered use of a computer programme such as NVIVO to make the management and organisation of analysis easier, but I made the judgement that my manual thematic analysis could be robust and systematic coupled with the fact that my dataset is not large. It has been suggested that you only get out of the computer that which you put in (Greenhalgh 2019). What discourse analysis can do that content analysis cannot, is to

actively construct the concepts in the texts and establish the implications of these constructions. No computer package can perceive a link between theory and data or define an appropriate structure for the analysis (Pope et al. 2000).

How does CDA fit methodologically with thematic analysis?

One way of looking at this may be that thematic analysis focuses on what people talk ABOUT while CDA focus on what people DO with what they talk about. Language is seen as a form of action in CDA, while language is usually seen as a form of conveying information in thematic analysis. Braun and Clarke (2022) agree that it is increasingly common for researchers to use hybrid approaches to analysis, providing the process is robust. This may make for a richer understanding of the data. Becoming thoroughly immersed in the data and generating lots of codes may lead to further insights about a particular extract (Terry 2022). The themes I constructed demonstrate some evidence of the shape of the position taken in the texts.

Drawing on the work of Fairclough (1995) I had broken the documents into themes I considered to be dominant. For example, safety in maternity services and inequalities was one of these. I also found it useful to use the work of Maggie Maclure (2003) to help me to 'open up' the texts. These are a set of guidelines as opposed to being steps to be rigorously followed. She asks researchers to consider the following questions:

1. How do politics and poetics intertwine in this text?
2. Does this text carry the 'scent' of an institution (eg. Law, education, medicine etc)?
3. How are the knowledge claims established and defended?
4. How does this text make its bid for believability?
5. Where does this text get its authority?
6. How does this text persuade?
7. Where does power reside in this text?
8. What other kinds of texts is this text 'like'?
9. What might be so taken for granted in this text that it is almost impossible to 'see' it?
10. Whose 'voices' are privileged in this text? Who is silenced?

11. What kinds of oppositions structure the arguments and the moral framework of this text? How might these oppositions be broken down?
12. How are subjects drawn in this text? Who gets agency?
13. What kind of reader is this text 'hailing'? Where am I supposed to 'stand'? What am I participating in when I read it?
14. What are the questions that this text cannot pose to itself?
15. Where are the gaps, silences and inconsistencies in this text?

Although the methods of thematic analysis and critical discourse analysis work in different ways, it helped me to reveal different characteristics in the texts. For instance, I initially looked at dominant themes in terms of volume of usage and key words being repeated and then used Maclure (2003) to explore the texts more deeply, for meaning within context and in relation to power, silence or authority. Each iteration allowed a different kind of engagement with the data.

I looked carefully at recurring words, phrases, metaphors, ideas, and beliefs to get a sense of priorities as expressed in the documents. I considered the texts in the light of semantic and latent meanings. Semantic meaning is explicit or surface meaning that is easy to notice, while latent meaning is more conceptual, something less obvious and is revealed when 'reading between the lines'. Initially I began coding in a semantic fashion, looking at the words on the page, but moved through to a latent approach following reading and re reading the key word/phrases and the texts. An example of this would be initially reading every word and line and highlighting words and phrases, such as 'improving', 'safety', 'quality', 'risk', 'education'. I then considered the texts for deeper meaning and 'underlying' discourses. This revealed the dominance of 'power' and 'authority' in the texts and a narrative of dissatisfaction with current maternity practices.

As an initial analysis of the texts, I started with a focus on the audience and the particular context in which the texts were produced.

Who is the audience for these texts?

The Saving Mothers' Lives document is part of a regular series charting the morbidity and mortality in pregnancy. It is a publicly available report, but its main audience is health care professionals caring for women in pregnancy and childbirth. The Safer Maternity Care report is a stand-alone report that links insurance premiums and safety governance activities in the Trusts and networks. There is something in this about the power and where it lies - not just with the experts but also with others who control the extent to which Trusts are financially exposed when litigation occurs. A question that arises then, is whose safety is at the core? Is this about safety (of patients) and altruism or about financial gains/risks (of the Trusts)? The extent to which the analysed documents collaborate with a range of stakeholders is also variable, suggesting that authorship and therefore ownership of maternity services is variable.

The context in which the texts were produced and the purpose for which they were produced

The documents were published in 2016, 2017 and 2019 so this offers a unique insight into maternity services across these four years. The Conservative government were in power in the UK at this time and the Secretary for Health was Jeremy Hunt until 2018 when he was replaced by Matt Hancock. During his tenure as Secretary of State, Jeremy Hunt instigated several controversial reforms and pursued an ambitious agenda. For example, he called for a reduction in the number of foreign doctors working in the NHS, he planned to change the consultant contracts and used out of date data to show that stroke patients were more likely to die if admitted to hospital at a weekend. He was initially critical of the NHS and appeared to prefer to privatise parts of the nationalised health care system. In an attempt to understand the NHS, he shadowed health care workers and from this, developed his keystone policy, 'patient safety'. He subsequently established the Healthcare Safety Investigation Branch.

The views of safety in childbirth were hotly debated in the media and in 2014 the Royal College of Midwives stopped their campaign for normal birth that they had been pursuing

for twelve years. They changed the focus to a campaign for Better Births. The controversial word 'normal' was, and still is, a source of major discussion in maternity care. Johnson (2022) wrote about the media criticism of normal birth "ideology" and the misjudged narrative pursued by newspapers. Midwives have said to have been the subject of 'witch-hunts' and accused of forming 'cults' to prevent obstetricians from intervening in the care in complex situations (Francis 2013, Kirkup 2015, Ockenden 2022). This narrative continues today.

Across 124 pages in the National Maternity Review (2016) the words 'normal birth' are mentioned only once. In the document Safer Maternity Care (2017) there is no mention of 'normality' or 'normal birth' across 37 pages. In the MBRRACE report (2019) the term 'normal birth' or 'normal delivery' appears nine times across 84 pages. What does this say about the socio-cultural context in which these texts and this choice of language arises?

The issue of "normality" is well discussed in the literature and Scamell and Alaszewski (2012) described the 'ever-narrowing window of normality during childbirth'. They examined how midwives orientated themselves to the normality and risk and how language plays a key role in the categorisation of risk. The midwives in their study were unable to define and measure normality and based their categorisation of normal as the absence of risk factors. As normality lacks any language of its own in this study, it is easily subsumed into the culturally more secure concept of risk (Scamell and Alaszewski 2012). In the UK the term "normal birth" is a value laden term that disenfranchises the many women who do not experience a normal birth (Feeley 2021). Feeley (2021) also argues that normal birth has been a scapegoat for poor maternity care and that whatever the terminology, systems need to change. Afterall, understanding normal physiology underpins the education of all health care professionals. Without this understanding, professionals may be unable to identify pathological problems and put mothers and babies at risk. Normal birth has been described as an "ideology" (Johnson 2022) and some educators and academics are using terms such as "physiological birth" instead. The Royal College of Midwives published their Re:Birth study in 2022 and concluded that language is important in maternity care and participants in the study preferred the word "birth". This word is specific enough to identify differences in mode of labour but also clear and unambiguous (RCM 2022). Dahlen (2010) suggests that

normal birth is on the 'endangered list'. This was fourteen years ago and the debate regarding 'normality' continues today (Peterwerth et al. 2022, Ockenden 2022, Johnson 2022).

This analysis of audience, authorship and context – political and cultural – is meant to set the stage for a closer analysis of the discourses in the text. At the initial coding and thematic analysis, the prominent discourses that emerged were power, safety and quality.

Overarching discourses emerging:

- Power and authority
- Safety/Quality agenda/improving care

Sub-themes emerging:

- women/gender/racial and economic inequalities
- Language of risk/complications/red flags
- Historical, medical and political influences/patriarchy
- Clinical competency/education/learning

It became clear with reading and re-reading the texts that some of the themes could be grouped together. For example, safety, quality and risk could be recognised as impossible to separate. For that reason, I grouped these themes together when examining the texts. Maclure (2003) advises against a reductive approach to CDA and states that texts cannot be reduced to singular meanings. However, texts can be 'unsettled' and 'disturbed' so that new questions and meanings are generated. In examining the texts in different ways, this has produced and uncovered several new questions and latent discourses. I consider the main themes of Power & Authority and Safety & Quality of care in the rest of this chapter. Under each, salient sub-headings that encompass different discourses are considered.

Power and Authority

The texts were considered firstly, in the light of their 'authority', and the sort of readers/subjects they evoke.

Following Maclure (2003) I explored **whose voices are privileged in the text and whose voices are silenced?** I did this also by following Fairclough (1995) to analyse the context in which the text is delivered. The maternity services context in which the texts were published is defined by a time of change and political will to privatise healthcare. The Secretary of State for Health, Jeremy Hunt was keen to set out his 'refreshed maternity safety strategy' to drive improvements in care. In the Safer Maternity Care document, he states his focus on developing expertise in maternal medicine and improving care for women with pre-existing conditions, such as cardiac disease. The document was aimed at the healthcare professionals who care for women, their babies, and their families. The audience is being spoken to through a lens of finance and statistics. The tone of the wording is authoritative. Although the Department of Health's mission is to work with the NHS and Royal Colleges, this is to ensure the "implementation of measures" set out by the department. Most of all, he urges maternity champions to 'seize the opportunities' on offer. The maternity champions are the leaders within the Trusts that have been appointed as safety champions, they may be obstetricians or midwives.

"Based on the early progress so far and this additional support, I believe that we can bring forward the date for achieving our national ambition to 2025. The Department will be working closely with NHS England, NHS Improvement, the Royal Colleges and other national partner organisations to implement the measures set out in this refreshed maternity safety strategy. I urge local maternity champions to seize the opportunities presented by these initiatives and drive real change locally. Together we can make England's maternity services even safer."

This 'seize the opportunities' discourse is very evocative. The text creates a reader whose position is to accept or join in with implementing certain measures. It invites readers to see the 'refreshed' strategy as an improvement from previous strategies, and therefore to see themselves as progressive, by aligning with the reforms. Such invitations create the subjectivities of those in the profession, and how they ought to be invested (rather than critical for example). If the multi professional team are invested in change then care is improved, and "tragic" incidents are avoided. The voices coming to the fore are those in positions of power, drivers who can make change happen, and those who have defined the measures that now need implementation.

The voices that are notably absent are those who use the service – women and families. Following publication of Better Births (2016) many areas of the United Kingdom set up Maternity Voices Partnerships. These groups intended to "speak for those who could not speak for themselves" (https://nationalmaternityvoices.org.uk/). The membership consists of women, fathers, midwives, and obstetricians. The Safer in Maternity Care document does mention 'mothers' but this is in a factual way, telling the reader what is happening to mothers, the women themselves are therefore passive.

"Mothers in routine and manual occupations are five times more likely to have smoked throughout pregnancy compared to women in managerial and professional occupations, meaning those from lower socio-economic groups are at a much greater risk of complications during and after pregnancy".

In addition to the passivity assigned to mothers here, there is a spotlight on a certain class-based demographic, highlighting working class women to be at greater risk. Therefore, by implication, they would need more resources and attention by health care organisations. Thus, certain subjects are also assigned greater agency than others, while others are dependent or in greater need of rescue (Maclure 2003).

The power and authority within the discourses of the texts is evident:

"….we also heard about a culture of silo working and a lack of respect across disciplines, particularly between obstetricians and midwives" (National Maternity Review 2016)

Use of words such as 'inappropriate', 'inadequate', 'extremely disappointing' suggest an imperfect service:

"almost universally experienced inappropriate delay" (Knight et al 2019)

"It is extremely disappointing that there is no medical report or evidence of reflection from the hospital team on the care this this woman received" (Knight et al 2019).

"….across a large part of the country this care is either inadequate or non-existent" (National Maternity Review 2016).

"…It is not acceptable for there to be inequity…" (Knight et al 2019)

I also analysed the documents for where they revealed their rootedness in pre-existing discourses, and which called into play, a certain kind of reader and a certain kind of author. This text below acknowledges the authors discussing funding to the NHS for maternity safety and drivers for change:

"Since 2010, the Government has invested nearly £40m in capital funding for maternity services and last year we invested just over £9m of additional funding to support safety training for multi- disciplinary maternity teams, innovative new approaches to improving safety and to create a national safety and quality improvement movement through the Maternity and Neonatal Health Safety Collaborative. We also made maternal mental health a priority through our investment of £365 million from 2015/16 to 2020/21 to perinatal mental health services". (DH 2017)

"The payment system for maternity services should be reformed so that it is fair, incentivises efficiency and pays providers appropriately for the services they provide". (DH 2017)

Here the indicator of "fairness" is not clear. It does not seem to be about equality of access or quality of service for all but focuses on the transactional (monetary) relationship between the government/Department of Health and the "provider" of the service, that is, the healthcare trust. Such relations are tied to 'efficiency' of resource use and thus fundamental to neo-liberal and managerial discourses central to the health care system. By first listing the range and quantity of funding offered by the government, the text also creates a moment where the reform of the maternity services is a 'payment' in return for this investment. It ties the providers of the service in a transactional but also dependent relationship with the government, highlighting the subtle (or not so subtle) power relations between the two.

In particular, it (the payment system) *should take into account:*
The different cost structures services have, i.e., a large proportion of the costs of obstetric units are fixed because they need to be available 24 hours a day, seven days a week regardless of the volume of services they provide.
The need to ensure that the money follows the woman and her baby as far as possible, so as to ensure women's choices drive the flow of money, whilst supporting organisations to work together.
The need to incentivise the delivery of high quality of care for all women, regardless of where they live or their health needs.
The challenges of providing sustainable services in certain remote and rural area." (National Maternity Review 2016).

The power of the language of finance related to quality improvement and service improvement is profound. Using Maclure's question **"what kind of reader is this text hailing? Where am I supposed to stand? What am I participating in when I read it?"** It is clear that the reader is constructed as a neo-liberal subject, one who prioritises monetary value, and is required to be careful of any spend, especially when the fixed costs are hinted at being higher than in other services. While there are references to sustainable and equitable service provision, these are placed (literally) below the financial considerations of their provision. The text seems to be aimed at managers in the NHS, those who make policy decisions.

There are also subtle contradictions that remain unresolved – if women's 'choices' drive the flow of money, then what of those women from remote or rural areas who will face greater challenges in accessing services? If the quality of care is to be high regardless of location or need, how much money will be able to literally 'follow the women and her baby' to remote areas? The text is perhaps obliging service providers to treat everyone equally while being mindful of the more expensive service users and the high fixed costs of maternity units in general. This creates different kinds of subjects - more expensive and less expensive service users – that providers need to be mindful of. However, this is not couched in terms of physical safety, need or risk in relation to mothers and babies.

So far, I have discussed how the texts exert or exude authority and how readers are expected or anticipated to follow certain discourses that are established as vital (efficiency of resource use for example). Next, I look at how statistics on performance are used in these documents.

"*There were 200 maternal deaths in the UK during the period from 2012 to 2014, equivalent to 8.5 deaths per 100,000 maternities. Around 50 women in England die each year from causes related to pregnancy. The UK maternal mortality rate has fallen 20% compared to the 2009-11 period. Comparing the 'actual rate' to the 'plan to reach the ambition' suggests that progress is on track to meet the national ambition for 2020. However, MBRRACE-UK cautions that the decrease in the rates from 2009-11 to 2011-2014 is not statistically significant and, for this reason, achieving the aspiration to halve the maternal mortality rate will be a challenge for UK health services" (National Maternity Review 2016).*

Performance indicators are commonly used across health and care systems to examine and compare performance. They have been analysed as tools of neo-liberal managerialism across various other sectors too, such as UK Higher Education, managerialism and its audit culture (Deem 1998). These health performance indicators focus on areas such a length of stay, mortality rates, readmission rates, costs per episode of patient care and the number of staff employed. Some indicators assess the efficiency of services while others scrutinise clinical performance (NHS England 2021). If Trusts are deemed to be meeting the performance indicators, then they may be offered financial incentives. The National Maternity Review (2016) offers an incentive to services if they 'cooperate' in safety improvement:

"NHS Resolution will launch a new scheme to incentivise local services for taking steps to improve delivery of best practices in maternity and neonatal services. NHS Resolution has built provision for an incentive fund into its pricing for 2018/19. Trusts that are able to demonstrate compliance with 10 criteria agreed by the National Maternity Champions will be entitled to at least a 10% reduction in their CNST maternity contribution" (National Maternity Review 2016).

CNST (Clinical Negligence scheme for Trusts) is an insurance scheme for claims of maleficence against hospital Trusts. Maternity care is the largest contributor to malpractice pay-outs. It appears that the text is "persuading" the reader to show compliance in meeting the targets. The ethics/morality of such incentives may be open to question. Setting a monetary target as the incentive may have other repercussions, such as the 10 criteria taking on newly privileged status. The neo-liberal values are so embedded in the text that they are taken for granted. The idea that apportioning financial targets may not be a good incentive to create a more caring culture or meeting safety targets has no room to be questioned. Later in the document there is reference to "Each Baby Counts" which offers a different way of thinking about best practice compared to financial targets, although some may view this as simple encouragement to 'do the right thing'.

This narrative about safety being the 'golden thread' running through maternity services is mentioned several times in the document and it 'feels' as though it is trying to offer further 'moral authority' (Maclure 2003). This element presents that it holds the document together and gives it value. Perhaps this phrase is a variation on 'golden rule'. It is a

pervasive and powerful image. It is a matter of opinion whether there is any difference in meaning between "thread" and "rule", but it does create a different metaphorical image. Gold is a valuable commodity and been sought by mankind for thousands of years. The National Maternity Review (2016) and the MBRRACE report (2019) talk about the 'gold standard' of care:

*"They should not be restrained by what might be perceived to be **gold standard** service models" (*National Maternity Review 2016).

*"This is why **maternity safety** is the **'golden thread'** running through every workstream of the Maternity Transformation Programme. This is also why clinical leaders and innovative thinkers in maternity and neonatal services across the country, supported by national, regional and local organisations, are working to develop leadership, participating in multi-disciplinary team training, examining their own care practices with a critical eye and developing rigorous quality improvement plans"* (DH 2017).

*"...should always be considered and should be recognised as the **gold standard"*** (*Knight et al* 2019)

The authors may be being sincere in thinking that this is about the highest quality in standards of service but with each new Health Secretary comes new documents for maternity health care providers and the service continues to struggle with underfunding, no investment in infrastructure, is understaffed and does not have enough beds (BMA 2023).The narrative about "gold" may be considered to be different in different sections of the text. Not being constrained by gold standards of care implies that this may not be achievable. The "golden thread" discourse is something different again. Efficient use of resources, offering gold standards of care and safety being the golden thread may be viewed as being at odds with each other. However, gold is a valuable resource and the benchmark by which many countries measure their economy. Using phrases such as "gold standard" and "golden thread" identify these as highly sought after and treasured, important things to achieve.

In the next section I move to looking at what might be described as 'cultural authority' (Starr 1982). The tone of cultural authority can be discerned in the use of normative words such as 'should' or 'must' which are also offered as a taken-for-granted standpoint of the authority

of the author. Using Maclure (2003) we can see how this is a direct indication of how authority is conjured up in the text.

*"A persistent sinus tachycardia is a 'red flag' and **should always** be investigated, particularly when there is associated breathlessness."* (*Knight et al* 2019)
*"Genetic counselling **should** state for women known to be carriers of any inherited condition, whether the associated genetic mutation is known or unknown, and whether they need a cardiovascular risk assessment in pregnancy. Anyone with a family history or genetic confirmation of aortopathy or channelopathy **should** be referred for cardiac assessment before pregnancy." (Knight et al* 2019)

*"In general, for women with breast cancer, early delivery to avoid delays in chemotherapy **should not** be recommended. For women diagnosed with breast cancer in the third trimester, the risk-benefit is likely to favour both mother and baby if a woman can receive at least two cycles of chemotherapy prior to a term (39-40 week) birth."* (*Knight et al* 2019)

*"Advice on appropriate contraception and postponement of pregnancy **should be** given to women under investigation for suspected breast cancer."* (*Knight et al* 2019)

*"Women with multiple organ dysfunction need consultant involvement and there **should be** early consideration regarding the optimal setting for their care and whether transfer to a local or specialist critical care unit is warranted."* (*Knight et al* 2019)

*"When a woman collapses out of hospital good communication **should** ensure senior review at admission and multidisciplinary involvement to determine the diagnosis promptly and enable rapid appropriate treatment"* (*Knight et al* 2019)

*"We **must** all become more aware that heart disease can and does affect young women, and that the additional strain that pregnancy places on the heart can reveal cardiac complications for the first time"* (*Knight et al* 2019).

These normative words indicate a high level of authority over the reader and the subjects under discussion. The writer/s expect to be accepted as the experts. In maternity care, medical knowledge has traditionally been deemed to be authoritative (Donnison 1988). However, on closer reading, some of the comments in the texts are referenced with other authors, this is particularly so in the MBRRACE report. Citation, particularly in academic circles, is a way of establishing authority over what one is claiming through recourse to another piece of research or publication. These chains of evidence form intellectual groups or communities of authority. Where other authors are cited, this reveals that the real

authority and power belongs to those referenced. This also gives the impression of there being bigger science at play, which is the true voice of authority.

Jordan (1997) suggests that the central principle of the theory of authoritative knowledge is that it can devalue other types of knowledge. This may lead to the enabling of hierarchical knowledge being created and endorsed. Jordan (1997) goes on to suggest that in many situations, equally legitimate parallel knowledge systems exist, and people move freely between them, this may happen in maternity care in some areas. For example, the notion that midwives can move between using aromatherapy to critical care. However, what can happen, is that one type of knowledge gains dominance and ascendancy. A consequence of this, purports Jordan, is the devaluation and dismissal of the other kind of knowing. This constitution of authoritative knowledge is an ongoing social process and reflects power relationships in a community of practice (Wenger 1998).

This 'knowing' is reflected in words such '*concerted effort'*, *'a priority that can be achieved'* (Safer Maternity Care 2017). This implies that if only the community would work harder, then these outcomes that attain the status of being consensually agreed, can be met. The notion of 'cultural authority' (Starr 1982) and the acquisition of such authority has the consequence that doctors claim to be in charge of 'the facts' and therefore had the authority to decide whether somebody is alive, dead, sick or well. Authoritative knowledge seems natural and reasonable according to Jordan (1997). It carries powerful sanctions and validated knowledge. The power of authoritative knowledge is not that it is correct but that it exists (Jordan 1997). In all social groups people provide justification for what they do and why they do it and if things go wrong, why things should have been done in a particular way. Powerful social groups can affirm their superiority of their way of knowing (Downe and McCourt 2008) through key texts.

The National Maternity Review (2016) states:

"There should be a national standardised investigation process when things go wrong, to get to the bottom of what went wrong and why and how future services can be improved as a consequence."

*"It is clear that we will not achieve the National Maternity Safety Ambition if we do not improve the quality and rigour of reviews and investigations when things go wrong, and crucially, improve the way we learn and improve care to prevent such **tragic** incidents from happening again."*

The use of the word "tragic" is highly emotive and conveys to the reader a sense of helplessness and hopelessness and also fear. Unless the readers do things differently further disasters will take place. This is a powerful evocation of fear that is possible because of the authority of the authors. I will return to this discourse of fear in subsequent sections of this chapter.

The texts have been analysed bearing in mind this knowledge about how power can operate. These texts form a social and cultural standpoint in a particularly powerful way. Over the years, such texts have included a range of contributors which has the effect of conferring authority. For example, the MBRRACE report (2019) lists the contributors, the professional organisations with whom the authors collaborated, the assessors and all the agencies involved in the stakeholder groups. By contrast, the first confidential enquiry into maternal death in the UK was published in 1957, covering maternal deaths from 1952-1954, and had no such collaborators or contributors (Weindling 2003). This was just four years after the inception of the NHS and assessments were carried out by 'experts' rather than peers, there was no recognised means of incorporating recommended changes into practice (Wells and Chapple 1993). During the evolution of the report the range of professionals involved and represented has expanded to include anaesthetists, midwives, and intensive care specialists (Ngan Kee 2005). Against this changing backdrop of collaboration, the politics of maternity care was transforming. Intensive care was becoming more important and in the 1991-1993 report, 104 of the 228 women who died were first admitted to an intensive care unit. In 1993 the Changing Childbirth report was published (Cumberledge 1993) and this aimed to give more responsibility to midwives. The first midwives to become part of the assessment team on the Confidential Enquiry were appointed in 1999 (Drife et al. 2023). This historical perspective reveals shifts and changes, particularly in how 'authority' comes to be manifest in maternity discourse.

Safety and Quality

Historical, Medical and Political influences

This theme was, in quantitative terms, the second largest. Probably not surprising considering all the texts are focused on safety and quality improvement. They identify areas for improvement and offer directives for how they can be improved. There are different ways in which the texts deploy 'safety' as a discourse:

*"..the aim is to align **quality and safety** improvement, multiprofessional learning and clinical leadership into a consistent and sustainable **safety strategy** across the system" (*Safer Maternity Care 2017).

*"Staff and teams must continuously measure the **quality** of their services, they must learn from any serious incidents and mistakes, and seek to constantly **improve the quality** and outcomes they are delivering"* (National Maternity Review 2016).

Here the emphasis is on threading safety throughout the service – Multi Professional learning, clinical leadership and safety improvement. Therefore, this is more about embedding safety into multiple elements of the service in an attempt to improve quality through learning continuously.

*"….thereby acknowledge the women who died by learning from their deaths to **improve the care** for other women" (*2019)

*"It is clear that we will not achieve the National Maternity **Safety Ambition** if we do not improve the quality and rigour of reviews and investigations when things go wrong, and crucially, **improve** the way we learn and **improve care** to prevent such tragic incidents from happening again*" (Safer Maternity Care 2017).

These phrases use previous deaths to suggest that their deaths ought not to be in vain, and won't be, if we can learn from these incidents.

*"….the **safety** of the mother and baby being paramount"* (National Maternity Review 2016).
*"the **safest** possible birth" (*National Maternity Review 2016).

*"Most women who contacted the review said that the **safety** of their baby and themselves was their primary concern. They expected that the health services and professionals caring for them would also have their **safety** as their priority*" (National Maternity Review 2016).

These phrases are about improving safety and prioritising it.

*"….**safe care** based on a relationship of mutual trust and respect…"*(National Maternity Review 2016).

This phrase links safety to relationships between users and providers.

These concerns about safety and quality arise out of a particular context and it is worth considering the developments in this context at this point. There is evidence to suggest that although the UK may be one of the safest places to give birth, that it could be still safer (O'Neill 2008, National Maternity Review 2016, MBRRACE-UK 2021). There have been several reports published over the last few years that call for a need to transform maternity services to make them safer (Kirkup 2015 and 2022, Ockenden 2020 and 2022, Health and Social Care Committee 2021). Adverse events are still a serious healthcare problem (Ederer et al. 2019). In obstetrics, maternal morbidity is an indicator of the safety and quality of care (MBRRACE 2021). Knight (2021) suggests that any discussions about safety in maternity services cannot be complete without discussion of the quality of local reviews of care. The earlier confidential enquiries into maternal death did not include 'near misses' as they do now (Drife 1993). Following a serious incident in the NHS a local review takes place led by the Quality and Safety team. This is completed primarily as a learning event, to address concerns of patients and families and to improve care in the future. This is in response to the NHS Patient Safety Strategy published in 2019. A "near miss" refers to any patient safety incident that had the potential to cause harm but was prevented, resulting in no harm to people receiving NHS-funded care (NHSE 2019).

The Healthcare Safety Investigation Branch (HSIB) was set up in 2018 to investigate when things go wrong in hospital Trusts. Since April 2018, HSIB has conducted safety investigations in NHS maternity services in England into occurrences of stillbirths, neonatal deaths or suspected brain injuries that meet the criteria of the Royal College of Obstetricians and Gynaecologists (RCOG) Each Baby Counts programme. In addition, HSIB also conducts safety investigations into the death of any woman while pregnant or within 42 days of the end of her pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes and excluding suicides. The HSIB maternity investigation programme commenced 760 investigations during 2020/21. (HSIB 2021).

This programme of investigations highlights the importance of safe, quality care in maternity services. The HSIB claim that their recommendations positively affect maternity care. Despite this, there are repeated calls for improvements in care, in particular, teamworking (Cornthwaite et al. 2013, Kirkup 2015, Ockenden 2022). The gaps in the care outlined at the Shrewsbury and Telford NHS Trust (Ockenden 2022) appeared to be very much related to poor multidisciplinary team working. This constitutes a social problem, because unsatisfactory working relationships contribute to poor care and, as seen in Kirkup report (2015) and the Ockenden review (2022), even fatal outcomes for women and babies.

In this context, it is perhaps unsurprising that the analysis of the three texts demonstrates that the words "multidisciplinary", "teamworking", "learning culture", "need for training" and similar words and phrases appear many times.

"Local investigations and reviews of maternal death should not be confined to a timeline of events and a clinical narrative. The strength or weakness of ***multi-disciplinary team working*** *should merit specific comment [ACTION: Hospitals/Trusts/Health Boards]"* (Knight et al 2019).

Effective multidisciplinary team (MDT) working is a pre-requisite of high quality maternal critical care (MBRRACE 2019). The authors of this text call for hospitals to comment specifically on the strength of the team working. This discourse is evident in all the documents analysed:

"Pregnant women receive care from a ***multidisciplinary team****, whose expertise may include sonographers, obstetricians, neonatologists, maternity support workers, GPs, anaesthetists and fetal medicine consultants, coordinated by her midwife.* ***The most effective teams*** *are those in which every highly-trained individual understands the roles of their colleagues and the value they bring to the women and newborn they care for. They train together, communicate easily and are prepared to raise concerns"* (Safer Maternity Care 2017).

"During our service visits across England we saw at first hand many examples of service provision where ***multi-professional teams*** *worked seamlessly and cooperatively together to deliver high quality care. However, we also heard about a culture of silo working and a lack of respect across disciplines, particularly between obstetricians and midwives"* (National Maternity Review 2016).

*"****Professional culture*** *matters enormously and where it is dysfunctional it has a direct impact on the quality of services. At Furness General Hospital there were unchallenged failures in*

*clinical competence; poor relationships between obstetricians, paediatricians and midwives; a culture of midwives promoting normal childbirth 'at any cost'; failures of risk assessment and care planning; failure to escalate concerns; and a failure to investigate adverse incidents and learn lessons" (*National Maternity Review 2016).

The quote above paints a picture of a dysfunctional unit and refers to the full scale investigation of poor outcomes led by Bill Kirkup (Kirkup 2015). There followed a national outcry regarding the culture of midwifery. While it names only one unit, it creates a feeling that this could happen anywhere because a multitude of factors could be the cause, which could present anywhere. The word 'culture' here suggests that the multitude of factors all need to work together if dysfunction is to be avoided. And thus, fear is provoked both in the reader as a potential service user but also as a staff who could contribute to failure, even preventable death. Culpability is shared across the unit when dysfunction becomes the cause.

*"Both midwives and obstetricians highlighted the need to i**mprove working relationships between their professions and with other groups** such as GPs, health visitors, nurses, neonatologists, paediatricians and anaesthetists. The problems identified included issues of communication, handovers and disagreements about how to handle specific situations such as the transition to more specialist care. What was clear is that everyone involved had the interests of the woman and baby as their priority – where they differed was their perspectives on how to secure the best possible care for them"* (National Maternity Review 2016).

The latent narrative behind this discourse for me, is being *led to safety* by the authors of the documents. By creating a sense of authority in being able to 'lead to safety', the documents may also make it harder for the multiprofessional teams to do this as a constructive way forward, to assume that they are part of the "we" the documents establish. The texts do not seem to 'call in', rather they call them 'out' (points finger of blame) and constructs a divide between staff and the authorial voices.

These texts also highlight the range of things that need to go smoothly if dysfunction and death are to be avoided. What is alarming is the idea that one might be in danger (even death) if such teams did not work well together. While the overt intent in the text is to

suggest ways of reducing dysfunction, its covert message creates a sense of fear and anxiety about the service.

The language of risk and fear

I did not analyse the chosen texts to suggest we should ignore risk. At the same time, where there is anything alarmist or similar being used to shore up power, then that needs to be examined and exposed. The term risk, however, has many meanings and these are not always clear (Peterwerth et al.2022). In many ways the contemporary world is risk-averse. It is not therefore too much of a revelation that midwifery is largely governed by risk assessment and clinical governance. In this section, I look closer at the idea of risk in contemporary life, drawing briefly on the works of sociologists such as Beck and Douglas, to help situate the phenomenon of risk in midwifery/childbirth within broader contexts.

What is meant by the term 'risk' in maternity care and what obstetric health professionals understand by this term seems to remain unclear (Peterwerth et al. 2022). According to theories of risk, understandings of risk depend upon the social and cultural context in which they are embedded (Douglas 1992 cited by Scammell 2016). Risk perception is not merely an impartial probability of harm but rather a socially embedded process where some harms are amplified, and others ignored. In healthcare the concept of risk appears to be synonymous with an event or action causing harm (Burgess 2016). The word 'risk' appears many times in the documents reviewed for the analysis.

"The proportion of women who have conditions such as diabetes in pregnancy has increased. In line with these trends, higher proportion of births involve more complex care, which ***requires risks to be managed*** *and more interventions"* (National Maternity Review 2016).

"Several of the women who died from cardiac causes reviewed in this report had unplanned pregnancies despite being known to have ***high risk cardiac conditions"*** (Knight et al. 2019).

".....those from a lower socio-economic group are at a much ***greater risk of complications*** *during and after pregnancy"* (Safer Maternity Care 2017).

Following the publication of the National Maternity Review (2016) which recommended continuity of midwifery care, more midwife led units and agreement from mothers that

their midwife be with them throughout their childbearing journey, there was a backlash. This came from healthcare professionals and service users who see childbirth as normal only in retrospect. Furthermore, the recent Ockenden review (2022) has presented the view that childbirth can be perilous. This position is not supported in the literature and Renfrew et al. (2014) found that quality midwifery practice can improve safety. Ockenden (2022) did identify poor quality care generally, not just in midwifery but in the whole maternity system. However, as with all the recent maternity reviews and investigations this must be taken in the context of the political and professional narratives at the time.

Dahlen (2016) suggested that the National Maternity Review (2016) was good news for women and most midwives, however, to those people who see childbirth as inherently dangerous, it was flawed. Since then, risk seems to be an ever-present notion associating childbirth with dangers and hazards (Ockenden 2022). Bisits (2016) commented that we benefit from a proliferation of research about risks in pregnancy and birth, but this may be adding to the feeling that pregnancy is inherently dangerous. Clearly, an appropriate risk perception is vital to provide the best care to the childbearing population, the problems with risk being trivialised has been the undoing of many institutions (Kirkup 2015, Ockenden 2022).

I have considered the risk-averse nature of the service (how popularising fear works to allow those in authority to lead), but it is also important to explore what the documents are saying regarding childbirth as risky, as some authors and commentators suggest this is a good thing as it may lead to better consideration regarding safety (Titcombe 2015). The term risk has been a very controversial topic for many years (Skinner and Maude 2016, Dahlen and Caplice 2014, Mead and Kornbrot 2004). Discussing risk in maternity care seems to be progressively more challenging and Coxon et al. (2016) suggest that maternity care is now 'risk oriented'. Roberts (2019) comments that maternity services in the UK have seen an escalation of risk management strategies in response to adverse outcomes. Healey et al. (2016) talk of risk management instilling fear into midwives about being blamed when things go wrong.

Risk is rightly feared as it can bounce around and attach itself to others who were not originally “at risk” - so an ‘at risk’ mother may become a source of ‘risk’ to those health professionals providing the service. Beck (1992) wrote about the Chernobyl disaster and the subsequent fear of “contamination” and rising perception of “contagion” of risk in contemporary society. Beck (1992) described “conflicting identities” – how the contamination caused to sheep following the Chernobyl incident led many to believe that Sellafield in the UK was also to blame. However, the farmers refused to be drawn into this argument against Sellafield as they had family members working at the plant, and this may upset the cherished social and kinship networks that existed between families. Beck interprets this as a “private reflexivity”. This conflict can be paralleled in maternity care, where midwives and women may struggle to respect the dominant discourses and rising perceptions of risk to pregnant women may cause them as caring professionals (conflicting identities) to be more sceptical of scientific management This risk paradox was discussed by Scammell and Alaszewski (2012) in their study where midwives were committed to normality and “good”. However, the possibility of pathology is always present. When something goes wrong, an inquiry identifies who and what is to blame. Everything becomes someone’s fault. (Douglas 1990).

The Safer Maternity Care report (2017) in putting forward a recommendation for beneficial maternity investigation to create a system of learning that also provides patients with recourse to faster compensation for harm states that:

“Like HSIB's national-level investigations, these maternity investigations will be about understanding the facts of what went wrong, rather than assigning blame or liability and will focus on the human and system factors that may be contributory causes” (Safer Maternity Care 2017).

Where harm has occurred, the National Maternity Review document suggests:

“Where the harm was caused by acts or omissions related to care during term labour, a financial settlement should be provided to support the baby’s care. To provide a more rapid, caring response to serious harm and develop a stronger learning culture and improved outcomes, the Department of Health should give serious consideration to the introduction of a “rapid resolution and redress” scheme” (National Maternity Review 2016).

This suggests the need for a social and cultural environment of transparency and a more sympathetic concept than that suggested by Douglas in 1990, who suggested that a blame culture was a way of "manning the gates through which all information must pass". Blaming is a way of manning the gates and at the same time of arming the guard. Information that is going to be accepted as true information may be seen as an allegiance to the particular political regime or a source of superior knowledge with which the midwife is anticipated to be aligned; the rest is suspect, deliberately censored or unconsciously ignored. This is what Douglas (1990) describes as social intelligence and contributes to the workplace culture.

However, authors continue to comment on the discourse of risk that "permeates the biomedical model of care and managing risk has become central to legitimising interventions during pregnancy and childbirth" (Lankshear et al. 2005). MacKenzie Bryers and van Teijlingen (2010) concur with this view and believe that the dominance of the biomedical model of childbirth is integral to the concept of risk and vice versa. Davidson (2020) comments on a rising concern that increasing dependence on technology and the medicalisation of birth will erode traditional midwifery skills. Machin and Scammell (1997) had also coined the phrase "the irresistible biomedical metaphor". The metaphor of the authority of science and medicine, the safety of white coats and medication. When in labour, women move away from their everyday lives and the culture they are familiar with. They change from being one person to becoming another and at this turning point may be reassured by the symbolic messages of the doctors (Machin and Scammell 1997). The perception that birth can only be considered safe in retrospect creates a system whereby interventions are practiced in order to avoid potential negative incidents (Cole et al. 2018).

*"In the absence of means of prevention or prediction, the mainstay of treatment remains rapid recognition and **early intervention**"* (Knight et al.2019).

*"Women are giving birth later: there has been a steady increase in the average age of first time mothers from 27.2 years in 1982 to 30.2 years in 2014. The proportion of women who have conditions such as diabetes in pregnancy has increased. In line with these trends, a higher proportion of births involve more complex care, which requires risks to be managed and **more interventions"*** (National Maternity Review 2016)

This discourse is also apportioning blame to women and their lifestyles/choices to have babies later. Of course, many women are not ready to have babies when they are younger. Others are not able to have babies earlier (no reliable partners or income). Society's changes are reduced to 'lifestyle choices' of women which can make them figures of shame/blame.

The technocratic/biomedical model of birth suggests that risk and fear of adverse events appears inescapable. As Proctor (2002) insightfully argued, the processes of diagnosis and treatment are often predicated in a quantitative way and therefore, risk is often constructed in clinical terms of numbers and ratios.

*"Overall, midwifery **style** services can provide good care for low risk women having a second or subsequent baby: planning a birth at home or in a midwifery unit results in **fewer interventions,** the chances of transfer are low, and there is no evidence that outcomes are worse"* (National Maternity Review 2016).

I am drawn to the word "style" in this paragraph and wonder what the authors meant by this. It may simply be a way of describing midwifery care, but it leads me to consider the reason why the word was included. Could there be some hidden bias/blind spot here revealing a discourse of power between obstetrics and midwifery? Did the authors mean midwifery – led care in the truest sense or something more covert?

The evidence that midwifery care lowers rates of interventions in labour and can improve care quality and safety is overwhelming (Renfrew et al. 2014, Nove et al. 2021).

"If we can increase the proportion of births supported by midwifery care, we will be able to reduce the cost of medical interventions" (National Maternity Review 2016).

This quote suggests that there is also a financial implication to midwifery care and a political position to reduce the cost implications. Midwifery care is thus positioned in this discourse in quite clear ways: it is particularly useful for low-risk service users, and it helps reduce costs.

Discourse Analysis alerts us to what may remain unsaid but implied in such positionings-in this case, the figure of the high-risk user (older women with co-morbidities) and the requirement for more expensive biomedical interventions appear as a contrast. It also suggests that such binary ways of imagining maternity care also possibly implies a hierarchy within the services with one led by midwives and the other by different medical professionals. In some ways, such binaries implicit in these discourses also contradicts other measures about multiprofessional teams needing to work as one. In the next section, I look at the implications of risk and fear arising from managing risk for maternity health care professionals and the broader work culture.

The relationship between risk and fear and implications

Scammell's research (2016) demonstrated that the midwives saw childbirth as essentially risky and were scared by the risk. The participants suggested that to be good midwife one had to anticipate the uncertainties and avoid them if possible or even better, eliminate them completely. Douglas (1992) argues that this approach to risk engenders a moral dimension, in that, those who fail to demonstrate suitable risk averse behaviours are considered to be social outcasts. Scammell (2016) illustrated in her research that midwives had deeply embedded connections between fear and risk.

Dahlen (2016)talks about childbirth being controlled through fear and explores the perception of risk as being subjective. This notion of 'fear' is one that is also taken up by Healey et al. (2017). This is evident in the National Maternity Review (2016):

*"….. when things do go wrong, the **fear of litigation** can prevent staff from being open about their mistakes and learning from them. No family should wait for years as the rights and wrongs of their tragedy are fought over by lawyers".*

*"Maternity care in England is being transformed for the better; however, on average, two litigation claims for brain injured babies are settled every week. The Royal College of Obstetricians and Gynaecologists recently reported that 76% of the 727 cases of birth-related deaths or brain injuries they reviewed might have had a **different outcome with***

***different care**. We must continue to do everything we can to prevent such avoidable tragedies from occurring in the future"* (Safer Maternity Care 2017).

This notion of fear is apparent in all the texts analysed. Dahlen and Caplice (2014) talked about midwives and obstetricians using 'self-protection' within a culture of blame. Dahlen (2016) considers the culture of fear within organisations and reminds us of the political value of fear. Fear increases anxiety; therefore, this leads to fear about safety, and this goes on to justify a range of interventions that may be unnecessary or badly timed. Fear is a powerful human emotion and has also been used by people in power for generations (Boyack 2014). This issue is demonstrated in the documents, for example, the National Maternity Review (2016) comments on the inconsistencies in reporting adverse events:

"This degree of variation is impossible to reconcile with differences in the underlying occurrence of adverse events, and it is clear that under-reporting of safety incidents is widespread".

The under-reporting is not attributed to 'fear' per se, but the latent message suggests this may be the case. Furthermore, the text goes on to comment on the fact that those units that report all cases of adverse events learn more and have a stronger learning culture:

"When talking to maternity teams during visits, there were clear differences of approach between high and low reporting units. Those from higher-reporting units described a strong learning culture with good team working. Elsewhere, opportunities for learning and improvement were being ignored".

*"Professionals also told us that the threat of litigation and the high costs associated with it could encourage obstetricians and midwives to **practise in a risk-averse way**, inhibiting their ability to support some of the choices that women may want to make, contributed to the administrative and data collection burden, and undermined multi-professional working"* (National Maternity Review 2016).

Healey et al. (2016) suggest that as a culture of risk is embedded in wider society it is not at all surprising that it has manifested itself in maternity services. Peterwerth et al. (2022) explored the risk perceptions of midwives and obstetricians and concluded that there was a wide range of what is understood by the term risk in relation to the delivery suite or certain situations. These perceptions varied from women with medical conditions to workload and

staff shortages. The results of their study demonstrate that risk perception is multifactorial and a 'complex construct of a number of factors'. Workplace culture is often left out of the discussion, and it is well documented that this issue can have a profound effect on an individual's confidence and coping mechanisms (Bedwell et al. 2015). The results also show that healthcare professionals work in a field with many tensions, illustrated by the fact that childbirth can deviate from 'physiological' at any time. This is commented upon in the Safer Maternity Care document under analysis:

"Pregnancy, labour and birth are natural physiological states, and most healthy women remain at low risk of developing complications. For some women, however, including those initially considered to be 'low-risk', circumstances can change dramatically and rapidly putting both the woman's and the baby's lives at risk" (Safer Maternity Care 2017.

Therefore, midwives in particular, find themselves in a paradoxical situation of having to manage risk whilst promoting 'normality' (Scamell 2016). Scamell (2016) argues that these two approaches are divergent and clinical governance practices seek to take possession of the future, even though the future is an imagined event. In the end, according to Scamell (2016) risk speaks louder than 'normality'. Graham and Oakley (1986) had already described this contradiction and discuss the fact that social and medical models of childbirth may be in conflict. Knight and Bevan (2021) suggest that thinking in silos of high and low risk does not help women or their babies. The dangers of discourses are that they rely on binary constructions.

Many women will need specialist care from a range of professionals to ensure good outcomes for them (Knight et al. 2019). However, Knight and Bevan (2021) demonstrate that the healthcare structures in the UK are biased against complexity and not set up to allow for women's changing needs in childbearing. Women and families may raise concerns, but these may not always be taken seriously with potentially devastating consequences (Ockenden 2022).

The National Maternity Review comments:

"The categorisation of women as high, medium or low risk was inappropriate and acted against personalisation of care".

However, this statement needs to be taken with consideration of the timing of the publication and with regard to the overall sentiment and purpose of the document. This is a document that was published in 2016 and, at that time, there was a huge movement to continuity of care and carer following the publication of the Lancet Framework (Renfrew et al. 2014). The Lancet publication demonstrated that midwifery-led care enhanced safety and quality. The National Maternity Review (Better Births) (2016) continued to put woman-centred care at the core of the policy.

In 2022 the Ockenden report was published and highlighted numerous failings in one maternity unit. This has led to a backtrack in the continuity model of care and a further move towards a biomedical model of care (Ockenden 2022). Therefore, are women's voices really being considered as this report suggests?

"We were told that women do not always feel like the choice is theirs and that too often they felt pressurised by their midwives and obstetricians to make choices that fitted their services" (The National Maternity Review 2016).

In this section I have considered how the idea of 'risk' works amongst professionals in a context of litigation and in a context where the changing demographics of pregnant women suggest that the idea of 'normality' of childbirth may no longer be as useful. At the same time, the discourse of allowing women a greater say in their own care (as against the bio-medical care model) competes against these various developments, creating a complex work context. To add to this complexity, there is the rising awareness of inequalities in the general population adding to the risk that women face during childbirth. In the next section, I examine the context and discourse around this factor.

Women and Midwives

Our sense of reality is defined by the internationalisation of culturally constructed social structures (Crowe 2005). It is reasonable to assume that the particular version of reality that

represents the interests of women is evident in maternity services. While medical discourses clearly distinguish doctors from patients, midwifery positions itself as aligned with women. However, midwifery, placed professionally below medicine in the medical hierarchy, loses even more authority by merging with the patient; profession and patient are both usually female (Lee and Kirkman 2008). It has been suggested that this gendered knowledge and power function within a patriarchal society to maintain the authority of the masculinity of medicine (Lee and Kirkman 2008).

Risk is pretty firmly associated towards reducing the risk to the organisation, the Clinical Negligence Scheme for Trusts is evidence of this. It is aimed at reducing the financial burden of litigation for malpractice masked as concern for women. The uncontrollable risk of midwives supporting women to choose homebirth for example, is seen as "ideology" by some commentators as they try to discredit the practices of midwives. Probably to then enable medical management of childbirth where risk may be more controlled. Scammell (2016) talks about the "precarious world of midwifery" and explores the narrative that midwives have an understanding of birth that focuses on respect for bodily autonomy as opposed to a faulty body laden with risk.

The National Maternity Review (2016) document talks about 'putting women at the centre of the care', 'listening to women' and 'personalised care'.

"Listening to women who express concerns and acting on what they say."

"It is vital that women have evidence based, unbiased information to make their decisions and develop their personalised care plan."

"All pregnant women have a personalised care plan" (Safer Maternity Care 2017).

"We were told that women do not always feel like the choice is theirs and that too often they felt pressurised by their midwives and obstetricians to make choices that fitted their services" (The National Maternity Review 2016).

The underlying issue here is that where the documents are calling for women to have greater control and choice, this rhetoric is not matched by the reality and unspoken agendas limit their choices, such as waterbirth when a woman has a medical condition (Redwood 1999). The Changing Childbirth report in 1993 (DH 1993) had also appealed for choice, control, and continuity for women and yet the National Maternity Review (2016) asks for the same. This may be related to funding in my opinion. In 2016, as is the case now, maternity services are woefully understaffed, underfunded and undervalued. The latent narrative of the documents therefore may be missing the point. Constantly publishing documents appealing for maternity transformation without the necessary infrastructure is damaging to the service, the healthcare professionals and the women and their families. Person-centred care and informed choice are at the forefront of UK maternal policy agenda, however, qualitative research suggests that decision making in some areas of maternity care may not be as 'informed' as it should be (Coates et al. 2019). These authors described a gap between women's needs and reality and a feeling of "lack of control". The findings called for good quality information to give to women as well as supporting women's self-efficacy at being involved in their care.

However well-intentioned the texts may be, there remains the notion that these documents are not passive and power and inequality are embedded within them. This may have been described as a 'double discourse' or an 'explicit – implicit discourse' (Yuill et al. 2022).

This concept of 'allowing' women and midwives to do or not do certain things is evident in the texts. This confers a power differential. Although the texts call for choice and control for women, these words appear to treat the women and midwives as passive participants. Bosanquet (2002) discussed how the hospital environment can shape our identity and our actions and how we can develop strategies to challenge its negative impact. She describes midwives as "docile" within the hospital environment, becoming complacent and compliant with the highly governed medicalised culture.The quotations below highlight this controlling ideology of "allowing" staff and patients access to only the things that are permissible. Women have reported being treated in impersonal and unsympathetic ways (Ockenden 2022).

*"…**allowing** families to know"* (Safer Maternity Care 2017)

*"…**allowing** women to access their electronic record"* (National Maternity Review 2016)

*"It would **allow** midwives to accompany the individual woman"* (National Maternity Review 2016)

*"…**allowin**g midwives to supply"* (Knight et al. 2019)

The National Maternity Review document explicitly mentions 'choice' for women as being important:

"enables women to make safe and appropriate choices of maternity care for them and their babies"

The latent message here may be that women may not be able to make a choice on their own, and the 'professionals' may need to 'step in'. Balancing the risk may be embroiled in the morality of motherhood. This notion that the mother must protect the baby at all costs is deeply rooted. Chadwick and Foster (2014), in their research, discovered that some women were much more concerned with the 'end-product' of birth, namely the baby, than the process of childbirth itself. The authors go on to demonstrate that all the women in their study constructed biomedically defined risks as significant.

"enables women to make safe and appropriate choices of maternity care for them and their babies"

The use of the word "appropriate' is also very authoritative. By whose judgment is a choice deemed appropriate? Taking into account "how do politics and poetics intertwine in the text" as described by Maclure (2003) the National Maternity Review (2016) foreword by Jeremy Hunt is very emotional and "touchy-feely". It is relegated to the margins (foreword) and draws together a group of people (women) who otherwise do not exist (as a group). It would be pertinent to ask what is its purpose?

"Over the last year I have had the opportunity to meet with many women and their families. You took the time to share with me your experiences and reflections on the care you and your loved ones have received – both good and bad. You did that willingly and honestly. I have heard many inspiring stories and wonderful ideas, but also heart-breaking experiences and moments when the care provided has fallen short. The insight you have given to me into what matters to you, what could be better and where things are already great, has been tremendously helpful and at times deeply moving. For that I thank you".

By contrast, most often, women and babies are discussed in the third person in the reports, as if they are the subjects/objects of the gaze of the texts. For example:

"Women are giving birth later: there has been a steady increase in the average age of first time mothers from 27.2 years in 1982 to 30.2 years in 2014. The proportion of women who have conditions such as diabetes in pregnancy has increased. In line with these trends, a higher proportion of births involve more complex care, which requires risks to be managed and more interventions."

This seems to be when the authors wish to direct the comments to healthcare providers. It is written in the language of science, turning an objective gaze on the issues under scrutiny. But the contrasting switch in language in the minister's foreword exposes the ways in which subjects, women in particular, may be called forward or objectified to suit the needs of particular elements of the text.

Inequalities and disparities

All three documents discuss and comment on 'inequalities. These may be health inequalities, ethnic minority, or cultural inequalities. It is widely known that black and minority ethnic populations in the UK suffer greater inadequacies in maternity care as opposed to white Caucasian women (Knight et al. 2019).

The words 'disadvantage', 'severe multiple disadvantage', 'inequalities' appear many times across the texts. The documents highlight the need to recognise health inequalities and provide quality care to women from all backgrounds. However, what the texts do not do to any great extent is tell the readers **how** to provide better care. This relates to Maclure's (2003) question "where are the gaps, silences and inconsistencies in this text?".

"To reduce health inequalities families of all backgrounds need the right care, support and information that take account of individual needs and barriers to health" (National Maternity Review 2016).

The above quote is an example of texts trying to stay "neutral" (or colourblind). If inequality is to be reduced, then it means that some families are going to be treated better than others. This in turn means that those families need better/more care than they are currently afforded. So, saying that there is inequality but that all families should be treated the same is contradictory.

The inequalities observed in previous reports persist. The MBRRACE report highlights for the first time the number of women who die that have severe and multiple disadvantage. Black women still have more than five times the risk of dying in pregnancy or up to six weeks postpartum compared with white women, women of mixed ethnicity three times the risk and Asian women almost twice the risk (Knight et al. 2019). This feels even more contradictory as it is still talking about "all families" must be treated the same, it may be suggested therefore that the text is silent (Maclure 2003) on how to address structural racism.

Although the MBRRACE (2019) report does offer some hope of recommendations:

"…a number of research projects are in progress to explore in depth the underlying reasons for this inequality and identify specific actions to reduce this disparity".

The authors ask readers to remain 'aware and questioning', which is not of immediate help:

"Continued awareness of these inequalities within our own services and questioning whether the way we deliver care before, during and after pregnancy unconsciously disadvantages different groups of women, whether on the basis of their ethnicity, socioeconomic status or pre-existing social, mental health or physical health problems is an important immediate first step we can all take."

The text explicitly makes this an individual's responsibility by asking them to question how care delivery works for different ethnicities/classes, without addressing this as a structural problem. Individual prejudice is less of a problem than systemic inequality but the text here seems to stop short of identifying this as the main issue.

The National Maternity Review (2016) does offer some perfunctory guidance for healthcare professionals:

"We heard from a number of women from a wide variety of different backgrounds and while their needs and circumstances were distinct, their requests of healthcare professionals were similar, and echo what we heard from the majority of women. Key for all groups was that healthcare professionals understand and respect their cultural and personal circumstances as well as their decisions."

The quote above seems to be homogenising all women as having the same requests of health care professionals. There are similarities here with the "we have to be colour blind" instruction that is often given. Norris (2019) argues that colour blindness is far more damaging that explicit forms of racial discrimination. This "separate but equal" ideology between blacks and whites may actually impede solving the problem. Under the guise of equal treatment for all, racism may be hidden. Furthermore, analysis of the texts without any intentional consideration towards historical and contemporary influences may engender racial biases.

Aiming to explore the reasons behind the disparities in care for these women, there has been a year-long inquiry into racial injustice and human rights in UK maternity care (Birthrights 2022). The central finding of the inquiry was that there is systemic racism in UK maternity services. The authors call for services to commit to being anti racist and for maternity curriculums to be decolonised. The analysed texts do not mention the word "racism" per se but they do go to some lengths to discuss and tender statistics with regard to the care for women and babies of different backgrounds:

"Pre-term birth is a major health inequality with mothers in the most deprived 10% income group twice as likely to have preterm births compared to those from the least deprived decile. The proportion of preterm births also varies by ethnicity, with infants of Black Caribbean parents more likely to experience preterm birth" (Safer Maternity Care 2017).

A recent publication by the Muslim Women's network highlighted the maternity experiences of Muslim women and the systemic racism to which they are subjected within maternity services (Gohir et al. 2022).

Clinical competency, education and learning

The primary research question asks **"Are student midwives in the UK adequately prepared to care for women with critical care needs?"**

The texts analysed for this chapter frequently comment on the need for further training and enhanced skills:

*"….a new standard of care 'Enhanced Maternal Care' which lies between normal midwifery care and admission to a dedicated critical care unit. This care will often require collaborative working between midwives and other healthcare professionals with **skills and knowledge of critical illness"*** (Knight et al. 2019)

*"Pregnant or recently pregnant women should have access at all times to a healthcare professional who has **enhanced maternal care competencies"*** (MBRRACE 2019)

*"In addition to these universal improvements, **professionals need the right training and skills** to be able to identify, manage and refer to appropriate specialist support ….*" (National Maternity Review 2016)"

Knight and Bevan (2021) call for additional staff with extra skills to care for each woman individually, starting with a detailed assessment of needs. They call for specialist training.

Words and phrases commenting on training for the 'early recognition of signs and symptoms' were particularly evident in the MBRRACE (2019) report:

*"The importance of **early recognition** of the critically ill mother and prompt involvement of senior clinicians needs to be repeated as does the need to re-evaluate how we work in multidisciplinary teams".*

*"Recognition that serious symptoms and signs, such as orthopnoea, persistent tachycardia and breathlessness at rest are not normal in pregnancy, will go a long way in ensuring earlier diagnosis with the possibility of **specialist treatment** to prevent women from dying"* (Knight et al. 2019).

*"…the mainstay of treatment remains **rapid recognition and early intervention**".*

*"Throughout her care, there was a **lack of recognition** of how unwell this woman was".*

*"Confidential Enquiries have repeatedly emphasised the **early recognition** of deterioration in pregnancy".*

In the first two quotes above we can see that early recognition is closely followed by the need to involve senior clinicians and the importance of team working. In a sense, the early recognition is about noticing risk, particularly rapidly escalating risk. The training required is for the eye to spot the risk. When the risk is not spotted, the risk spreads from the service user to the service providers themselves. This causes fear of potentially risky situations and links to the "contagion of risk" described by Beck (1992).

Dahlen and Caplice (2014) conducted a study to ask midwives of their greatest fears. The top eight included death of a baby, post-partum haemorrhage, causing harm to the woman, shoulder dystocia and worrying in case something went wrong. Midwives need to feel prepared to cope with what may happen (Dahlen 2010). The MBRRACE report (2019) repeatedly called for continuous professional education and training:

"The availability of a critical care outreach or equivalent service which provides support and education to health- care professionals delivering enhanced maternal care."

The role of midwives as providers of maternal critical care has challenged the profession (Kingwell et al. 2017). It is important that midwives are 'with women' beyond the usual sphere of midwifery care, this may be in highly technical environments. This has arisen in response to the clinical need many women have who are experiencing morbidities throughout their pregnancy and birth. Midwives feel unprepared to care for women with such needs (Bench 2007), perhaps because traditionally this has not been a focus in midwifery education.

Skilled midwifery care can prevent problems; Renfrew et al. (2014) identified that midwives are important for additional care needs as well as fundamental midwifery care. Skilful, knowledgeable midwives are able to rapidly recognise complications and refer appropriately. Education is seen as the key component by policy makers and educators (NMC 2019).

"Professionals told us that there is a need for better investment in education and training. This included the importance of multi-professional education and training at all stages of pre and post registration careers, training to address some of the ***'cultural tensions'*** *that*

currently exist and training professionals to improve skills such as perinatal mental health care" (National Maternity Review 2016).

The **'cultural tensions'** mentioned here do not suggest merely education of midwives but education of the entire sector.

"Through the efforts of skilled midwives, obstetricians, neonatologists, neonatal nurses, support staff and other health professionals, the outcomes and experiences of care for pregnant women, their babies and families are improving" (Safer Maternity Care 2017).

Although the documents indicate a need for multidisciplinary team training and learning, they do not offer specific interventions.

"We are confident that improved investigations when things go wrong, combined with shared learning, support for staff and national training in quality improvement methodology, will deliver better care" (Safer Maternity Care 2017).

"Multi-professional training should be a standard part of continuous professional development, both in routine situations and in emergencies" (National maternity Review 2016).

"Multi-disciplinary teams have developed knowledge and skills in quality improvement science through the Maternal and Neonatal Health Safety Collaborative. The culture in all maternity and neonatal units is visibly one of continuous learning and quality improvement" (Safer Maternity Care 2017).

A lot of emphasis is placed on education and continuous development post degree. There is no explicit mention of undergraduate training for midwives.

Harris et al. (2022) performed a scoping review to examine what teamwork interventions have been described in the literature and attempt to make recommendations for future development. The authors identified very few interventions that were designed for whole teams to train together, most were targeted at specific professional groups. While this learning has value, it may be suggested that there is a need to address the gaps, especially in the light of the recent Ockenden report (2022) which calls for 'those who work together should train together'. Prosser-Snelling (2015) had said the same thing following publication of the Morecombe Bay Investigation (Kirkup 2015). He concluded that handover

and teamwork are areas that are well suited to clinical quality improvement and called for further multidisciplinary team training.

The paradox here is that there have been calls for better teamwork, improved training, and more staff for decades (Smith et al. 2009, Nielsen et al. 2007). Smith et al. (2022) concluded that the training of healthcare staff generally in the care of acutely ill patients was suboptimal and added to patient risk. The authors called for improvements in training starting at undergraduate level for maximum effect, this would likely improve patient safety in acute care. Plans to revise models of care have been debated for many years in an effort to improve safety and Hatem et al. (2008) concluded that midwifery led care can offer a number of benefits, including improving safety. Despite this, there are obstructions to its widespread implementation (Walton 2022, Ockenden 2022).

Conclusions

CDA is an interpretative process and acknowledges the multiple interpretations that can emerge from the text. Clearly the key to establishing rigour with this methodology is to examine the strength and logic of the argument, and how it sets out to persuade or establish truths (McCloskey 2008). This process is an interpretation of the texts and can be idiosyncratic. This need not a problem if there is transparency and a willingness to acknowledge the manner in which the CDA is developed.

The strengths of the texts lie in their disciplined approaches, in carefully and meticulously laying out the data and the problems they give rise to. Scientific writing as long been thought to be 'rhetoric free' or 'interpretation proof' (Maclure 2003). However, some authors have demonstrated how scientific papers use rhetorical devices to *persuade* readers of their arguments (Latour and Woolgar 1979). Maclure (2003) comments that it can be difficult for readers to spot the rhetoric in scientific and scholarly texts because of the stylistic and rhetorical skill with which they may be composed. Whilst the analysed texts are not necessarily scientific, they do include large amounts of medical information, and all of them set out to persuade readers of certain messages. The latent messages are difficult to

interpret as the authors present all the information as 'facts' to be believed and acted upon. The MBRRACE report (2019) has lists of actions for different people to execute.

***"NOTE: Relevant actions are addressed to all health professionals** as silo working leading to compromised care is a recurring theme identified in these enquiries. Some actions may be more pertinent to specific professional groups than others but all should nonetheless be reviewed for relevance to practice by each group."*

The interesting point for consideration here is that it is another example of "you are all different but the same". Seemingly the texts wish to maintain neutrality (as a sign of equality), which in itself can perpetuate inequality.

Rather than seek to find solutions, this discourse analysis aims to offer further insight into maternity reports and review documents and better understand the underlying covert and overt messages presented. The issues of power and authority are entwined in discourses of 'risk' and 'safety' and it is debatable to what extent these discourses are focused on the safer care for women and babies and to what extent they aim to protect the health care system and the professionals who work in the system.

The findings of this CDA have generated important insights into midwifery and obstetric practices and the wider culture in which they operate. By far the biggest implication on maternity and obstetric practice is the overwhelming and overt discussions around safety and quality. The language of risk and fear is significant and raises many questions for the midwifery profession. Dahlen (2016) states that ruling by fear is unacceptable when there is evidence to guide/improve practice. Any discussion about risk seems to lead onto consideration of professional identity and framing of attitudes towards birth. The overriding challenge appears to be finding the balance between birth as a physiological event and being aware of accompanying and diverse risks (Scammell 2016). The conflicting ideologies around birth may be hindering the scope of midwifery practice. The biomedical model produces a disconnect and forces midwives into routine and standardised care (Bradfield et al. 2019).

In answer to the question "What do policy documents and publicly available material from authoritative sources reveal about this issue?", the answer is that messages vary across the

texts and within the texts. Together, they create the landscape in which maternity services operate. In terms of midwifery education, the texts overtly offer to support midwives with further education:

"…offering training to midwives in perinatal mental health care" (Safer Maternity Care 2017).

There is little discussion of how student midwives themselves might be trained or about how the health service system as a whole may contribute to student education. Woman-centred care is what distinguishes midwifery from other health disciplines/services. This distinction is crucial to the professionalization of the midwife. Interprofessional collaboration, when effective, leads to empowered professionals (Prosen 2022). The analysed texts talk openly about the need for multi-disciplinary team working once midwives are in the system. Policy and guidance documents offer a window to the professions and to society on how healthcare professionals 'speak' to each other and construct their identities (Fealy et al. 2018). The language used is important and how the field of midwifery is talked to/talked about counts. This chapter's analysis suggests that authors of influential texts have a duty to bear this in mind so that discourses of fear/risk/safety are handled evenly and that they open spaces for all staff in the employment of the health service to be considered on an equal footing.

Chapter 5

A Delphi study on critical care education for student midwives.

Introduction

The rationale for including both a discourse analysis and a Delphi study is that the discourse provides a broad view of the landscape, agendas, pressures and contradictions of maternity care provision. My focus on education to cater for risk during maternity means there is a need to understand the expert view of how best identify and support the care of women for whom pregnancy is risky to improve outcomes for them and their babies. Hence the need for Delphi as a method. I will initially review the method and then describe the process.

The Delphi method is suited to examining complex issues in health and social care where agreement is sought and its main purpose is to get close to consensus about issues that are debated or contentious (Keeney et al. 2011). As there is much debate in the literature and in the field, about the role of the midwife and whether caring for critically ill women should be part of that role (Cockerill et al. 2011, Bench 2007, Vercuil and Hopkins 2015), the method seemed appropriate.

In 1999, Fraser conducted a Delphi study to examine the national midwifery curriculum. She suggested that using a Delphi approach to investigate teachers' views about proposed curriculum changes had several advantages: it encouraged participants to offer their opinion without feeling intimidated. This may be important if some of the participants are less experienced than others, for instance in a university where there are new lecturers and senior professors. The second advantage found by Fraser (1999) was the value of reaching a consensus is that future curriculum changes may be more likely to be successful. Keeney et al. (2011) remind us that a consensus level is usually set prior to the research, and this is gauged as a percentage (usually about 70%) However, if a consensus is not reached, fruitful data can be collected and a range of views uncovered. This knowledge can play a part in achieving compromise if not consensus. The aim of this Delphi study was to gain consensus

regarding key content, competencies and possible teaching strategies for midwifery critical care education.

Usually, a multi staged survey approach is used to gain agreement among a group of experts on a topic where none previously existed. Delphi also allows for inclusion of a number of individuals across a wide geographical location. The technique also offers chances for panel members to change their opinions, it avoids group dominance and can be used to establish priorities. It is this aspect of the technique that proved to be useful in this study of curricula reforms. De Villiers et al. (2005) describe the Delphi technique as a creative and efficient method with which to facilitate health science research.

In my research I sought to reach agreement gathering the views of experts in midwifery and midwifery education and policy makers. I intended the number of participants to be quite small and initially proposed adopting face-to-face interviews in round one to attempt to elicit the full support of the participants and engage them with the study. Keeney et al. (2006) suggest that response rates are enhanced if the participants feel as though they are partners in the study and are interested in the topic. McKenna (1994) achieved a 100% response rate with his Delphi study. This may have been due to him investing time to conduct one-to-one interviews with each participant and remind them that their responses will be fed back to them by questionnaire in further rounds. This initial contact allowed for trust and rapport in the relationship and possibly increased the likelihood of the participant's ongoing commitment to the study. However, during the global pandemic this process required revision as will be described in a later section.

Theoretical and Philosophical considerations

Post structuralism

Feminist theories may also be an appropriate lens with which to examine the data produced in this Delphi study. Feminist post structuralists recognize identity difference and power differentials (Ryan 2001). Where structuralism sought to expose the underlying structures of society, post structuralism is largely an opposition to this way of explaining life. It challenges structural explanations, is sensitive to meaning and language use, and emphasizes multiplicity of meanings and truths. This paradigm does not deny the existence of structures but rather asks how they are developed over time and maintained or open to change. Therefore, the Delphi study can explore the wider landscape of midwifery, maternity services and narratives surrounding and making up, these structures. A key assumption is that all knowledge is socially constructed and socially situated. Therefore, there is no universal truth or a single objective viewpoint (Ryan 2001). The impact of the 'multiple realities' as defined by post structuralism is that with the Delphi study ~~r~~ealities may be asserted, modified and reconceptualized. To arrive at a holistic understanding of the issue under investigation, Engels and Kennedy (2007) state that multiple realities and perspectives should be provided to participants for their response, during the data collection.

A Delphi study's findings are based on the constructed reality of the panel members, this does not fit into a reliability and validity criteria as defined in the traditional positivist paradigm (Keeney et al. 2011). The justification of these methods can be considered thus, if it is accepted that a Delphi study's findings are based on the constructed reality of the panel members and provides a shared understanding of the world, then we can justify the selection of social constructivism as a paradigm.

The knowledge and opinions of experts in the field are always extremely important and the Delphi method provides researchers with a powerful tool for collecting insight. Flostrand et al. (2020) believe this is why Delphi is increasingly being used in health care studies. The

notion of the expert as described by Benner (1984) can be directly related to the expert described in Delphi study - the expert is described as an analytical thinker, one who uses intuition and has emotional awareness (Benner et al. 2009). The health care proportion of annually published Delphi studies has moved from half in the1990's to over 80% in 2016 (Flostrand et al. 2020). Thangaratinam and Redman (2005) maintain that the Delphi technique is a reasonable strategy to use for achieving consensus over curricular needs. It has been used in identifying competencies for a variety of healthcare professionals, including pharmacists and nurses (Duffield 1993, Dunn et al. 1984). Gupta and Clarke (1996) suggest that the Delphi technique is also one of the best-known methods for dealing with open ended and creative aspects of a problem because it motivates independent thought and a gradual formation of group solutions.

Delphi Technique considerations and issues

The Delphi technique is an approach used to gain agreement among a panel of experts (Keeney et al. 2011) and consensus is normally achieved through a series of iterative rounds using questionnaires. The first questionnaire asks the panel for their opinions on a certain issue in an open-ended manner. This could potentially generate a huge amount of qualitative data; however, these responses will act as a springboard for the rest of the Delphi process. Following analysis by the researcher the second and subsequent rounds are sent back to the panel in the form of ranked statements or questions. The process is repeated until the researcher is satisfied that the study has achieved its aims (Parahoo 2012). The process may be described as multistage where each stage builds on the results of the previous one (Sumsion 1998). This is the Classical Delphi method (Keeney et al. 2011).

A mixed methods approach to data collection is seen by some authors as enhancing the validity of the methodology (Tapio et al. 2011). These authors see the integrating of qualitative and quantitative data in a Delphi study as "an unholy marriage" but worth the effort. This combination of approaches and data collection allows construction of visions of the future which may be considered more illuminating and exciting than those gained using only one type of material (Tapio et al. 2011). Different methods bring different perspectives

to a study. The combination of methods should strengthen confidence in the validity of the findings (Parahoo 2012). This Delphi may be “exploratory sequential” as I collected qualitative data first and then went on to analyse quantitative data (Shorten and Smith 2017).

The main premise of the Delphi method is that there is an assumption that group opinion is better and more valid than individual opinion. Surowiecki (2004) hypothesizes that collective decisions are most likely to be good ones when they are made by individuals with diverse opinions reaching independent conclusions relying mostly on their private information. The participants need never meet, thereby creating anonymity and voices of many participants can be heard (Powell-Kennedy 2000). It is recommended if the Delphi sample is homogenous, then a smaller sample size, such as 10-15 participants, may be adequate (Delbecq et al. 1975). Independence is important to intelligent decision making because errors in individual judgement will not ruin the collective judgement. Additionally, independent individuals are more likely to have new information rather than the same old facts and figures that may be familiar.

The notion of the expert

A fundamental component that sets Delphi apart from other forms of research is the use of the expert panel (Jones et al. 2000). Clayton (1997) suggests an expert to be someone who possesses the relevant knowledge and experience and whose opinions are respected by other people in their field. McKenna (1994) defines an expert panel as a ‘group of informed individuals’ and ‘specialists’ in their field.

The identification of experts has been a major point of debate in the literature (Hasson et al. 2000, Goodman 1987, Linstone and Turoff 1975). Goodman (1987) makes the point that Delphi studies should recruit individuals who are experts or informed advocates on a particular issue. Hasson et al. (2000) ask that a fine balance be employed between selecting experts who will be relatively impartial but also have an interest in the research topic. The claim of the Delphi to represent valid expert opinion has been criticized as not being

scientifically tenable (Strauss and Ziegker 1975). Simply because individuals have knowledge of a particular topic does not necessarily make them experts. Nevertheless, if the respondents have an interest in the topic and may be directly affected by the outcomes, they may be more likely to be committed to the research and stay involved in the Delphi process. Rowe (1994) suggests that experts be drawn from varied backgrounds in order to guarantee a wide base of knowledge. The diversity of the panel membership may lead to a better performance as it may allow for the consideration of different perspectives and a wider range of alternatives (Murphy et al. 1998). Most Delphi panels will be chosen for their work in a particular area and have credibility with the target audience (Powell 2003). Suggestions have been purported in the literature, such as, number of years worked in an area (Hardy et al. 2004), or particular qualifications held, or number of publications (Fisher 1978). Some studies have used pre-determined eligibility criteria (Miller 2001, Goodman 1987).

It is recognized though that qualifications may not always mean expertise (Crisp et al. 1999). Indeed, people can be in possession of knowledge without clinical experience. Key themes have emerged from these numerous definitions of the expert, including knowledge and experience and ability to influence policy (Keeney et al. 2001; Kennedy 2004). According to Benner (1984) becoming an expert requires that a person's knowledge moves along two dimensions: From explicit to implicit and from abstract to concrete. This concept has been challenged by Gobet and Chassy (2008) as they feel that Benner's theory was based on phenomenology which, in their view, is not as robust as research that is based on experimental data and science. More recent work by Benner et al (2009) extrapolates further the expert element of nurses in critical care, and the implications for education. It goes beyond pattern recognition and clinical grasp to a more nuanced understanding of the bigger picture of the system in which nurses work and therefore may be relevant to the selection of experts who have knowledge of critical care. This study chose experts based on eligibility criteria, which included expertise in the topic but also an interest in the subject matter.

Size of the panel

There is little agreement about the size of the expert panel (Williams and Webb 1994). As a consequence, therefore, the size of Delphi panels varies considerably from under 15 to thousands (Parente and Anderson-Parente 1987). I aimed to recruit ten to fifteen international 'experts' as this seemed a manageable panel size. This number was a pragmatic decision based on reading many Delphi studies and other literature on the subject, but I did consider the fact that critical care in midwifery is a fairly new area, and the number of experts may not be huge. The panel size was also considered feasible with just one researcher and a time bound study.

The experts should not be selected on the basis of being known to the researcher. However, UK midwifery is a 'small' sector and many of the experts are known to each other and also known for their views on particular topics. This makes it difficult to establish anonymity, a difficulty which led McKenna (1994) to adopt the term 'quasi-anonymity'. He referred to the fact that the respondents may know each other but their contributions to the study can remain anonymous.

I compiled a list of midwives which included educationalists from various higher education institutions, midwives and obstetricians from across the world and midwives from professional and statutory bodies.

Ethical considerations for Delphi Technique

Ethical approval for the study was granted in July 2019 by the University of East Anglia School of Education and Lifelong Learning research ethics committee. An email invitation to take part in the advisory group was provided and a participant information sheet given to each participant. Panel members were given time to decide if they wish to participate in the study and then signed a consent form (See appendices). Complete anonymity (within the dataset) cannot be guaranteed with the Delphi process as the researcher needs to link each panel member with their response, however there was quasi-anonymity as the panel

members did not know of each other's contributions. This concept was fully explained to the panel members.

Establishing rigour for Delphi technique

It is assumed that the Delphi approach enhances reliability in two ways; one, in that the participants do not need to meet face to face, therefore avoiding group bias and secondly, as the panel size increases, the reliability of the respondent group grows (Keeney et al. 2011).However, it must be remembered that the cornerstone of a Delphi is judgements of people; this means that the results may be influenced by personal bias and circumstance. Beretta (1996) warns that the reliability of the Delphi is highly dependent on the panel of experts. Keeney et al. (2011) considers that there are a number of threats in establishing external and internal validity.

These authors comment that it is unclear exactly how reliability and validity should be established in Delphi studies. It may help to clarify and strengthen findings if additional enquiry is completed. Kennedy (2004) used narrative analysis to build upon two Delphi studies that she had undertaken. This approach has time and resource implications. As the methodological approach is one of qualitative, interpretative ideals, some authors believe the term trustworthiness may be more appropriate than reliability and validity to gauge effectiveness of the study (Day and Bobeva 2005). The trustworthiness of my study was gauged by the anonymity of panel members and the opportunity for an equal chance for each participant to present unbiased ideas to me as the researcher. I considered the feedback to be honest opinion, free from group pressure. I considered that rigour was further influenced by the fact that myself, as the researcher, was not offering feedback but merely collating and collecting the responses.

Process for the Delphi Study

1. Prior to recruiting the experts for the Delphi study, I formed an expert advisory group with 2 experts who would not be part of the Delphi study. This advisory group helped to shape the initial Delphi questions and act as a sounding board to ensure the right

mix of experts, with the right qualities, appropriate for the study were chosen. I also asked the group to make suggestions about possible questions, potential experts and qualities of these experts, prior to meeting with them in order for them to have time to consider my ideas. I made notes of this conversation to justify how decisions were made. The advisory group were only used at the beginning and did not have any role in the governance of the study. The advice generated by the group was not used in the study.

2. Once the initial questions were formulated, I then approached 28-30 potential participants and aimed for 10 for the Delphi study. These participants were chosen from across a range of specialties within midwifery and obstetrics and consisted of those people to whom high dependency care was an area of interest or expertise. Other desirable qualities were experience in curriculum development, research and/or policy decision-making.

3. In order to ensure the participation of the right experts with knowledge of the subject they were identified through literature searching and recommendations from other recognized experts. I asked Lead Midwives for Education if they wished to participate in the study via the email network (this is a national network of midwifery educationalists who meet several times a year and communicate regularly via mail. The group are an expert advisory group to the national regulating body for nursing and midwifery) I also asked several experts specifically, via email if they would be interested in participating in the study.

4. I adhered to a protocol for determining who qualifies as an expert. These characteristics were: registered midwife, employed in clinical practice or education for two years or more, have an interest in obstetric high dependency care, be willing to participate or be a registered medical practitioner employed in the arena of obstetrics and gynaecology or education and be willing to participate.

5. I intended to see the participants face to face at the outset to gain a degree of engagement with the study. These appointments were to be made via email, letter or

phone call. These face-to-face interviews were to be conducted either in person or via skype or at a location of convenience to both the researcher and the participants. However, this process was revised during the global pandemic and all information was gleaned via secure email.

6. The Delphi consisted of three rounds to gain a consensus. The participants were not told of each other's participation in the study, but the questionnaires were not anonymous as I needed to communicate with each participant.

7. The data were collected with the first round of questions and then the second-round questions was formulated based on the answers given. The second round of questions was sent out approximately five weeks later, data analysed and the third round of questions formulated. The third round of questions approximately five weeks later. This allowed adequate time for data analysis.

8. Data analysis included both quantitative and qualitative approaches. The first round employed open ended questions and this produced a large amount of data. In order to condense for round two, I used content analysis to identify themes. This required developing a process of coding, categorising and conceptualising the responses. I used Microsoft excel for this. The aim of this exercise was to group all similar statements together into areas and then examine each area for the same or similar statements. These statements were then collapsed into one statement without changing the meaning. Subsequent rounds took the form of structured questionnaires. These rounds are analysed and recirculated.~~.~~ Round two of the Delphi required a further cover letter and instructions to the panel members. Round two took the form of statements/items for ranking. Data from round two was put into Microsoft Excel for analysis. Statements that reached consensus in round two were excluded from round three. I made this decision as if all questions are included at every round, the risk of losing panel members is apparently greater (Keeney et al. 2011).

9. Keeping the panel members up to date with the progress of the research has been shown to help to keep them motivated to complete and return all questionnaires

(Sandrey and Bulger 2008). Follow up reminders were sent out via email at regular intervals in-between questionnaires.

10. Round three is the stage when the experts should be reaching a consensus. This level is commonly around 70%, although researchers differ in opinion (Powell 2003). The level I chose for this study was 60%. I discuss the reasons for this later in the chapter.

Delphi procedure

The Delphi process began with the formation of an expert advisory group with 2 experts who were not be part of the Delphi study.
I gave these advisors five qualitative questions formulated following review of the literature to comment on:

1. What specific advanced assessment skills would be important for student midwives to learn? The type of skills to consider include performing 12 lead ECG, auscultation of the heart and lungs, caring for women with central venous pressure lines and/or arterial lines.
2. Would maternal mortality be reduced if midwives were able to conduct an advanced clinical assessment of the woman?
3. Should existing curricula be changed to ensure all student midwives are equipped to care for acutely deteriorating and critically ill women?
4. If a seriously ill woman is cared for by an appropriately trained midwife, would this allow the woman and baby to stay together?
5. Do you have any suggestions regarding choice of or profile of experts to participate in the Delphi study?

There are differing views about midwives caring for women with critical care needs (Edwards 2008, Hardy 2013) and I asked the advisors to consider these views when answering the questions. The advisors sent back extensive feedback regarding the significance of advanced clinical assessment teaching and learning. They detailed the

importance of students being involved in caring for women with complex needs and the training not simply focused on 'low risk' women.

Themes identified in the answers were:

1. Use of a "systems approach" to history taking and physical examination, including use of the Modified Early Warning Score (MEOWS). However, it was also mentioned that there is so much reliance placed on the MEOWS that students do not thoroughly approach the skills of assessment and examination. Use of the airway, breathing, circulation, disability, exposure (ABCDE) assessment tool is appropriate but a member of the advisory group suggested that this approach requires an increased level of knowledge in relation to all the body systems, in particular, respiratory, cardiovascular and neurological systems. It was clear from the answers that both advisory group members considered that it is essential that there is a comprehensive approach to clinical assessment and decision making.

2. Specific advanced assessment skills mentioned by the advisory group were: bladder catheterisation, tendon reflexes, assessment of conscious level using a scoring system, arterial and venous blood gases, auscultation of lungs, auscultation of heart sounds, ECG monitoring and interpretation, central venous pressure monitoring. Some of these skills are part of the Standards of Proficiency for Midwives (NMC 2019b) already and form part of Domain 6 in the Midwifery Ongoing Record of Achievement (2019b). The advisors highlighted the importance of the development of further skills in order that the midwife can effectively care for women who are critically unwell. The advisors further suggested that "any form of assessment skills necessitates the need for midwives to recognise their limitations and know when, how, and to whom to escalate their concerns".

3. Continuity of Carer to allow mother and baby to stay together was commented on by the advisors and how this would reduce fragmented care and the mother and baby would benefit psychologically and physically from staying together. They mentioned advantages such as improving safety, calmer environment, dignity,

> privacy, better outcomes, and prompt treatment. However, it was conceded that the midwives must be 'appropriately trained'. It was also acknowledged that there may be challenges with maintenance of skills if the midwives do not encounter women who require this level of care on a regular basis. The benefits to staff were also cited in the feedback. Issues such as better teamwork, communication with the multidisciplinary team, sharing experiences with colleagues, supporting junior staff, saving critical care beds with provision of services on labour ward could cost less.

One member of the advisory group commented that the advanced nature of critical care would require an increased level of knowledge of all body systems, in particular: cardiovascular, respiratory and neurological. A well-developed knowledge of medicines and medicine management was also regarded as a necessity. I met with the advisory group and it was discussed and acknowledged that an ability to make an assessment of maternal wellbeing is already included in the Standards of Proficiency for Midwives (2019) and for a student to learn advanced skills they would need to be exposed to these in the clinical areas, whist being adequately supervised. The two advisors discussed that it may not be feasible in a three-year programme to include additional skills and activities. The two advisors made reference to the Enhanced Maternal Care Competencies (RCOA 2018) which suggest levels of training for qualified midwives.

The advisors were asked to nominate participants or to enable connections through groups. These ranged from specialist midwives, obstetricians, anaesthetists, specialist nurses and midwifery lecturers. The data generated by the advisory group was not part of the data collection, but the information gained from the advisory group was extremely significant in helping to shape the initial question and was a vital step. The 2 advisors acted as a sounding board to ensure I had the right mix of experts as participants with the right qualities. I decided, after reviewing the literature and discussing with the advisory group that for the first round I would offer the panel one, open ended question to gain as much data as possible.

Level of consensus

In this instance it was decided to conduct 3 rounds, as described by Endacott et al. (1999). It can be difficult to retain a high response rate within a Delphi study that has many rounds (Keeney et al. 2011). Additionally, to retain a high response rate the topic needs to be of great interest to the panel members and the number of rounds depends on time available to conduct the study.

Some consideration must be given to the level of consensus to be applied. The criteria may be statistical or percentage levels. The sample size was 30, however, there was only a 20% response rate initially (6 responses). There seems to be varying opinions in the literature constituting what is an acceptable level of consensus-Ulschak (1983) wanted 80% for his needs assessment in Human Resources, McKenna (1994) suggested 51% when discussing whether Delphi was a worthwhile approach for nursing research, Boyce et al. (1993) set consensus at 66% for a consensus methodology for sports science and Megregian et al. (2021) opted for 70% in her study examining ethics education for student midwives. This study bears relevance to my study in that it looked at core curricula and a competency-based framework for teaching. A universal agreed proportion does not exist for the Delphi, this will depend on the size of the study, aims of the research and sample numbers, recognising that 100% agreement would be extremely unlikely. A key question to ask would be "what percentage agreement would I be willing to accept?". This is hugely dependant on the research question and whether a life-or-death decision is required. Therefore, depending on the importance of the outcome, for example, if the findings will be used to change policy, a 51% consensus may seem a harsh reality to the other participants.
I am setting the figure of 60%. I arrived at this figure after considering the complex nature of the topic and the possibility of huge diversity of opinion. It is certainly true that even where issues are less complex there may be diversity of opinion and vice versa.

Design and stages of the Delphi

I adopted an online Delphi survey to collect opinions from a range of experts across the United Kingdom and Australasia. This decision was based on the fact that Australia and New Zealand have similar health care systems to the United Kingdom and additionally, I identified 4 studies from Australia and New Zealand in the Scoping review (see chapter 3). These demonstrated similarity between UK and Australasia in relation to the care and treatment options and the role of the midwife in these areas. Data collection (all three rounds) were conducted between July 2022 and May 2023.

Round 1

Round one question:

"Should all student midwives be equipped to care for acutely deteriorating and critically ill women? Please comment on this question"

I elected to use email for the correspondence as opposed to a Microsoft form because I needed to keep track of who had responded and know who to follow up to keep response rate as high as possible. A weakness of the lack of true anonymity is that potentially the participants may not feel that they can freely express their opinion or may feel pressured. Subject bias can therefore not be eliminated. My responsibilities included ensuring that the respondents' identities and their attributed responses were not disclosed to any other panel member.
Each panel member was given a unique code, and this was kept on a password protected PC and accessible only to me.

The initial email to the participants was explanatory, in that it was a detailed, written explanation of the study, their involvement in it and how the Delphi works and what would be expected of them. I acknowledge that the Delphi has a time commitment attached to it, this was also explained to the participants thus: "*The research will be carried out using the Delphi technique consisting of three questionnaires (known as rounds) aimed to achieve*

consensus. Your participation will involve an initial open-ended question and then four/five weeks later you will be asked to complete a further set of questions via email. Four/five weeks following that, you will be asked a final set of questions via email. It is expected that the questionnaires will take approximately twenty minutes to complete".
The forms were sent via email and returned in the same way. Participants were given two weeks to respond and then a follow up email was sent if they had not replied. Templates of all forms and relevant correspondence are included as appendices (appendices 2,3, and 5).

Findings

Round 1

Out of 30 initial contacts only 6 replied. I sent out a second email two weeks later. This amounted to a 20% response. This was a disappointing result; however, this spurred me on to attempt to recruit further participants. I re-reviewed the literature to explore specialists in the field of study and contacted further experts via colleagues and professional contacts to try to ensure that the second round had a higher participation rate. I reflected that perhaps this was all about timing. The timing may have coincided with periods of high intensity workload for some of the recruits, a lack of interest in the study or survey fatigue.

There is no standard approach used to analyse data from Delphi rounds (Keeney et al. 2011). It really depends on the number of rounds, the purpose of the study and number of respondents (Jairaith and Weinstein 1994). As I had used an open question, many interrelated issues were generated. One respondent wrote two sentences, and one wrote over 300 words. In order to condense these data for round two, I used thematic analysis to identify major themes (Braun and Clarke 2022). Similar words or statements were combined to produce a list of statements for round two. The process did not provide an opportunity for me to go back to the participants for clarification of any points or elaborate on their views. This had the potential to introduce researcher bias. Considering this I was careful to use the exact words used by the participants and not make assumptions that I knew what they meant. As the researcher, I did not add or remove any statements, it is important that round two accurately reflected the respondents' first round thoughts and opinions. This did

mean that one of the statements sounded rather judgemental, in that it stated that “unwell women *deserve* to be cared for by a midwife”. The word “deserve” did not sit well with me but I needed to be true and accurate to the statements generated.

The thematic analysis process can be time consuming, and it required reading and rereading of the responses and developing a process of coding and categorising. I used a simple colour coding categorisation to enable me to clearly see the themes emerging.

The statements that comprised the round two questionnaire were developed using all the coded data that had been formulated from round 1. The data initially generated 69 statements, the process of data reduction using thematic content analysis (Braun and Clarke 2022) was used to create a more manageable 30 statements (appendix). The thematic analysis generated 8 themes:

- Identify and recognise deterioration in health of the woman
- Further skills/knowledge
- Response of the health professional to deterioration in health of the woman (actions taken by the health professional)
- Complex care/deviations
- Critical Illness
- Specific conditions
- High Dependency / Intensive Care
- Deterioration

Participants overwhelmingly responded to the question in a positive sense. That is, they all felt student midwives should have the capacity to recognise and respond to the acutely deteriorating woman. For example,

“Student midwives should be equipped to identify deviation from the norm from the beginning of the programme. They should then develop further skills of assessment as they progress”.

“All student midwives should have the capacity to recognise and respond to the acutely deteriorating woman”.

“I strongly believe that student midwives must be equipped with the theoretical knowledge and practical (hands on) skills to care for the deteriorating woman”.

“It is imperative that student midwives have the skills and knowledge to identify and care for acutely deteriorating and critically ill women”.

Round 2

Round two was sent to all original invitees and new members identified as described at the beginning of round one. This amounted to 19 panel members. A covering letter and full explanation of what was required was sent in an email with the round two questionnaire attached (appendix). The emails were sent individually to ensure anonymity. During round two the participants were asked to rank their level of agreement or disagreement with these statements on a five-point Likert scale. I did not provide opportunity for any additional statements. I did this deliberately as I already had the qualitative data from round one and now wished to collect quantitative data to answer the research question. The questionnaire was sent to all participants regardless of whether they responded to round one. Reminders were sent two weeks following the initial distribution of this round. I initially received 6 responses to the second round, with three of the responses not from participants in round one. Following my experiences of round one and wishing to gain a broader range of individuals as participants, I then asked a further twelve experts if they would participate and sent emails to colleagues across the United Kingdom asking for consideration in participating. I received a further 7 responses. Giving a total of 13 participants in round 2. As I had originally asked 19 panel members to respond, coupled with the further 12 extra participants emailed, the response rate amounted to 42%.

As these data are quantitative they were analysed using Microsoft Excel. Summary statistics were run on these data to determine the number of statements that reached a consensus at this stage. The statistics included statements that reached consensus that can then be eliminated at round 3. The advantages of this process are the questionnaire becomes shorter and the risk of losing panel members becomes less. The answer 'strongly agree' was allocated the number 2, agree number 1, neither agree nor disagree 0, disagree -1 and strongly disagree -2. The strength of this system is that disagreement is negative and strong disagreement is more negative once this is understood the numbers carry more meaning even after processing.

Results from round 2 (see appendix 8 for link to summary statistics)

Statements	SA	A	Neither	D	SD
1.Student midwives should be equipped to identify deviation from the norm from the beginning of the programme	n5 (38.5%)	n4 (30.8%)	n1 (7.7%)	n3 (23.1%)	n0 (0%)
2. Student midwives should have the skills of assessment to identify and appropriately refer a woman who is unwell	n9 (69.2%)	n3 (23.1%)	n1 (7.7%)	n0 (0%)	n0 (0%)
3. Every midwife needs skills of assessment and initial care of critical illness	n8 (61.5%)	n4 (30.8%)	n1 (7.7%)	n0 (0%)	n0 (0%)
4. Midwives need the skill of communication to refer accurately to get the right response	n13 (100%)	n0 (0)%	n0 (0%)	n0 (0%)	n0 (0%)
5. Unwell women deserve to be cared for by a midwife	n6 (46.2%)	n3 (23.1%)	n2 (15.4%)	n2 (15.4%)	n0 (0%)
6. Student midwives need experience and knowledge of conditions such as diabetes, cardiac conditions and hypertension	n9 (69.2%)	n4 (30.8%)	n0 (0%)	n0 (0%)	n0 (0%)
7. Midwifery training should include both normality and being able to look after more complex cases	n12 (92.3%)	n1 (7.7%)	n0 (0%)	n0 (0%)	n0 (0%)
8. Student midwives should be able to care for acutely deteriorating individuals	n3 (23.1%)	n6 (46.2%)	n0 (0%)	n3 (23.1%)	n0 (0%)
9. Critically ill women need ITU/critical care nursing knowledge	n9 (69.2%)	n2 (15.4%)	n1 (7.7%)	n1 (7.7%)	n0 (0%)
10. Additional skills and knowledge would improve patient care	n7 (53.8%)	n5 (38.5%)	n1 (7.7%)	n0 (0%)	n0 (0%)
11. Additional skills and knowledge would improve midwives' motivation	n2 (15.4%)	n8 (61.5%)	n1 (7.7%)	n2 (15.4%)	n0 (0%)
12. All student midwives should have the capacity to recognise and respond to the acutely deteriorating woman	n8 (61.5%)	n4 (30.8%)	n1 (7.7%)	n0 (0%)	n0 (0%)

13.All student midwives should have basic skills in life support	n12 (92.3%)	n1 (7.7%)	n0 (0%)	n0 (0%)	n0 (0%)
14. All student midwives should be able to escalate clinical care following observation and response charts	n12 (92.3%)	n1 (7.7%)	n0 (0%)	n0 (0%)	n0 (0%)
15. Student midwives should possess physical assessment skills that enable them to do an A-E assessment on a woman	n8 (61.5%)	n5 (38.5%)	n0 (0%)	n0 (0%)	n0 (0%)
16. Student midwives should be able to interpret findings, document and escalate care as required	n8 (61.5%)	n4 (30.8%	n0 (0%)	n1 (7.7%)	n0 (0%)
17. It is beyond the scope and role of the midwifery profession to care for a woman who requires intensive care	n3 (23.1%)	n2 (15.4%)	n3 (23.1%)	n4 (30.8%)	n1 (7.7%)
18. Qualified midwives require additional skills and training to work in maternity high dependency units	n11 (84.6%)	n2 (15.4%)	n0 (0%)	n0 (0%)	n0 (0%)
19. There is scope for midwives to learn as undergraduates how to conduct and ECG and basic ECG interpretation	n4 (30.8%)	n2 (15.4%)	n5 (38.5%)	n2 15.4%)	n0 (0%)
20. There is scope for student midwives to learn how to care for centrally inserted catheter devices as an undergraduate	n0 (0%)	n2 (15.4%)	n2 (15.4%)	n6 (46.2%)	n3 (23.1%)
21. There is scope for student midwives to learn how to administer low dose inotropic agents as an undergraduate	n0 (0%)	n0 (0%)	n1 (7.7%)	n9 (69.2%)	n3 (23.1%)
22. Student midwives should be equipped to care for women experiencing complications of pregnancy	n8 (61.5%)	n5 (38.5%)	n0 (0%)	n0 (0%)	n0 (0%)
23. It should be an NMC requirement for student midwives to be equipped with the theoretical knowledge and skills to care for the deteriorating woman and those that become critically unwell	n6 (46.8%)	n4 (30.8%)	n2 (15.4%)	n1 (7.7%)	n0 (0%)
24. It is a fundamental skill that all student midwives can recognise deterioration in a woman's well being-physical or psychological	n9 (69.2%)	n3 (23.1%)	n0 (0%)	n0 (0%)	n0 (0%)
25. Students must be able to think laterally of next steps and escalation	n5 (38.5%)	n7 (53.8%)	n1 (7.7%)	n0 (0%)	n0 (0%)
26. It is essential that students are placed in a high dependency unit or close observation unit	n6 (46.8%)	n2 (15.4%)	n0 (0%)	n3 (23.1%	n1 (7.7%)
27. Universities/NMC/NHS should provide competency documents to ensure the students are achieving the objectives throughout their training in HDU clinical placements	n3 (23.1%)	n5 (38.5%)	n2 (15.4%)	n3 (23.1%)	n0 (0%)
28. Debriefing should be factored into a student's time during ITU placements to discuss what they have observed	n8 (61.5%)	n3 (23.1%)	n2 (15.4%)	n0 (0%)	n0 (0%)
29. The demographics of women has changed dramatically over the last five years	n9 (69.2%)	n2 (15.4%)	n1 (7.7%)	n1 (7.7%)	n0 (0%)
30. It is more common for women to have comorbidities	n8 (61.5%)	n3 (23.1%)	n2 (15.4%)	n0 (0%)	n0 (0%)

Table 3 Responses to statements from round 2

SA = Strongly agree
A = Agree
Neither = Neither agree nor disagree
D = Disagree
SD = Strongly disagree

High levels of consensus (>80%) were received for five statements. Statement 4: **Midwives need the skill of communication to refer accurately to get the right response** achieved 100% consensus of strongly agree. This has been identified by the Department of Health report "Safer Maternity Care" (2017). Knight et al. (2021) suggested that communication between professionals, particularly at point of referral, was not always effective. This poor communication in the multidisciplinary team was also noted by Kirkup (2022) whose report offered numerous examples of poor communication leading to compromised patient safety. Ockenden (2022) found that in 53% of cases the team reviewed, communication issues existed.

Statement 7: **Midwifery training should include both normality and being able to look after more complex cases** achieved consensus at 92.3% strongly agree and 7.7% agree. This is a requirement of the Nursing and Midwifery Council (NMC 2019a), they state that midwives are responsible for optimising normal physiological processes whilst also recognising complications and escalating care as appropriate. The midwife is charged with providing midwifery care as part of the multidisciplinary team and is asked to respond promptly to signs of deterioration and compromise in the woman and make and act on clinical decisions based on best practice.
This is supported by Hardy (2013), Royal College of Anaesthetists (2018), Kingwell et al. (2017). The Standards for Pre-Registration midwifery programmes (NMC updated 2023) also highlight the requirement for midwives at the point of registration to have the required knowledge, skills and behaviours to care for women who have complications and additional care needs.

Statement 13, "**all student midwives should have basic skills in life support**" received a 92.3% strongly agree consensus. While 7.7% respondents also "agreed". The NMC (2019) state that, at the point of registration midwives must "implement evidence-based,

emergency actions and procedures and immediate life support for the woman and newborn infant until help is available".

Statement 14, "**All student midwives should be able to escalate clinical care following observation and response charts**" achieved a consensus of 92.3% strongly agree. The use of early warning charts in maternity care (MEWS) has encountered much debate in the literature since its introduction in the 1990's (James et al. 2011, Mackintosh et al. 2014, Killingley 2016, Smith et al. 2022). Pregnant and post-natal women can appear healthy but can deteriorate rapidly, however, the use of the early warning system may begin to alter before such deterioration (Smith et al. 2022). Therefore, the use of MEWS can assist in the recognition of maternal compromise and allow rapid escalation of care, with some evidence to suggest that maternal morbidity is reduced (Smith et al. 2022). Again, the NMC Standards (2019) concur with the evidence, stating that the midwife must "monitor deterioration using evidence-based early warning tools".

Statement 18, "**Qualified midwives require additional skills and training to work in maternity high dependency units**" achieved an 84.6% consensus of strongly agree. James et al. (2011) agrees with this and suggests that midwives are well equipped to support normal birth but may require additional skills to care for women requiring more specialist care.

Statements that achieved 60% -80% Consensus

Thirteen statements achieved a consensus of between 60-80%.

Statement 2 achieved a 69.2% strongly agree consensus to the statement "**Student midwives should have the skills of assessment to identify and appropriately refer a woman who is unwel**l". This is also a requirement of the NMC Standards for Pre-Registration Midwifery Education (2019a).

The Healthcare Safety Investigation Branch review in 2021/2022 highlighted that effective escalation of safety concerns about mothers and babies should be a priority for Trusts. This review also commented on the fact that there should be effective and timely communication between individuals and teams and early warning physiological scoring tools should be supported with clear escalation pathways that enable maternity expertise to be supported by those with critical care skills. This concurs with question 25 that asked the

participants if students should be able to think laterally of next steps and escalation. This question did not achieve full consensus by the panel although 92.3% of experts did either strongly agree or agree.

Statement 3 had a strongly agree consensus of 61.5% and 30.8% agree This asked the panel to consider **whether all midwives require the skills of assessment and initial care of critical illness**. This supports a common view in the literature (Bench 2007, McCarthy et al. 2014, Whittle 2017).

Statement 6 achieved a strongly agree consensus of 69.2% and 30.8% agree. The panel were asked to consider **whether student midwives need experience and knowledge of conditions such as diabetes, cardiac conditions, and hypertensio**n. This level of consensus surprised me as I had expected it to be higher. However, the remaining panel members (30.8%) did agree with the statement. The NMC proficiencies (2019) are not explicit about caring for women with cardiac conditions, hypertension, and diabetes but they do want the midwife to "support and care for women with pre-existing conditions". Considering that hypertension and cardiac disease are two of the leading causes of maternal death in the United Kingdom (Knight et al. 2020), this is a major issue. Because of the changing medical demographics of women, midwives may very well encounter women with such conditions (Boyle and Bothamley 2018) and failure to recognise the clinical features of these conditions may have a profound impact (Knight et al. 2021).

Statement 9 achieved a consensus of 69.2% for strongly agree and 15.4% for agree. This was a statement about the **need for critically ill women needing critical care nursing knowledge**. Kingwell et al. (2017) completed a review of the literature and concluded that although midwives are equipped to care for women with complex maternity needs as graduates, they may not be suitably prepared to care for women with highly complex, acute, medical and maternity needs that require critical care. The authors called for further post graduate training to meet these needs. Competencies for enhanced maternal care was developed in 2018 by the Royal College of Anaesthetists in collaboration with the Royal College of Midwives. This document attempted to set out recommendations for the care of critically ill women and the necessity for a multidisciplinary approach.

Statement 11 achieved a strongly agree consensus of 15.4% and agree 61.5% . The respondents agreed that **additional skills and knowledge would improve midwives' motivation.** This was acknowledged by Eadie and Sheridan (2017) when their research study found that midwives unanimously sought training in the provision of obstetric high dependency care.

Statement 12, "**All student midwives should have the capacity to recognise and respond to the acutely deteriorating woman**", achieved 61.5% consensus for strongly agree and 30.8% agree. The importance of prompt recognition of health deterioration and a swift response is discussed by many authors (RCOA 2018, Boyle and Bothamley 2018, Padilla et al. 2022) There seems to be no doubt that failure to recognise and respond in a timely fashion can lead to increased morbidity and mortality (Knight et al. 2021).

Statement 15 achieved a strongly agree consensus of 61.5% and 38.5% agree asking if the participants could decide **whether student midwives required the physical assessment skills that enabled them to do a full A to E assessment on a woman**. None of the experts disagreed with this statement. An A to E assessment is the gold standard for assessment of the ill person (RCUK 2021). This teaching is included in the UK curriculum and required by the NMC (2019a).

Statement 16 regarding **interpretation of findings, documenting and escalating care** achieved consensus of 61.5% strongly agree and 30.8% agree. Interestingly however, 7.7% participants disagreed with this statement. This may be explained as these experts consider the interpretation and escalation of findings to be more appropriate for a qualified practitioner to perform. Certainly, authors agree that midwives escalating care is totally appropriate and necessary (Bench 2007, James et al. 2011, Knight et al. 2021).

There was a 69.2% agreement and a further 23.1% of strongly disagree to statement 21 asking participants to rate **whether undergraduate student midwives should learn how to administer low dose inotropes**. I was not surprised by this result, and I can find no literature to support the statement. It was an important question to ask because many critical care patients require this level of clinical support, and it was put forward as a statement in

answer to the Delphi first round. The RCOA Competency Framework for midwives caring for ill and acutely ill women (2018) provides clarity on competencies that would be appropriate for midwives to possess as a newly qualified midwife and titration of medication to sustain mean arterial pressure is recommended to be carried out by a professional with specialist skills in a specialised environment.

There was 61.5% strongly agree and a further 38.5% agreement to statement 22, "**Student midwives should be equipped to care for women experiencing complications of pregnancy**". This is a necessary part of the curriculum for pre registration midwifery education (NMC 2019) and its importance highlighted by Renfrew et al. (2014). This is further supported with the consensus in statement 7 of this study which states that midwifery training should include normality and an ability to care for women with complications. Statement 7 had a 92.3% strongly agree consensus.

Statement 24 asked if the participants agreed with the statement **It is a fundamental skill that all student midwives can recognise deterioration in a woman's well being-physical or psychological** This achieved a 69.2% consensus of strongly agree and a 23.1% agree consensus. There was one participant that did not answer the question here. This statement is related to statements 8 and 12 that ask if student midwives should be able to recognise and respond to acutely deteriorating individuals.

Statement 28 reached a consensus of 61.5% strongly agree for the statement regarding the **debriefing should be factored into a students' time during ITU placements to discuss what they have observed** 15.4% of the panel neither agreed nor disagreed. This is interesting as the literature suggests that debriefing after adverse events may help student midwives to develop resilience (Davies and Coldridge 2015). Additionally, Mealer and Jones (2013) had found that there were increased prevalence for post-traumatic stress disorder symptoms in critical care nurses.

Statement 29 "T**he demographics of women has changed dramatically over the last five years**" reached a consensus of 69.2% strongly agree. However, there were 7.7% of participants who disagreed with this statement. The MBRRACE- UK report (2021)

emphasises the changing characteristics of women, including age, socio-economic status and ethnicity. There are more women embarking on pregnancy at an older age with more medical and mental health comorbidities (Drife et al. 2023).

Statement 30 achieved a strongly agree consensus for the statement regarding the **commonality of women that have comorbidities**. This is related to statement 29 and is supported in the literature (Drife et al. 2023). There were 15.4% of panel members that neither agreed or disagreed with this testament which I found surprising considering the plethora of literature on this subject.

I recorded the mean and median in the summary table. The value of these statistics is that the mean is the average of the participants responses, but the median may be more statistically significant as the median represents the middle value in a dataset and is therefore useful when distribution is skewed or has outliers. Although not all the statements were spread across the scale, several were, so recording the median allowed for this skew.

Round 3

Following removal of all the statements that achieved a consensus of 60% or above, there were 11 statements out of 30 remaining. Therefore 19 statements achieved consensus of 60% or more in round 2. This does not mean that these are the highest research priorities, merely that they have reached consensus first. Some researchers choose to include all the statements again in round three (Keeney et al. 2011), however, I decided to remove the questions that had already achieved consensus. I did this to reduce survey “fatigue” (Starkweather et al. 1975) and therefore reduce the risk of losing panel members. The round three questions were sent to the participants asking them to look again at the Likert scale and consider whether they wished to change their responses from the previous round. This gave a total of eleven questions for round 3. These questions were unchanged from round 2 and the participants were simply asked to rank the statements again.

Thirteen round three questionnaires were sent out. I received ten replies after a reminder email two weeks after sending the original email. This is a response rate of 77%.

I used summary statistics in Microsoft excel to analyse these data (appendix). I then produced a further excel document comparing data from each participant from round 2 and round 3 (appendix). 7 out of 11 statements achieved a consensus of 60% or above in round three. Therefore, out of an original 30 statements, 26 had achieved consensus, equating to 86.6% of statements achieving consensus.

Results from Round 3 (see appendix 8 for link to summary statistics)

Question	SA	A	Neither	D	SD
1.Student midwives should be equipped to identify deviation from the norm from the beginning of the programme	n7 (70%)	n2 (20%)	n0 (0%)	n1 (10%)	n0 (0%)
2. Unwell women deserve to be cared for by a midwife	n6 (60%)	n2 (20%)	n2 (20%)	n0 (0%)	n0 (0%)
3.Student midwives should be able to care for acutely deteriorating individuals	n4 (40%)	n4 (40%)	n2 (20%)	n0 (0%)	n0 (0%)
4. Additional skills and knowledge would improve patient care	n9 (90%)	n1 (10%)	n0 (0%)	n0 (0%)	n0 (0%)
5. It is beyond the scope and role of the midwifery profession to care for a woman who requires intensive care	n2 (20%)	n2 (20%)	n0 (0%)	n6 (60%)	n0 (0%)
6. There is scope for midwives to learn as undergraduates how to conduct and ECG and basic ECG interpretation	n5 (50%)	n3 (30%)	n0 (0%)	n2 (20%)	n0 (0%)
7. There is scope for student midwives to learn how to care for centrally inserted catheter devices as an undergraduate	n0 (0%)	n4 (40%)	n2 (20%)	n3 (30%)	n1 (10%)
8. It should be an NMC requirement for student midwives to be equipped with the theoretical knowledge and skills to care for the deteriorating woman and those that become critically unwell	n6 (60%)	n2 (20%)	n0 (0%)	n2 (20%)	n0 (0%)
9. Students must be able to think laterally of next steps and escalation	n6 (60%)	n4 (40%)	n0 (0%)	n0 (0%)	n0 (0%)
10. It is essential that students are placed in a high dependency unit or close observation unit	n6 (60%)	n3 (30%)	n1 (10%)	n0 (0%)	n0 (0%)
11. Universities/NMC/NHS should provide competency documents to ensure the students are achieving the objectives throughout their training in HDU clinical placements	n5 (50%)	n3 (30%)	n0 (0%)	n2 (20%)	n0 (0%)

Table 4 Responses in Round 3

I did not share the statements in each round with the rest of the panel members. This may be contrary to some authors' views (Sackman 1975, Keeney et al. 2006). However, my

rationale for this was that some panel members may change their views considering the possible mistaken belief that the majority view must be right. There is a danger in placing too much reliance on the results without acknowledging the influence of bias. The extent to which participants agree with each other does not mean that the correct answer has been found. The Delphi study is just an "opinion" of a group of people. For me, it was important for the research to establish a set of judgements and opinions on an issue where very little previous knowledge existed.

The results from round 3 highlighted that some of the participants had completely changed their minds, some from strongly agree to strongly disagree and vice versa.
Statement 1 went from a 38.5% strongly agree to a 70% consensus, statement 17 went from a 23.1% strongly agree to a 90% strongly agree consensus. This asked the panel members if **it is beyond the scope and role of the midwifery profession to care for a woman who requires intensive care.**
Statement 25, asking **students must be able to think laterally of next steps and escalation** achieved a 53.8% consensus at agree in round 2 but by round 3 this had changed to 60% strongly agree.
In round 1 statement 26 only achieved a 46.2% strongly agree consensus. This had changed to 60% by round 3.
I may have been able to establish why some of the changes in opinion were so extreme if I had asked the respondents to explain their position (Ludlow 1975). The primary limitation of this study was the number of participants. Workload burden may have influenced some people to avoid participating. In addition, participants probably had varying expertise, and this may create bias. Outside events may influence the experts' responses, such as new research published. Another weakness may be that there may have been a lack of accountability for individual's responses, affecting results. Given that each Delphi study is different and the process unique, it may mean that the knowledge received is only applicable for that moment in time (Reid 1988). It may be that further research to validate the findings is appropriate.

I took all the consensus statements back to the two advisors and considered the potential of developing an educational framework for Higher Education Institutions', Nursing and

Midwifery Council and Practice Learning Partners. I mapped all the 60% and above positive consensus statements to the NMC Proficiencies for midwives (2019). See below table.

Competency document **Standards compiled from the Delphi findings mapped to NMC Proficiencies for midwives (2019) and the Standards for pre-registration midwifery programmes (2023)** **All the standards listed below achieved a positive consensus of 60% or above**	
Delphi findings	**NMC Preregistration Proficiencies for midwives**
Student midwives require the assessment skills to identify and appropriately refer a woman who is unwell	**IP9.1** Promptly calling for assistance and escalation as necessary, implementing immediate emergency actions for the woman and newborn infant until help arrives **IP9.7** Monitoring deterioration using evidence based early warning tools **P10.3** Recognising signs of infection, sepsis and blood loss including haemorrhage, escalating appropriately, monitoring
Students should be taught the initial care of critical illness	**P10.3** Recognising signs of infection, sepsis and blood loss including haemorrhage, escalating appropriately, monitoring and responding to signs of deterioration
Student midwives require excellent communication skills to enable appropriate and timely referral	**IP3.5** Providing timely and accurate information to women and their families when there are complications or when additional care needs are identified, including breaking bad news
Knowledge of diabetes, cardiac conditions and hypertension should be taught to all student midwives	Taught in theory sessions, not specifically mentioned in the NMC Proficiency document
Students are taught normal and complex birth	**IP4** The student midwife demonstrates the skills of effective assessment, planning, implementation and evaluation to provide universal care during the intrapartum period to optimise normal physiological processes and to anticipate and prevent complications **IP9.11** Providing care for women and newborn infants before, during and after medical interventions such as epidural analgesia, fetal blood sampling, instrumental births, caesarean section and medical and surgical interventions to

	manage haemorrhage, collaborating with colleagues as appropriate
Critical care nursing knowledge may be required	Not specified in NMC proficiency document
Student midwives need the skills to recognise and respond to acutely deteriorating women	**A9** The student midwife is able to implement some first line emergency management of complications and/or additional care needs for the woman and/or fetus, when signs of compromise and deterioration or emergencies occur until other help is available
Basic life support for all student midwives is necessary	**A9.2** Participating in first line management and immediate life support for the woman until help is available, monitoring the woman's condition
The ability to escalate clinical care is crucial	**A8.2** Communicating effectively with interdisciplinary and multiagency teams and colleagues in challenging and emergency situations, using appropriate tools
ABCDE assessment skills are crucial	**A8** Recognise, assess, plan and respond to pre-existing and emerging complications and additional care needs… Taught in theory sessions
The ability to Interpret and document findings is necessary for all student midwives	Record keeping included in proficiency document **(IP7)** but not specifically including interpretation of findings
Care for women with pregnancy related complications is a requirement for all student midwives	**A9** The student midwife is able to implement some first line emergency management of complications and/or additional care needs for the woman and/or fetus, when signs of compromise and deterioration or emergencies occur until other help is available
Critical care placement opportunities for all student midwives	Not included in NMC Proficiencies
Student midwives require teaching regarding population demographics	**A5** The student midwife demonstrates the ability to conduct person centred conversations with women, their partners and families to support public health, health promotion and health protection across the life course, depending on relevance and context during the antenatal period
Student midwives require teaching regarding co-morbidities	**P10.9** Providing support and care for women with pre-existing conditions.

	Taught in theory sessions

The mapping exercise demonstrated that many of the statements that achieved consensus were already included in the NMC Proficiencies. However, three were not mentioned. I need to take into consideration that this NMC document is for clinical practice and that theory modules may cover some of the missing elements. The need to have critical care nursing knowledge and critical care placements for student midwives achieved consensus in the study. This is something that Higher Education Institutions and practice partners may wish to consider. The rationale is strong following the Delphi, reviewing the literature and concerns surrounding safety that the CDA exposed.

The following chapter offers some concluding thoughts and a review of the strength of the research.

Chapter 6

Discussion and concluding thoughts

The preceding chapters presented the three elements undertaken for this research study. This chapter intends to bring together the findings within the work to answer the research questions. I will reflect on my experiences through this journey, including considering the strengths and limitations of this study. The chapter will end with a set of recommendations for midwifery education that arise from the work undertaken for this study.

The aim of this thesis was to explore what may be required to ensure the greater safety of women with critical care needs in pregnancy, through improving undergraduate midwifery training. The thesis reports on the three interlinked studies. One, reviewing the literature to map and clarify evidence already in existence; one, looking broadly at discourses around maternity services in the United Kingdom that provide the backdrop and influence the field; and one asking experts in the field their opinions about teaching content for undergraduate midwives on the subject.

These three approaches collectively, do not represent 'findings' in the sense of indisputable fact and universal truths but do, together, provide a substantial and compelling basis for the conclusions and, I believe the findings offer the opportunity to challenge dominant ways of thinking about midwifery and its education, and can lead to further enquiry on the subject.

The underlying issue: Maternal morbidity and mortality

Maternal death rates are widely considered to be reflective of a country's overall well-being (Felker and Knight 2024). In developed countries birthing is usually considered a safe process, however, preventable deaths are still happening. Recent data from the UK shows that death rates during pregnancy and shortly after are reaching levels not seen in twenty years (MBRRACE 2023). Pregnancy complications can be managed effectively if women have timely access to quality care and skilled personnel. It is becoming clear that this may not always be the case in an over-stretched health care system. The changing profile and needs

of the maternal population require enhanced services that can serve their individual and diverse needs. Alongside this, there is much more that can be done to enhance education of student midwives, including working across professional boundaries and tackling prejudice, whether individual or systemic.

The recent MBRRACE report (2023) gives details of the women who died between 2019 and 2021. There was a statistically non-significant increase in the overall maternal death rate in the UK between 2016-18 and 2019-21. When deaths due to COVID-19 in 2020 and 2021 were excluded, maternal death rates were very similar for the two periods, which suggests that an even greater focus on implementation of the recommendations of these reports is needed by clinicians to achieve a reduction in maternal deaths. There continues to be a nearly four-fold difference in maternal mortality rates amongst women from Black ethnic backgrounds and an almost two-fold difference amongst women from Asian ethnic backgrounds compared to White women. In terms of critical conditions, both cardiovascular disorders and thrombosis and thromboembolism are now responsible for the same number of maternal deaths in the UK. Proficiency in caring for these women is one of the most pressing health care issues of the time (Padilla and Shamshirsaz 2022). Research in obstetric critical care is sparse and in order to improve care for the future we, in midwifery education, should learn the lessons from maternal deaths as outlined in the extant literature and policy, and from the advice offered by experts in the field.

Aims and research questions

The primary aim of this study was to establish extant evidence from the field; raise awareness of the discourses surrounding midwifery; and establish consensus for teaching undergraduate student midwives high dependency care. The chapter will set out the answers to the research questions, drawing on the three elements of the study. The overarching question for the study is broken up into three sub-questions:

- **How are student midwives in the UK prepared for maternal critical care? Where are the areas for improvement?**

Research Question 1: **What can we discern from published literature in this area?**

The literature review highlighted some main themes: persistence of traditional views of the midwife/midwifery, challenges posed by changing demographics and specific populations, and details about the education and training needed to improve patient safety.

An important factor arising from the literature related to the dominant view of the midwifery profession. Midwifery is often considered to be a "branch" of nursing and not a separate profession with its distinctive identity and value (Mivsek 2015) and in many countries, midwifery continues to be bound to nursing (Davis and O'Connell 2023). As Lewitt and McEwen (2023) note, professional identity and associated practice in healthcare is multidimensional and socially constructed. Thus how midwifery is seen/viewed continues to be important in how it gets constituted in practice. Student midwives learn about custom and practice, as well as professional behaviours from the various spaces they move in - university, practice/health care settings and their social lives. There may be a tension between these spaces, or differing values placed on their role and perceptions about their role. This may also be true for qualified midwives and these constraints and influences sometimes impinge on their ability to care for women (Lewitt and McEwen 2023). Thus, a clear implication for midwifery education is to **"open up" this complex area for explicit discussion and equip midwifery graduates to be aware of their profession's histories and changing practices, and thus be enabled to hold their roles with confidence and respect for themselves**.

One of the changes in the field is evidenced by the bio-medical versus social model of medicine debates, which feed into midwifery as a normal/natural birth versus medically supported/risky process debate. Are we obliged to consider midwifery as an art or a science? Is birth to be medically supported or physiological? Almost every day in the UK, these questions come to the fore through social media posts about the lack of safe care in maternity services; and that safety should override the "normality" agenda. However, it has also been suggested that the word "normal" may be offensive to women who do not have a vaginal birth, as they would be considered "abnormal". These conflicting ideologies may be hindering the scope of midwifery practice. The Royal College of Midwives Re:Birth project

(2022) concluded that there remained disagreement on specific preferred terms for labour and birth. Essentially, it may not be the issue with the words, but a question of historical inheritance.

During the 1960's midwifery was viewed as an "art" based profession, in contrast to obstetrics that positioned itself very much as a "science". This decade saw the evolution of ultrasound scanning and the emergence of the concept of "scientific childbirth", with science being pitted against nature (McIntosh 2012). Rates of intervention in labour are rising (NPSA 2022) and therefore normal birth rates are falling. However, as previously discussed, the demographics of women in the UK are changing and increasing maternal age, obesity, smoking and diabetes all inevitably influence maternity services provision and care. In addition, women with cardiomyopathies and renal disease may also embark on pregnancy and need highly skilled, knowledgeable health care professionals to care for them. The overlap of art and science can be clearly seen in these circumstances. As the literature in the field reveals, these binary positions hinder a wholistic view of the purpose of midwifery and obscure the need for different kinds of care by contemporary populations. The traditional view of midwifery as a purely non-medicalised support is no longer useful.

Based on the work for this thesis, it would be worth considering using Foucauldian (1972) frameworks to educate students about how power and knowledge are entwined, and how the formation of roles and identities of professionals sustain hierarchical power relations, especially with regard to gendered roles in health care. Secondly, an explicit focus on the dangers and challenges of binary views of midwifery at a time of increasing maternal mortality may be required to offer a balanced education of student midwives. The experience of other health care professions and how they continue to evolve may be a useful addition to curriculum on interprofessional education. For example, paramedic science, similar to midwifery, has also had issues with professional identity and is a profession that has been evolving with some speed over the last twenty years (Eaton 2023). Paramedics and midwives can both work in a plethora of different roles and areas but there remains a lack of knowledge and widespread awareness in both professions about the potential for much wider competencies as well as identities.

Drife et al. (2023) emphasize the need for the messages/implications of Confidential Enquiries to **reach a wider audience** to reduce maternal deaths. This audience should include the wider population of women and clinicians, and not only pregnant women. This should also include doctors and nurses involved in caring for pregnant women outside the maternity unit and policy makers and regulators. It is a clear imperative that the findings are communicated without any barriers. Drife et al. (2023) go on to state that a good place to start with these communications may be with the "near misses". Those women who have survived but where lessons can be learned regarding the care they received. Such communication may generate a sense of shared purpose that can begin to bridge the divides between roles and identities and the needless sedimented perceptions about the different professionals involved in maternity care.

At the same time, increased awareness of risks and medicalisation of procedures does not have to mean that midwives are not able to support such patients. The literature from both academic research and reports of patient experience reveals strong support for the fact that midwives who may provide critical care to women are also ideally placed to provide crucial psycho-social care required by women and their families. It is well documented that mothers and babies should stay together in hospital as much as possible (Patriksson and Selin 2022). This "togetherness" is described as extremely important for several different reasons. Not least, bonding and attachment and positive outcomes for mother and baby. The World Health Organisation (WHO 2009) has recommended since 2009 that newborns should remain with their mother immediately after birth. Despite this, if a woman needs more specialist care because of birth complications, it is usual practice in the UK to separate mother and baby to two different areas of the hospital. My thesis challenges this practice and suggests that midwives, when they are adequately equipped with the knowledge and skills to care for critically ill women, may better ensure that mother and baby may be able to stay together. It is well recognised that there is a need for more humanisation in higher risk pregnancy (Curtin et al. 2022). Indeed, there may be a greater need to humanise the birth process than continually promote normality in childbirth. However, the requirement to maintain a safe birth includes the prioritisation of life saving measures over humanisation. The two ideologies should not be in opposition to each other but work in tandem. This requires all educators and courses paying attention to foreground this matter.

The purpose of midwifery training is to ensure that a minimum level of competence is achieved to ensure the safety of women and babies. If midwifery education is to remain fit for purpose, it needs to adapt to changing population demographics, as previously discussed. There is no doubt that that critical care is highly specialised and therefore requires unique skills and knowledge and there is no question that there is a need for critical care services in the maternity setting. However, there is a need for an appropriate infrastructure, including preparation for practice – both in terms of resources as well as working cultures. Currently we have the Enhanced Maternal Care competencies (RCOA 2018) that provide national recommendations to Trusts when caring for women who are critically ill. Kielty et al. (2023) discuss the "evolution of the midwife in the obstetric high dependency setting" and concluded that in order to provide a complete balance of high dependency care, a mixture of critical care nurses and midwives is required. They highlight a multifaceted approach to care provision.

This suggests a new approach and new arrangements for better care. For instance, Tucker and Freestun (2024) called for appropriately resourced facilities, screening tools and training of staff in obstetric critical care. Cranfield et al. (2023) conclude that caring for a critically ill woman requires a multidisciplinary team. Student midwives ought to be prepared during their university education for such scenarios in the future.

Based on the literature reviewed, the development of virtual practice placements in nursing also holds exciting promise for midwifery. It may be impossible for all student midwives to attend a critical care placement, but the prospect of a virtual placement would be a viable addition to midwifery programmes. Similar to paramedicine, midwifery could develop greater use of simulations and virtual placements to adequately prepare students for working with other professionals while attending to critical care.

The literature review also revealed issues around specific populations such as those women from ethnic minorities and those living in socially deprived areas. Twelve per cent of the women who died during or up to a year after pregnancy in the UK in 2019/21 were at severe and multiple disadvantage (Knight et al. 2023). This suggests the need for improved education

to care for these individuals and emphasises the need to continue to focus on cultural safety and anti-racism training. I suggest that the NMC Standards require review to reflect specific issues around women who require higher levels of care and those from minority or deprived backgrounds. In terms of education, anti-racism may need to be foregrounded as a key value of midwifery education as well as continuing professional development.

Research Question 2: **What do policy documents and publicly available material from authoritative texts reveal about this issue?**

The texts analysed through the lens of CDA were chosen as they command attention and influence in the maternity arena and set the standards for accepted discourse in the field. The intention was to gain an understanding of what they revealed about power dynamics in the field of midwifery, and more specifically to understand what they had to say about student midwife preparedness to deliver maternal critical care.

Certainly, the themes of risk, fear, safety and power around childbirth were overt in the texts. The issue of student preparedness was more covert. The CDA did reveal that the scope of midwifery practice is changing and needs adapting to women's evolving needs. The texts were all in agreement that woman may have more complex needs, therefore maternity services must adapt and find a balance between recognising birth as a physiological event whist being alert to the possibility of risks.

Within traditional discourse, there is a clear distinction between the status and roles of doctors and patients, while midwifery positions itself with/on the side of women. The workforce as well as the service users are overwhelmingly female, and this adds to the power differentiations inherent in health care services at large. The documents analysed did appear to "put women first" but while the documents are calling for more choice for women, the reality may not match the promise. There is often limited choice for women due to lack of resources or facilities. Thus, the stated or proffered discourse was oftentimes contradictory to reality.

The complicated relationships between power, knowledge and maternity services were revealed through the CDA, and it seems that these issues on power and authority can be used to challenge and change the culture of health care management itself. The cultural and social context of the documents (when they were written, why, for whom, etc.) were explored and binary and contradictory ways of imagining maternity care (biomedical or physiological) were both evident in the texts and the purposes of such division were also revealed. For the most part, safety and risk were closely linked and it seemed that the underlying risk to the financial and reputational stability of units was also covered. The contagion of risk and how it spreads from the at-risk maternal body to the at-risk maternity unit and the implications for workplace culture were useful insights that emerged.

Safety in childbirth was a major theme which had several implications. Safety is defined as a condition of being out of harm's way, protected and guarded against hurt or injury (Oxford English Dictionary). Safety for mothers and babies is clearly more than medical safety. Although not inherently dangerous, childbirth can never be risk free. The authors of the texts analysed establish their authority with regard to the safety agenda by telling readers how to do things better. Safety ambitions, safety improvements and safety strategies are embedded within all the texts. Adverse events are a serious problem for maternity services and although UK is one of the safest places to give birth (Knight et al. 2021), improvements can always be made. Although not explicit to undergraduate midwifery training, the texts do call for adequately trained staff and the necessity of enhanced skills in maternal care (Knight et al. 2019) as avoidable harm in maternity services causes anguish for women and their families and increases costs associated with litigation, with maternity claims costing more than any other discipline (babylifelinetraining 2024). However, although the texts make recommendations for quality and safety, their impact may not be as powerful as the language within them suggests. Liberati et al. (2019) explored how to measure safety in one UK maternity unit and identified a range of mechanisms that contributed to safety. Several of the elements related to a "collective competence". The staff demonstrated a profound sense of "belongingness" and pride. There was mutual respect across roles and disciplines and hierarchies were manged flexibly and strategically. The authors describe an "unrelenting insistence on technical competence" and the unit required individuals to perform their task to a very high standard of proficiency. These findings add weight to the argument of the highly

trained but equally confident and empowered workforce being a key denominator in the safety and quality debate.

The texts analysed for the CDA talked openly about the need for multidisciplinary working and how this could empower individuals. However, without explicitly addressing the imbalance in relations and identities, the opposite may well transpire. Ockenden 2022, Kirkup 2022 demonstrated in their recent reports examining culture within maternity services that power discrepancies still exist. A lack of professional autonomy clearly affects professional identity. Where teams have mutual respect, trust and a friendly working culture, high quality care is enhanced (Knight et al. 2023). The necessity for multiprofessional education is also vital, and it has been suggested that "those who work together should train together" (Kirkup 2022). This too is a work culture element, and one that can be exploited to improve the status as well as the confidence of midwifery graduates. The discourse suggests that there is an acknowledgement of professional rivalries within multi professional teams and while it emphasises that better care is delivered in working more harmoniously, there are very few instances discussing how these culture changes may be initiated in practice. Whether/how the texts are advancing the midwifery profession is open to debate, as the evidence for this varies across and within the texts.

Some of the most interesting findings in the CDA for me, as a novice researcher, were the "hidden" meanings and the "silenced voices". All of the texts offer "moral authority" and the language is persuasive and powerful. This plays a key role in how midwifery is understood and experienced. All of the texts analysed talk about "gold"; whether it is a gold standard service or a golden thread. This creates a metaphorical image of gold as a valuable commodity, worth fighting for. Fighting, in the sense of "striving" to be of the highest quality. However, alongside this, much of the language in the texts had not just a moral authority but also a normative tone: "should", "must", "always". It is worth considering how this reflects and shapes the culture of the health services at large, and maternity services in particular. What relationship do such normative invocations to strive, have on those that work in the service; and what positions and identities does it offer them? In what ways might this wider, sometimes hidden (or not considered) culture affect or not, the confidence of midwifery staff and graduates? I

would like to see texts that are more inclusive and inviting. Much of the time clinicians are told want to do but not *how* to make it happen or asked to strive without adequate resourcing. A more egalitarian tone/approach across the health services would make an improvement to how staff are invited to consider and discuss emerging/changing needs and how they are empowered and enabled (rather than told) to make these changes. The Re:birth document highlighted the importance of language around birthing – the 5As – to change the culture around maternity care. Similarly, I suggest that the language of policy documents and influential reports that seek to shape midwifery must also be cognisant of the work of language and tone, and how they communicate respect or inclusion.

Research Question 3: **What do experts in the field say about student preparedness and midwifery education in the UK?**

Currently student midwives in the UK must achieve the requirements set by the Nursing and Midwifery Council (2019a). These proficiencies include many of the statements and suggestions made by the expert panel in the Delphi study. However, mapping the proficiencies across the Delphi results revealed some gaps. The need to have **critical care nursing knowledge and critical care placements for student midwives** achieved consensus in the study. This is something that Higher Education Institutions and practice partners need to consider urgently. The justification for such changes is strong following reviewing the literature, the safety discourse surrounding practice, and the Delphi rounds.

The Delphi results revealed that the participants were positive regarding the fact that midwifery training should include both normality and being able to care for women with more complex cases. The panel members also positively agreed that student midwives should be equipped to care for women with complications of pregnancy. The Delphi findings included five statements that achieved over 80% consensus. These included skills of communication, caring for women with complications, the necessity to have skills in basic life support and being able to escalate clinical care as appropriate. These proficiencies are all included in the NMC Standards for Pre-Registration Midwifery Education (NMC 2019a).

Out of an original 30 statements, 26 achieved consensus (negative or positive), equating to 86.6%. Of the four statements that did not achieve consensus, the statements were generally more technical. For example, “there is scope for student midwives to learn how to care for centrally inserted catheter devices as an undergraduate”. This statement had a spread of answers across the Likert scale. My interpretation of this is that the panel members felt this was an advanced skill that should be undertaken post-graduation as a more experienced practitioner. This may also be true regarding the statement about ECG monitoring and interpretation. The findings of the Delphi study uphold the view that midwives of the future require the skills to care for women and families that are increasingly complex in their needs.

The position of Advanced Practitioners in midwifery is still hotly debated, by some considered to be a major move forward for the profession but others see it as eroding the profession (Smith et al. 2010, Goemaes et al. 2025). Advanced practice is an established level of practice applicable across professions and was initiated in response to demographic and health system pressures within the National Health Service (NHS England 2019). It is a role that is undertaken after entry to the professional register and usually involves the health care professional gaining a master’s level qualification. Evans et al. (2021) provided an encouraging picture of the potential of Advanced Clinical Practitioners to support service transformations. In 2022 Health Education England published the Advanced Clinical Practice in Midwifery Capabilities Framework which was hoped to enable organisations to put in place new midwifery roles, helping them better meet the needs of those who use their maternity services. Advanced practice roles have also been shown to improve patient outcomes, increase levels of patient satisfaction, reduce lengths of stay in hospital, improve continuity of care, and increase capability in healthcare (Coyne et al. 2016; Goemaes et al. 2025). The development of advanced practice roles also has the potential to aid retention of senior staff and improve job satisfaction. This issue of job satisfaction was highlighted in the Delphi study with the statement “additional skills and knowledge would improve midwives’ motivation”. This statement reached a positive consensus of over 60% in round 2.

At present, advanced practice in midwifery has many different guises with midwives working across many settings (HEE 2022). The Advanced Midwifery Practice Implementation Guide (HEE 2022) offers suggestions to employers for job specifications, areas of focus

related to the four pillars of advanced practice and pay grades. Maude et al. (2022) carried out a thematic analysis and their study corroborated the premise that postgraduate midwifery complex care education is key to improving outcomes for childbearing women and babies in settings requiring complex care. Where does this leave undergraduate midwifery education? The NMC set the standards for midwifery education (NMC 2019) and the Delphi study expert panel conclusions met many of the proficiencies already set. This is a reassuring finding. However, the question as to whether undergraduate midwives should have more advanced skills was not adequately identified in the findings. A competency framework conceived following the Delphi study also included proficiencies already required in the NMC Standards (NMC 2019).

Reflections on the study and its strengths and limitations

I wish to start by reflecting on the methodologies I used. Doing justice to the analysis of both the Delphi study and the CDA was difficult. They are both complex methods in that they can draw on a variety of traditions and ways in which they can be deployed. Working out the complexities of the different traditions could not be rushed and therefore this was a time-consuming, if useful developmental process.

Using a wider selection of documents for the CDA may have offered deeper insight and recommendations. There is also the possibility of doing a quantitative analysis of the texts or of particular words/phrases. A Foucauldian CDA however is unique because of its focus on meaning that is created (what the texts do) rather than what they say. In addition, using more documents/texts may not have necessarily offered more insight. I would argue that the chosen documents were highly relevant and that therefore they were the right choice for this particular study. One limitation was that I have undertaken a part-time study over several years and therefore the latest or most recent documents could not be included at a later stage, as this would not have been feasible to do within the period of study. On the other hand, the CDA reveals that change is slow to arrive, particularly at the discursive level and that therefore not much has been lost by not including the very latest policy documents for CDA.

Overall, a greater awareness of the contextual and political issues has been gained and a clearer understanding of some of the debates and issues surrounding critical care in maternity services, uncovered. Discourse analysis offered a powerful tool for scrutinizing how language, communication, and narratives influence the construction of a social reality. Social constructionist discourse analysis revealed to me, that language is not merely a tool for representing reality; it actively constructs it. Becoming aware of this, I would advocate that student midwives are also alerted to the play of language and power and how they shape identity and practice.

The CDA did generate some important insights into midwifery and obstetric practice. By far the biggest implication were the overwhelming and explicit discussions around safety and quality. The CDA revealed many interesting points for consideration but also did not overtly say much about students needing further skills in their undergraduate curriculum. Although, all the texts called for rapid recognition of deterioration and for early intervention as a vital part of the profession. This was also borne out by the Delphi findings.

In terms of the Delphi study, its strengths lie in the idea of safety in numbers and the wisdom of crowds. The concept that several people are less likely to arrive at the wrong decision than a single individual make the research method useful. Threats to validity arise if there are pressures for convergence of opinion. I avoided this by not seeking to validate each participants answer and not feeding back following each round. Additionally, the use of participants who have knowledge and interest in the topic area may have helped to increase the validity of the findings. Nonetheless, response rates ultimately affect the results, and this study was affected by lower than anticipated numbers of responses. More respondents to the Delphi would no doubt have offered a more robust set of findings. However, all research is constrained by several factors and in my case, the very nature of the field means the population is quite low and it was reasonable to go with small but relevant experts rather than aim for more but less relevant participants. Realities may be asserted, modified and reconceptualized during a Delphi interaction. The meanings and answers were formed by the experts as they engaged with the process and interpreted the findings from their own world views. The divergent opinions brought together were explored to make more sense of the landscape, collectively rather than individually. This paradigm fits with the Delphi study as the outcome consisted of

shared and non-shared realties. I sought to understand the societal structures of the maternity profession when taking into account the experiences of the experts.

My own journey of doctoral work has been illuminating and enriching. The seminal philosophical works and the understanding of methodological processes have been part of my development as a researcher.

Conclusions

This study has also provided valuable insight into the safety and quality of maternal critical care and offered food for thought for further research on the subject. It adds to the body of literature about midwifery education and caring for women with critical care needs. There is paucity of knowledge on this topic although there are studies examining post qualifying educational needs of midwives.

The recent independent investigations into maternity services (Ockenden 2022, Kirkup 2022) revealed the same alarming trends of poor safety that were found in 2015 (Kirkup 2015). The Care Quality Commission also paint a picture of failings with two thirds of maternity services rated “inadequate” or “requires improvement”. The issues as to why safety is not improving are complicated. Some commentators may lay the blame at the door of the “culture of normal birth” undervaluing medical intervention (Titcombe 2024). Do we need further reviews of maternity services? Currently the service is failing women and staff. The maternity service does not need yet another safety review but fundamental action. A new envisioning needs to take place within the system, and this begins with education and training.

My enthusiasm for critical care nursing and midwifery makes me worry about what is taught to student midwives and how this affects maternity services. Women are embarking on pregnancy with serious underlying medical conditions that need careful management but also, crucially, midwifery knowledge. This work has identified a need for critical care teaching to be included for midwives and this will then enhance the quality of care offered

to women and families. It would seem logical that midwives should staff a Midwifery High Dependency Unit.

There continues to be a polarising debate regarding safety, risk, and physiological birth. This study provides a basis for exploring whether midwives can be expected to care for women with critical care needs. The findings suggest that the experts and the texts believe this to be so. The NMC were urged to review midwife standards in a recent CQC report (2024). The watchdog also asked that NHS England, the Royal College of Obstetricians and Gynaecologists and the NMC set a "minimum national standard" for midwives delivering high dependency care. I would add my voice and my findings to these calls.

The literature review revealed that authors agree that the critically ill obstetric patient poses challenges to healthcare professionals. It also showed that many midwives feel ill-prepared to undertake the care of women requiring critical care. Additionally, the literature revealed discrepancies in the care for women from ethnic minorities and vulnerable backgrounds. The professional identity of the midwife revealed dichotomies between preserving normality at all costs and accepting as true that the demographics of women have changed and care must change alongside this.

The panel of experienced practitioners agreed that student midwives should have skills of assessment and identification of maternal deterioration, initial care of critical illness including using the ABCDE approach. This resonates with research conducted by Santesson et al. (2024) and the Confidential Enquiry into Maternal Death (Knight et al. 2021) that suggest that prompt identification of clinical deterioration and appropriate referral are key issues in the management of women who become critically ill during pregnancy, labour and the postpartum period. These were the conclusions of the expert panel members.

The three methodologies together provide a robustness and a confidence that one alone would not provide. Future research should focus on students and newly qualified midwives specifically relating to their experiences of maternal critical care, with the intention of providing better, continuing professional development to them in critical areas of knowledge and practice.

Recommendations

I wish to conclude this thesis with a set of recommendations for midwifery education. Education is the key to a skilled and therefore safe, workforce. The central premise of it is that such education should focus on equipping student midwives with the knowledge and skills to care for all populations of pregnant women. I would also suggest that, following this study, as midwifery experts themselves have asked for better preparation of student midwives, that this becomes essential for contemporary midwifery practice and embedded as a key component of midwifery preparation.

- To retire the traditional view of the midwife and associated discourses, because they do no longer reflect the changes in women's demographics or contemporary society's needs. The traditional view can be summarised as one where the midwife is seen as distinct from other professionals and perhaps, as lower down the hierarchy of health care professionals, associated with instinct at the expense of clinical knowledge. Some of this is a historical inheritance that can be critically explored in a module on the changing views and roles of midwifery professionals.
- Such a module can also be the ideal vehicle to explore unnecessary, polarising debates around "normality" of childbirth, and the competing bio-medical versus social model of health care. Students must be educated to challenge polarisation and be offered the alternatives to such positionings. The alternative in this case is the need for a humanising of all childbirth, by maintaining a dual focus on births that are both relatively risk free or requiring critical care.
- Midwifery education needs to include knowledge and skills to care for the critically ill woman just as it already does with advanced assessment of the newborn. Data and evidence are available to suggest that midwives' advanced competence levels are needed to improve physiological and psychological care trajectories of every family. Restructuring midwifery education to include critical care skills will ensure that appropriate care for all women and babies are improved. Additionally, this will increase the professionalisation of midwifery.
- Drawing lessons from paramedic education, midwifery education needs to embrace simulation as a sound teaching method and pedagogy. Placements in critical care units

are ideal but in the absence of such availability to all students, use of virtual placements and simulations can offer a good solution.

- Student midwives should learn critical care skills alongside other healthcare professional students, such as paramedics and physicians. These also should be occasions that facilitate the critique of assumptions of hierarchical order amongst health care professionals and learn the implications of poor outcomes when team working is compromised. Case study analysis and role play methods offer rich ways of teaching and learning for such objectives. It is vital that such learning objectives are placed centrally within midwifery education. The future of midwifery lies in its ability to work collaboratively with obstetricians and other specialists to enable full holistic care of women to take place.
- I recommend that all Higher Education institutions and the NMC embrace the International Confederation of Midwives competencies that were updated in 2024 in which they state that all midwives should be able to "implement critical care activities to support vital body functions".
- Making time in an already crowded curriculum is difficult and some changes require extended training. My key recommendation would be that the NMC, higher education institutions and policy makers consider the extension and advancement of midwifery programmes as what is needed to face current and future demands.
- The poor outcomes for BAME and poorer/more deprived maternal populations can be highlighted to all midwifery students through visual media. Short films that enact scenarios which students may treat as case studies to learn to respond appropriately are an immediate and fairly inexpensive solution. It is possible to dismiss the disparities noted in the MBRRACE reports as problems of callous staff in other places or in other institutions rather than as inherent issues that all professionals are responsible for. Visual media can be more powerful in bringing home these disparities and their reasons.
- Specific curricula on recognising conditions more commonly seen in black women and in poorer communities may support this awareness raising. Knowing what to look for (uterine fibroids, sickle cell anaemia, diabetes and hypertension for example), how to recognise them and how to escalate concerns have been continuously raised in the literature as required improvements. I also recommend that textbooks and medical

illustrations show diversity in skin colour to improve patient care, in addition to the visual media methods outlined earlier.

- Across the education of all healthcare students, there needs to be mandatory training on distinguishing between individual prejudice and system-wide inequality and discrimination. Anti-racist pedagogy is a well developed area of pedagogical research and specialists in such methods can be drawn upon to help devise learning encounters for health care professionals.
- Following the analysis of discourses in the field of maternity care, student midwives should be offered critical thinking sessions that alert them to differing positions on risk and how this may (or not) reduce faith in scientific management practices. It will also do much to combat anti-science or disinformation propaganda to which students of health care (and their prospective patients) are not immune. This allows the future workforce to be more openly reflexive about conflicting values and identities, what their varying attractions might be, and the potential implications for care.
- Student midwives may also need to be made aware of the varying risks and resources available to maternity units across the country. The differences between resources and risks in small versus large units are well documented and while these discrepancies remain, students' awareness of such structural imbalances may help then take quicker, more decisive action where needed.
- Finally, much of the literature has talked about confidence and competence and how the two are related. The list of recommendations here if implemented, can improve both simultaneously and render a much better equipped midwifery profession.

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Appendix 1 Delphi process Map

Sampling and Recruitment

1. 30 invitations to participate
2. 6 responses
3. Email reminder
4. No further responses
5. Final panel of 6 sent PIS and consent form

Round 1 of Delphi

1. Development of initial qualitative question with support of advisory group
2. Question and guidance sent to participants
3. Two weeks to return
4. Reminder sent
5. 6 responses
6. Data coded and categorised
7. 69 statements generated
8. Statements amalgamated into 30 statements for second round

Round 2 of Delphi

1. Statements sent out to all 6 participants and also to all original invitees
2. Statements asked to be returned within 2 weeks
3. Reminder sent
4. Statement sent to further 10 experts using purposive sampling
5. 13 participants returned the questionnaire
6. Data analysis using summary statistics
7. Removal of statements that achieved 60% consensus or above
8. 11 statements for round 3

Round 3 of Delphi

1. All 13 participants from round 2 contacted with the round 3 questionnaire
2. Reminder sent two weeks later
3. 10 questionnaires returned
4. Data analysis using summary statistics
5. 7 out of 10 statements met consensus of 60% or above

Appendix 2 Email invitation to take part in a steering group

Dear Colleague

This email has been sent to you to ask if you would be interested in participating in an expert steering group to formulate questions for a research study. I am a doctorate student and I wish to investigate and explore teaching advanced clinical assessment skills to undergraduate student midwives. I would like to ask you about your experiences and your opinions.

The recognition and management of women in pregnancy with serious illness is an important issue, as highlighted in the most recent Confidential Enquiry into Maternal Death in the UK (2016). Early identification of women at risk is vital to optimise the chances of the woman and her baby. It is to this end that this study will endeavour to discover whether equipping student midwives' with enhanced clinical skills may support this.

I would be very grateful if you would consent to be part of a steering group where I will conduct a 'virtual' focus group to explore questions that may be suitable for the Delphi study. You have been chosen for your expertise in advanced clinical assessment skills. The focus group will commence with 'open ended' questions for your consideration. The study is supported by the University of East Anglia. The information obtained by this study will be used in my doctorate thesis and may be published. The findings may also inform midwifery curricula locally and nationally.

Do not hesitate to contact me on J.Needham@uea.ac.uk if you have any questions.

If you are happy to participate in the steering group please email me. Thank you very much for your consideration

Jayne Needham

EdD student

University of East Anglia

Norwich

Norfolk

NR4 7TJ

01603 597079

Appendix 3 Email to potential participants in Delphi study

Dear Colleague

This email has been sent to you to ask if you would be interested in participating in a research study. I am a doctorate student and I wish to investigate and explore teaching advanced clinical assessment skills to undergraduate student midwives. I would like to ask you about your experiences and your opinions.

The recognition and management of women in pregnancy with serious illness is an important issue, as highlighted in the most recent Confidential Enquiry into Maternal Death in the UK (2021). Early identification of women at risk is vital to optimize the chances of the woman and her baby. It is to this end that this study will endeavour to discover whether equipping student midwives with enhanced clinical skills may support this.

I would be very grateful if you would consent to be part of a Delphi study where I will conduct an initial interview via teams and then follow up with two questionnaires approximately four-five weeks apart. The initial interview will take approximately 45 minutes at a time and place to suit you. The further questions will be asked and answered via email correspondence. If you reside outside the UK the initial interview will be via teams.

The study is supported by the University of East Anglia. The information obtained by this study will be used in my doctorate thesis and may be published. The findings may also inform midwifery curricula locally and nationally.

Please find attached to this email an information leaflet and consent form to familiarize you with the study. Do not hesitate to contact me on J.Needham@uea.ac.uk if you have any questions.

Once you understand what is required of you and you are happy to participate in the study please return the forms indicated.

Thank you very much for your consideration

Jayne Needham

EdD student

University of East Anglia NorwichNorfolk

NR4 7TJ

Appendix 4 Participant information sheet and consent forms

Faculty of Social Sciences
School of Education
University of East Anglia
Norwich Research Park
Norwich NR4 7TJ
United Kingdom

Email:J.Needham@uea.ac.uk
Tel: +07884278331

Web:www.uea.ac.uk

Jayne Needham
Midwifery Lecturer/Doctor of Education student
June 2022

Improving the undergraduate midwifery curriculum regarding clinical assessment

PARTICIPANT INFORMATION STATEMENT

(1) What is this study about?

You are invited to take part in a research study about how prepared student midwives in the UK are to provide high dependency skills to pregnant and recently pregnant women. You have been invited to participate in this study because you are an expert in midwifery/critical care. This Participant Information Statement tells you about the research study. Knowing what is involved will help you decide if you want to take part in the study**.** Please read this sheet carefully and ask questions about anything that you don't understand or want to know more about. Participation in this research study is voluntary. By giving consent to take part in this study you are telling us that you:

- ✓ Understand what you have read.
- ✓ Agree to take part in the research study as outlined below.
- ✓ Agree to the use of your personal information as described.
- ✓ You have received a copy of this Participant Information Statement to keep.

(2) Who is running the study?

The study is being carried out by the following researcher: Jayne Needham, EdD student, School of Education and Lifelong Learning, University of East Anglia.

(3) What will the study involve for me?

The research will be carried out using the Delphi technique consisting of three questionnaires (known as rounds) aimed to achieve consensus.

Your participation will involve an initial interview face to face or via teams and then four/five weeks later you will be asked to complete a further set of questions via email. Four/five weeks following that, you will be asked a final set of questions via email. The initial interview will be at a time and place to suit you. If you reside out of the United Kingdom the initial questions will be completed via teams. The interview and questionnaires will ask you about your opinions and suggestions regarding advanced clinical assessment skills for student midwives. Simple and specific instructions will be provided for each questionnaire. There are no right or wrong answers to the questions. This study is seeking your expert opinion.

(4) How much of my time will the study take?

It is expected that the initial interview will take approximately 45 minutes and then each further set of questions will take between 30-40 minutes to complete.

(5) Do I have to be in the study? Can I withdraw from the study once I've started?

Being in this study is completely voluntary and you do not have to take part. Your decision whether to participate will not affect your current or future relationship with the researcher or anyone else at the University

of East Anglia. Once data has been provided at each round, it will not be possible to withdraw the data from the study although you may choose not to go forward to the subsequent round.
You can do this by emailing: J.Needham@uea.ac.uk
You are free to stop the interview at any time and unless you want me to keep them, any recordings will be erased and the information you have provided will not be included in the study results. You may also refuse to answer any questions that you do not wish to during the interview.

(6) Are there any risks or costs associated with being in the study?

Aside from giving up your time, I do not expect that there will be any risks or costs associated with taking part in this study. It is possible that you may recognize other participants in the study as midwifery is quite a small community. Please reassured that I will not reveal personal details about any participant.be

(7) Are there any benefits associated with being in the study?

Your responses are likely to provide details about the effectiveness of teaching advanced clinical assessment skills to student midwives. It may also help to identify any potential issues or barriers to the teaching of these skills.

(8) **What will happen to information about me that is collected during the study?**

By providing your consent, you are agreeing to me collecting personal information about you for the purposes of this research study. Your information will only be used for the purposes outlined in this Participant Information Statement, unless you consent otherwise. Data management will follow the 2018 General Data Protection Regulation Act and the University of East Anglia Research Data Management Policy (2015). Your information will be stored securely, and your identity/information will be kept strictly confidential, except as required by law. Study findings may be published, but you will **not** be identified in these publications unless you agree to this using the tick box on the consent form, in this instance, data will be stored for a period of 10 years and then destroyed.

(9) What if I would like further information about the study?

When you have read this information, Jayne will be available to discuss it with you further and answer any questions you may have. You can contact her on J.Needham@uea.ac.uk or 07884278331

(10) Will I be told the results of the study?

You have a right to receive feedback about the overall results of this study. When the viva is completed you will be emailed an A4 summary of the findings and recommendations. This is likely to be at the end of 2023.

(11) What if I have a complaint or any concerns about the study?

The ethical aspects of this study have been approved under the regulations of the University of East Anglia's School of Education and Lifelong Learning Research Ethics Committee. If there is a problem please let me know. You can contact me via the University at the following address:

Jayne Needham
School of Education and Lifelong Learning
University of East Anglia
NORWICH NR4 7TJ
J.Needham@uea.ac.uk

If you would like to speak to someone else you can contact my supervisors:

1. Professor Kenda Crozier K.Crozier@uea.ac.uk
2. Esther Priyadharshini E.Priya@uea.ac.uk

If you are concerned about the way this study is being conducted or you wish to make a complaint to someone independent from the study, please contact the Head of the School of Education and Lifelong Learning, Professor Yann Lebeau. Y.Lebeau@uea.ac.uk

(12) **OK, I want to take part – what do I do next?**

If you're happy to participate you will need to complete one copy of the consent form and return it to me in a password protected file via email or send to my postal address.

Please keep the letter, information sheet and the 2nd copy of the consent form for your information.

PARTICIPANT CONSENT FORM (1st Copy to Researcher)

I, ... [PRINT NAME], agree to take part in this research study.

In giving my consent I state that:

✓ I understand the purpose of the study, what I will be asked to do, and any risks/benefits involved.

✓ I have read the Participant Information Statement and have been able to discuss my involvement in the study with the researcher if I wished to do so.

✓ The researcher has answered any questions that I had about the study and I am happy with the answers.

✓ I understand that being in this study is completely voluntary and I do not have to take part. My decision whether to be in the study will not affect my relationship with the researchers or anyone else at the University of East Anglia now or in the future.

✓ *I* understand that I can withdraw from the study at any time.

✓ I understand that as I am completing non-anonymous questionnaires once I have submitted the first-round questionnaire, I will not be able to withdraw my data. This is because one round of data informs the following round. I can though, withdraw from subsequent rounds. During the initial interview I may stop the interview at any time if I do not wish to continue, and that unless I indicate otherwise any recordings will then be erased and the information provided will not be included in the study. I also understand that I may refuse to answer any questions I do not wish to answer.

✓ I understand that personal information about me that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to. I understand that information about me will only be told to others with my permission, except as required by law.

✓ I understand that the results of this study may be published, but these publications will not contain my name or any identifiable information about me.

I consent to:

- **Audio-recording** YES ☐ NO ☐
- **Reviewing transcripts** YES ☐ NO ☐
- **Completing 2 questionnaires** YES ☐ NO ☐

....

Signature **PRINT name** **Date**

PARTICIPANT CONSENT FORM (2nd Copy to Participant)

I, ... [PRINT NAME], agree to take part in this research study.

In giving my consent I state that:

✓ I understand the purpose of the study, what I will be asked to do, and any risks/benefits involved.

✓ I have read the Participant Information Statement and have been able to discuss my involvement in the study with the researchers if I wished to do so.

✓ The researchers have answered any questions that I had about the study and I am happy with the answers.

✓ I understand that being in this study is completely voluntary and I do not have to take part. My decision whether to be in the study will not affect my relationship with the researchers or anyone else at the University of East Anglia now or in the future.

✓ I understand that I can withdraw from the study at any time.

✓ I understand that as I am completing non-anonymous questionnaires once I have submitted the first-round questionnaire, I will not be able to withdraw my data. This is because one round of data informs the following round. I can though, withdraw from subsequent rounds. During the initial interview I may stop the interview at any time if I do not wish to continue, and that unless I indicate otherwise any recordings will then be erased and the information provided will not be included in the study. I also understand that I may refuse to answer any questions I do not wish to answer.

✓ I understand that personal information about me that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to. I understand that information about me will only be told to others with my permission, except as required by law.

✓ I understand that the results of this study may be published, but these publications will not contain my name or any identifiable information about me

I consent to:

- **Audio-recording** YES ☐ NO ☐
- **Reviewing transcripts** YES ☐ NO ☐
- **Completing 2 questionnaires** YES ☐ NO ☐

....**Signature**
PRINT name

Appendix 5 Instructions for first round Delphi study

This first round asks you a question

1. Should all student midwives be equipped to care for acutely deteriorating and critically ill women? Please comment on this statement.

Appendix 6 Second round Delphi questions for participants

Statements for ranking based on the feedback from round 1

1. Student midwives should be equipped to identify deviation from the norm from the beginning of the programme

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

2. Student midwives should have skills of assessment to identify and appropriately refer a woman who is unwell?

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

3. Every midwife needs skills of assessment and initial care of critical illness

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

4. Midwives need the skill of communication to refer accurately to get the right response

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

5. Unwell women deserve to be cared for by a midwife

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

6. Student midwives need experience and knowledge of conditions such as diabetes, cardiac conditions and hypertension

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

7. Midwifery training should include both normality and being able to look after more complex cases

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

8. Student midwives should be able to care for acutely deteriorating individuals

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

9. Critically ill women need ITU/critical care nursing knowledge

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

10. Additional skills and knowledge would improve patient care

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

11. Additional skills and knowledge would improve midwives' motivation

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

12. All student midwives should have the capacity to recognise and respond to the acutely deteriorating woman

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

13. All student midwives should have basic skills in life support

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

14. All student midwives should be able to escalate clinical care following observation and response charts

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

15. Student midwives should possess physical assessment skills that enable them to do an A-E assessment on a woman

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

16. Student midwives should be able to interpret findings, document and escalate care as required

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

17. It is beyond the scope and role of the midwifery profession to care for a woman who requires intensive care

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

18. Qualified midwives require additional skills and training to work in maternity high dependency units

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

19. There is scope for midwives to learn as undergraduates how to conduct and ECG and basic ECG interpretation

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

20. There is scope for student midwives to learn how to care for centrally inserted catheter devices as an undergraduate

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

21. There is scope for student midwives to learn how to administer low dose inotropic agents as an undergraduate

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

22. Student midwives should be equipped to care for women experiencing complications of pregnancy

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

23. It should be an NMC requirement for student midwives to be equipped with the theoretical knowledge and skills to care for the deteriorating woman and those that become critically unwell

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

24. It is a fundamental skill that all student midwives can recognise deterioration in a woman's well being-physical or psychological

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

25. Students must be able to think laterally of next steps and escalation

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

26. It is essential that students are placed in a high dependency unit or close observation unit

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

27. Universities/NMC/NHS should provide competency documents to ensure the students are achieving the objectives throughout their training in HDU clinical placements

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

28. Debriefing should be factored into a student's time during ITU placements to discuss what they have observed

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

29. The demographics of women has changed dramatically over the last five years

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

30. It is more common for women to have comorbidities

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Thank you so much for your participation in this research study

Jayne Needham

2/12/2022

Appendix 7 Third round Delphi questions for participants

Statements for ranking based on the feedback from round 2

I am attempting to achieve consensus on the following statements.

1.Student midwives should be equipped to identify deviation from the norm from the beginning of the programme

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

2. Unwell women deserve to be cared for by a midwife

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

3. Student midwives should be able to care for acutely deteriorating individuals

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

4. Additional skills and knowledge would improve patient care

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

5. It is beyond the scope and role of the midwifery profession to care for a woman who requires intensive care

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

6. There is scope for midwives to learn as undergraduates how to conduct and ECG and basic ECG interpretation

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

7. There is scope for student midwives to learn how to care for centrally inserted catheter devices as an undergraduate

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

8. It should be an NMC requirement for student midwives to be equipped with the theoretical knowledge and skills to care for the deteriorating woman and those that become critically unwell

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

9.
10. Students must be able to think laterally of next steps and escalation

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

11. It is essential that students are placed in a high dependency unit or close observation unit

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

12. Universities/NMC/NHS should provide competency documents to ensure the students are achieving the objectives throughout their training in HDU clinical placements

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Thank you so much for your participation in this research study

Jayne Needham

3/04/2023

Appendix 8 Links to summary statistics for rounds 2 and 3 of the Delphi study

28.5.23 Delphi R2- answers quantitative analysis V3.xlsx

28.5.23 Delphi R3- answers quantitative analysis V3.xlsx