Changing The Culture On Labour Ward To Increase Midwives Promotion of Birthing Pools: An Action Research Study

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Abstract

Waterbirth practice has the potential to support a midwifery model of care and yet little is known about how the organisation of care can be changed to improve the use of birthing pools. This action research study focused on a group of midwives working on a labour ward in an English obstetric led maternity unit with 3,800 births and 25 recorded waterbirths per year. Interviews and focus groups with labour ward midwives and managers were employed to identify barriers to birthing pool use and inform the change process. Three problem-solving workshops with labour ward coordinators were organised with the aim of influencing other midwives' use of birthing pools. Data from a newly developed waterbirth questionnaire and maternity records were used to evaluate change in levels of personal knowledge, waterbirth self-efficacy and social support. Foucauldian discourse analysis and One-Way ANOVA with Tukey post hoc tests were used to analyse qualitative and quantitative data. Fourteen midwives took part in focus groups and seventeen in interviews over four research phases. Interventions, developed by workshop attendees, included improvements to the recording and dissemination of waterbirth and water immersion data, target setting and the appointment of a waterbirth champion. By the end of the study the numbers of waterbirth practitioners, recorded waterbirths and social support increased significantly. Discourse analysis revealed the presence of dominant biomedical and subjugated 'being with woman' midwifery discourses.

The study is the first to describe midwives' attitudes to waterbirth practice and attempt to improve the use of hospital birthing pools. The findings illustrate that, by co-opting rather than replacing dominant discourses, it is possible to support the delivery of a midwifery model of care in a medicalised environment. As such this study offers a pragmatic approach to organisational change.

Awards, Publications & Presentations

Awards

2011: Nominated for the University of Nottingham Endowed Postgraduate Award

2010: Royal College of Midwives Ruth Davies Bursary

Publications

Russell, K. Walsh, D. Scott, I. McIntosh, T (2014). Effecting change in midwives waterbirth practice behaviours on labour ward: An Action Research Study. *Midwifery*, vol. 30 (3), March, pages e96-e101

Russell, K (2011). Struggling to get into the poolroom. A critical discourse analysis of labour ward midwives waterbirth practices. *The International Journal of Childbirth*, vol.1 (1) March pages 52-60

Russell, K. Walsh, D (2009). Can the use of behavioural intervention studies support change in professional practice behaviours? A systematic review of the literature *Evidence Based Midwifery Journal* RCM, 7 (2): 54-59 June.

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Glossary of Terms

Antepartum/ antenatal period

Is considered to include conception and pregnancy and end with the onset of labour. However, in medical terms the antepartum period is said to begin with viability of the fetus, which is twenty-four weeks of pregnancy.

ARM. Artificial Rupture of Membranes (also known as amniotomy)

A midwife or doctor punctures the amniotic membranes that surround the fetus. The amniotic membrane is broken during a vaginal examination (VE). Breaking the amniotic membrane causes increased levels of hormones (prostaglandins and oxytocin) to stimulate uterine contractions.

Augmentation of labour

Augmentation is the process by which the length of labour is shortened through medical intervention. Methods used to stimulate uterine contractions include the artificial rupture of membranes (ARM) and hormonal (oxytocic) intravenous infusions.

Band 5/6 Midwives

A midwife with varying degrees of clinical expertise who provides care and support to women and their families before, during and after childbirth.

Birthing Pools

These are either plumbed in ceramic deep-water baths or portable inflatable pools consisting of bottom, middle and upper air chambers. Portable pools can be kept fully deflated or with all but the top chamber inflated (this reduces the risk of puncture), prior to filling with water. Removing and then refilling with hot water from bath taps helps maintain the water temperature of plumbed in pools prior to birth of a baby. In portable pools the water temperature is maintained by removing water using a bucket and refilling with the supplied water hose attached to an external water supply.

Biomedicine

Biomedicine is defined as the delivery of medical care based on the application of scientific principles developed from pathology, reductionism and quantitative research. Biomedicine is associated with the practice of obstetricians'. The aim in biomedicine is to make childbirth safe by controlling and managing natural processes.

Coordinating Labour Ward Midwife (Band 7)

Experienced midwives with recognized clinical expertise in the care of women with complicated births. Responsibilities include the day-to-day running of the ward area, allocation of work, liaising with obstetricians and monitoring other midwives practice.

Consultant Midwife (Band 8)

Is a expert practitioner of midwife, with a higher midwifery degree, who provides advice and leadership in clinical practice settings and works with the multi disciplinary team to develop maternity services. In addition, consultant midwives undertake research to improve the care women receive.

CTG. Cardiotocograph

An electronic machine used to record the foetal heart and uterine contractions in the latter part of pregnancy and during childbirth. The CTG machine is more commonly known as an **electronic fetal monitor** (**EFM**).

Disciplinary Power

Is a type of coercive power used by institutions to target bodies, its use is associated with health care professionals (the disciplines). Disciplinary power relies on the cooperation of people and institutions to control the thoughts and actions of its less powerful subjects. Consequently, this type of power is only visible when the status quo is threatened by acts of resistance.

Discourse

Is a term used to describe the ways in which institutions communicate, control and normalise their conduct. In a Foucauldian sense, discourse is the device through

which power functions. Discourses are ways of constituting knowledge, which together with social practices form power relations that regulate and control people's behaviour. A **dominant discourse** is accepted as the main way of thinking, speaking about and behaving by the members of the organisation or social groups.

Discursive Strategies

This is the term used by Michel Foucault to describe the processes by which discourses in organisational settings are operationalised. Hence discursive strategies are the ways in which discourses are given meaning, power/knowledge.

Epidural (anaesthesia)

Anaesthesia is placed in the epidural space, which is situated in the lower part of the spine. The injection usually results in the complete loss of pain and causes a loss of sensation in the trunk and upper legs. Epidurals block the transmission of signals to nerve fibres near to the spinal cord. Hence, women who labour with an epidural tend not to feel the pain associated with uterine contractions and may find it difficult to mobilise.

Head of Midwifery

Is usually the most senior midwife in a maternity unit. The Head of Midwifery has overall responsibility for the service provided to women and their families and leads the provision of high quality maternity care

Intrapartum Period

Is the period from the start of regular contractions to the birth of a baby. The term childbirth or birth is also used to describe the process of parturition.

Lithotomy Position

Is a position used to correct slower than expected progress of childbirth or when an instrumental (forceps) delivery needs to be performed. The position involves women lying on their backs and placing their legs resting in straps or supports attached to the bed. This has the effect of flexing the hips and knees and keeping the thighs apart.

Midwifery Matron (Band 8)

An experienced midwifery manager who supports the Head of Midwifery in delivering high quality care by leading a group of clinical midwives working within a particular area of practice.

Meptid (also known as Meptazinol)

Meptid is an opioid analgesic commonly used to reduce the pain associated with uterine contractions. The drug is said to have a shorter onset and duration than other opioids such as Pethidine or Morphine and so is less likely to cause respiratory depression in the newborn.

Midwifery Model

In the midwifery model, birth is seen as safe unless complications occur. The midwife's role is to promote normality and women's feelings of confidence using knowledge and skills based on the midwives' artistry: the ability to help women work in harmony with their physiology and to trust the birthing process.

Midwife Led Units (MLU)

Midwife-led units or as birth centers are run by midwives without the medical facilities of a hospital and so are most suitable for women without complications. MLU's can be next to a hospital maternity unit ('**alongside'**) or situated in the community ('**freestanding'**).

Normal birth

Normal birth is defined as birth 'without induction, without the use of instruments, not caesarean section and without general, spinal or epidural anaesthesia before or during delivery' (The Maternity Care Working Party, 2007, page 1)

Postpartum

A postpartum period or postnatal period is the period beginning immediately after the birth a child and extending for about six weeks.

Pethidine

Pethidine is one of the most widely used opioids used to control labour pain. If given close to the birth it can cause respiratory depression and necessitate resuscitation of the neonate. Common maternal side effects include nausea, vomiting and dis-orientation.

Shoulder Dystocia

Shoulder dystocia is a specific term used to describe the impaction of the anterior fetal shoulder during birth, so that it is unable to pass below the mother's pelvic bone. It is diagnosed when the shoulders fail to deliver shortly after the fetal head has been born. Shoulder dystocia is an obstetric emergency.

Stages of Labour

The **first stage of labour** is said to begin when the cervix is more than 4 cm dilated and the woman is experiencing regular painful contractions that get stronger, longer in duration, closer together and cause the fetus descends into the pelvis. This stage of labour concludes when the cervix is fully dilated (10cm) and the mother begins to experience an urge to bear down. The **second stage of labour** begins with expulsive contractions and descent of the foetus through the birth canal. This stage concludes with the birth of the baby. The **third stage of labour** begins with the birth of the baby and ends when the placenta (afterbirth) and membranes have been fully expelled.

Subject Position

This term is used to describe how individuals through sensing who they are, take up subject positions, are determined by dominant discourses. The position subjects adopt is dependent on the particular set of circumstances and discourses they find themselves in at any given time (**subjectification**).

Supervisor of Midwives

Is an experienced midwife who has undertaken additional study to supervise other midwives practice. The aim of supervision is to protect women and babies by actively promoting safe standards of midwifery practice. Supervision currently

provides a mechanism for support and guidance to every midwife practicing in the UK.

Surveillance

Is the process by which institutions monitor the behaviour and activities of people with the purpose of influencing, managing or controlling their actions and thoughts. Surveillance and disciplinary power interact to produce an intricate web of overt and covert behaviours that diminish an individual's ability to act and think differently from those around them.

Third Degree Tear

A third-degree laceration is a tear in the vaginal tissue, perineal skin, and perineal muscles that extend into the anal sphincter (the muscle that surrounds the anus). This laceration is classified as severe perineal trauma because it requires careful suturing in theatre in to prevent long-term health problems.

Water Immersion

The submersion of the body in warm-water to a depth that covers a woman's pregnant abdomen and reaches the level of her breasts when sitting. This depth of water constitutes true immersion as it creates buoyancy and supports physiological labour.

Waterbirth Practice

Midwives use of water immersion in the first stage of labour and/or the facilitation of the second stage of labour and birth underwater (waterbirth).

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Chapter One: Introduction

This introductory chapter includes the research rationale, statement of the research problem, research aims, objectives and the intended structure of the thesis. The chapter begins by describing how my views, beliefs and experiences of midwifery have informed the rationale for this study.

1.1. Research rationale

For most of my clinical career, I worked in a community setting, caring for women during the antepartum, intrapartum and postpartum periods. One of my favourite memories is caring for women during homebirth. At home, women tended to give birth naturally in the company of their children and family. As a community midwife, I was able to build meaningful relationships with women and at times to feel part of the families I cared for. These experiences led me to believe that the majority of women (without known risk factors) could have satisfying births and that midwives have the necessary skills to facilitate normal childbirth. After fourteen years of working clinically I moved into higher education.

The move to higher education was borne out of a desire to share my passion for normal birth with the next generation of midwives and to find ways of improving the delivery of the midwifery model of care. I took responsibility for a normality module

in the third year of the BSc Midwifery programme. I taught students the necessary theory and skills to support physiological birth in a variety of settings.

As a midwifery lecturer, I collaborated with the local NHS Trust to develop clinical guidelines and ensure student practice learning was conducive through educational audit and link meetings. I led on delivering post-registration study days and organised a national normal birth conference. However, none of these educational activities resulted in sustained improvements in the delivery of the midwifery model of care in hospital settings. Working outside the NHS meant I had little power to improve the use of midwifery knowledge and skills on the labour ward.

After a period of time it became apparent to me that students had limited exposure to the midwifery model of care and that this made them question the value of a third year module on 'normality'. They informed me that what would be helpful would be another module on high-risk midwifery care. The implication being that knowledge of normal birth was less important than learning about how to manage complicated labours and births. The Nursing and Midwifery Council's (NMC) standards for pre-registration midwifery education (NMC, 2009) require that normality and its promotion be included in all undergraduate programmes leading to registration. Moreover, professional bodies and regulators consider normal childbirth an essential part of the midwife's role (NMC, 2012; RCM, 2014). Normal birth is that which occurs:

> 'without induction, without the use of instruments, not caesarean section and without general, spinal or epidural anaesthesia before or during delivery' (Maternity Care Working Party, 2007, page 1)

Student midwives reported that the opportunity to witness midwifery models of care during their labour ward placements was limited. Prior to the research, there were no plans by the NHS trust concerned to improve the homebirth service or build an alongside or free-standing Midwife Led Unit. I came to the opinion that the only way to improve students' exposure to normal birth and increase choice for women, was to research how to improve the availability of the midwifery model of care on the labour ward.

My Masters research, completed in 2006, described labour ward midwives' experiences of using normal birth skills on labour ward, following attendance at a normal birth workshop. Semi-structured interviews with labour ward midwives helped me understand some of the problems they experienced when trying to use midwifery knowledge (Russell, 2007). On completion of the research, the workshops ceased, and I saw during my visits to the practice area and from my teaching practice the increasing medicalisation of midwifery led care. These experiences led me to explore ways in which change in clinical practice settings could be achieved and to focus my PhD research on improving the delivery of the midwifery model of care on one of the labour wards where I had conducted my Masters research.

I acknowledge that a research rationale based on my reflections, views, beliefs and experiences of midwifery over a twenty-nine year career may be regarded as a limitation when proposing a research inquiry. I take the view that as long as one takes a 'reflexive stance', my previous midwifery experiences enhance my research role. Reflexivity at a minimum level supports the researcher to critique their practice

and increase their understanding of the research process (Finlay, 2002). At a more active level, reflexivity enables acknowledgement of researcher bias and allows the researcher's actions, through self-appraisal and critique, to be understood (Finlay, 2002). Therefore reflexivity provides a process by which the individual researcher examines how they influence knowledge construction and the stages of the research process. The inclusion of reflexive comments throughout this thesis provide evidence of how I self-critiqued and self-analysed my position within the research.

1.2. Statement of the problem

The number of births in England has increased by 0.3% since 2011-12 to 671,255 (Health and Social Care Information Centre, 2013), the highest number of births for more than forty years (NAO, 2013). In 2012/2013 midwives delivered 89% of spontaneous hospital births (Health and Social Care Information Centre, 2013). The increase in medical interventions in recent decades has led to normal births in England falling from 60% in 1990 to 41.8% in 2012 (Birthchoice UK, 2012b).

All midwives, regardless of where they work, have a duty to support women's birth choices and promote normal childbirth (NMC, 2012). The midwifery model of care is where midwives are responsible for assessing and planning care that meets the physical, emotional and social needs of women in their care, referring to other professionals as appropriate (Hatem et al., 2008). The midwifery model of care has been shown to reduce the need for pharmacological analgesia (Law and Lamb, 1999). In a midwifery model, birth is seen as safe unless complications occur

(Walsh, 2012). Thus, the aim is for practitioners to promote normality and women's feelings of confidence using both artistry and science (Kitzinger, 2005).

The midwifery model of care has also been shown to improve vaginal birth rates (Birthplace in England Collaborative Group, 2011) and reduce unnecessary medical intervention (Hodnett et al., 2002). Policy documents such as the National Service Framework (DH, 2004), Maternity Matters (DH, 2007), Midwifery 2020, (Chief Nursing Officers of England, Northern Ireland, Scotland and Wales, 2010) describe midwives as practitioners of normal birth with a legal right to act autonomously (NMC, 2012). Professional autonomy refers to the control one has over working practices and the organisation of education, training and financial remuneration (Elston, 1991).

The current organisation of midwifery within large NHS hospitals has led to some practitioners internalising the values of biomedicine (Stevens, 2011). Others argue that the physical layout created by institutions controls the thoughts and actions of childbearing women and (Davis and Walker, 2010; Locke and Gibb, 2003) affect practitioners' ability to promote normality (Lavender and Chapple, 2004; Page and Mander, 2014). The midwifery model of care provided in Midwife Led Units (MLU) appears to support normal birth outcomes (Birthplace in England Collaborative Group, 2011). However, the limited number of Freestanding Midwife Led Units and continued low homebirth rates in England mean that the majority of women will continue to give birth in large obstetric led maternity units (NAO, 2013).

I therefore decided to explore how the delivery of the midwifery model of care on a labour ward could be improved. Following discussions with midwifery managers it was decided to undertake an action research study to improve labour ward midwives use of birthing pools for women with uncomplicated pregnancies (see chapter 5 of this thesis).

Water immersion for labour and birth was popularised following the Changing Childbirth report (DH, 1993). This groundbreaking report recommended that women should have access to birthing pools. Changing Childbirth led the professional regulator (UKCC, 1994) to include water immersion in the midwife's scope of practice. Water immersion (in birthing pools) enhances normal birth physiology (Otigbah et al., 2000; De Sylva et al., 2009) by supporting mobility in the first stage and upright posture in the second stage, by producing a calming, soothing effect on women and by reducing women's usage of pharmacological analgesia usage (Eberhard et al., 2005). Cluett et al (2009) systematic review of the literature led them to conclude that water immersion for women without pregnancy complications is as safe as land birth. Caring for labouring women in water can also support midwives' use of normal birth skills (Garland, 2011b).

A review of maternity services in England (Healthcare Commission, 2008) identified that 11% of labouring women used water in labour, and 3% gave birth in water. The National Birthplace Study (Birthplace in England Collaborative Group, 2011) found that labouring women in freestanding MLU's (when compared with low-risk women), were four times more likely to use water than those giving birth in an obstetric led unit. The differences in water immersion by place of birth, suggest that birthing pools are not fully utilised on labour wards. Little research into labour ward

midwives' attitudes to waterbirth practice or the promotion of normal birth on UK labour wards has been undertaken (see chapter three of this thesis).

The aim of this study is to understand how the organisational culture of a labour ward can be changed to support midwives use and promotion of birthing pools for women in normal labour.

1.3. The research site

The research inquiry focused on a group of midwives and managers working in an English obstetric led maternity unit situated in a busy District General Hospital. The maternity unit's labour ward catered for 3,800 births per year. There was no Free-standing or Alongside Midwife-Led Units in the locality and home birth rates varied between two and three percent. Prior to the study, the labour ward had one poolroom with 25 recorded waterbirths per year. The Head of Midwifery was keen to improve the waterbirth service for women admitted in normal labour and so gave her support to the research (see chapters five and six of this thesis).

1.4. Structure of the thesis

Chapter two explores both the past and present developments of English midwifery to provide a context for the study. Topics include the control and regulation of early

and modern midwives, the institutionalisation of normal birth care, autonomy, models of care, the origins of water immersion, the benefits and potential risks of birth in water and hospital midwives' attitudes to waterbirth.

Chapter three presents an overview of existing literature to identify the factors necessary for improving midwifery led care in hospital settings. No papers aimed at improving the delivery of water immersion on labour wards were located. The review revealed that practice change requires a comprehensive strategy that supports ownership of change, the capability to change and transformational leadership across all levels of the organisation. In addition the review identified that action research was an effective methodology.

Chapter four identifies critical realism as the theoretical perspective for this study and action research as the methodology. Important issues surrounding the chosen theoretical framework and associated debates relating to action research are discussed before identifying how validity of the study is to be assured. The chapter concludes with consideration of ethical, reflexive and my position within the research.

Chapter five begins with a discussion of the issues surrounding the design of action research and continues by describing the research aims, objectives, research phases, data collection methods, ethical considerations and validity. The design and intended

data collection methods are discussed and justified. The specific design and methods for each of the research phases are detailed in chapters six to nine of this thesis.

Chapter six describes the first phase of: planning, action, reflection and evaluation. The aim of this cycle of data collection was to identify the barriers to waterbirth practice. Data collection methods: Interviews and focus groups with labour ward managers and midwives. Key barriers to birthing pool use included coordinating midwives, access to the poolroom and limited knowledge and skills in waterbirth practice.

Chapter seven describes the second phase of planning, action, reflection and evaluation. The aim of this cycle was to develop a waterbirth questionnaire to measure change in waterbirth practice scores and problem solving workshops with coordinating midwives. The first workshop led to a number of actions being agreed by the group to improve the use of birthing pools. Data collection methods: Pre and post workshop questionnaires, interviews with labour ward midwives (Bands 5/6) and numerical data from the birth register. The findings indicated a small increase in both the frequency of water immersion and waterbirths.

Chapter eight describes the third phase of planning, action, reflection and evaluation. The aim of this cycle was to evaluate the outcomes of the actions implemented at the first workshop and to develop further actions during the second workshop. A key action point was the setting of a target of 100 waterbirths by the

end of the study. Data collection methods: Pre and post workshop questionnaires, interviews with labour ward midwives (Bands 5/6) and numerical data from the birth register. The findings indicated increases in the water immersion, waterbirth rates and numbers of waterbirth midwives.

Chapter nine describes the fourth research phase of planning, action, reflection and evaluation. The aim of this cycle was to evaluate the outcomes of the study by interviewing midwifery managers and collecting numerical data from the birth register. A number of indicators in the data suggest that a change in the availability of the birthing pools and midwives' waterbirth practices appear to have taken place since research began.

Chapter ten reports the findings of the data analysis of the questionnaire and qualitative data. Discourse analysis revealed the presence of a dominant biomedical discourse and subjugated 'being with woman' midwifery discourses. Quantitative data showed a statistically significant change in the frequency of waterbirth and levels of social support on the ward.

Chapter eleven the findings from the research phases and data analysis were synthesized within a critical realist framework to understand the mechanisms responsible for the midwifery discourses and organisational change. Attention is paid to the literature surrounding the politics of maternity care, disciplinary power, birth territory and the labour ward culture. Discussion of my reflexive position within the

research is examined before the unique contribution, strengths and limitations of the study are also considered.

Chapter twelve concludes the study and makes recommendations for improving midwifery practice; education, training and suggestions for future research before final concluding remarks are made.

Chapter Two: Context

The chapter begins with a discussion of the historical development of English midwifery before the current context of labour ward culture, models of care and the practice of water immersion are examined. The main aim of this chapter is to understand how the labour ward culture has come to impact on the delivery of normal birth care.

2.1. Historical development of English midwifery

In the sixteenth century, the church introduced formal licensing of midwives to ensure that the souls of mother and babies who died in childbirth received the last rights (Van Teijlingen, 2004). Church licensing in England was successful for more than two centuries because of an extensive parish network (King, 1993). From the seventeenth century onwards, town councils took over licensing responsibilities, but in rural areas church regulation continued well into the eighteenth century (Hobby, 2009).

In some cases, licensing required seventeenth-century midwives to take an oath. Eveden (2000) describes how midwives wishing to practice in London had to promise not to share the secrets of the birth chamber and to call the services of another midwife if complications arose. The church's regulation of midwifery has led some historians to conclude that early midwives were highly respected members of society whose practice therefore needed to be regulated and controlled (Harley,

1990). The idea of controlling midwives' thoughts and actions by institutional controls is something that resonates not only with the organisation of modern midwifery practice but also with the aims of this thesis.

One of the best-known seventeenth-century English midwives is Jane Sharp. Sharp published The Midwives Book in 1671 (Donnison, 1988). The book is an account of the author's thirty-year midwifery career underpinned by the work of Hippocratic writers and Nicholas Culpeper's Directory for Midwives (Donnison, 1988). Some historians use Jane Sharp's work as evidence that early midwives were thinking, skilful, educated practitioners (Harley, 1990). Others like Gowing (2003) allude to early midwives' involvement in less savoury aspects of seventeenth-century life, namely witchcraft and abortion. However there is no clear evidence that midwives engaged in these types of prohibited activities. There does however appear to be agreement that sixteenth and seventeenth-century midwives had sufficient power to provide women with care based on traditional skills and wisdom, passed down through the generations (Hobby, 2009). By the middle of the seventeenth century, a new way of looking at the world (rationality) began to challenge traditional forms of knowledge such as midwifery.

2.1.1. Rationality and men-midwives quest for improvement

Rationality is an understandable and clear form of scientific knowledge free from religious ideology; it was seen as a new way of understanding the social world (Sayer, 2000). Subsequently, rationality was used to challenge the out-dated order of

sovereign rule, inequality, religion, superstition and ignorance, to bring about social change (Brown and Jones, 2001; Arney, 1982). Rational thinking was viewed as offering a way of improving childbirth and reducing maternal mortality (Edwards, 2005). An example of this is the introduction of forceps in the eighteenth-century. Innovations such as obstetric forceps did much to strengthen the position of medical men in society and the acceptance of science by the wealthy middle classes (Donnison, 1988). The acceptance of rationality led to more and more middle-class women hiring the services of man midwives for childbirth (Wilson, 1995).

Eighteenth-century midwifery publications by Sarah Stone (1737) and Elizabeth Nihell (1760) showed midwives to be caring, knowledgeable practitioners, skilled in the care of normal and complicated births (Bosanquet, 2009a; Bosanquet; 2009b). Both women wrote about the high number of mothers and babies who died at the hands of male midwives apprenticed to barber surgeons (Donnison, 1988). In Elizabeth Nihell's time, midwives working in London encountered competition from increasing numbers of man midwives (Bosanquet, 2009b). During the eighteenth century, the term 'normal' began to be used to divide midwifery and medical spheres of practice (Arney, 1982). However, use of the word 'normal' is a misleading term, as it has little to do with how individuals labour and give birth but with the theoretical norms (averages) of science (rationality) (Murphy-Lawless, 1998).

Some nineteenth-century doctors used scare tactics to steer childbearing women away from midwives and discredit midwifery (Brown, 2003). Tactics included the stereotypical portrayal of the midwife as an inferior, dirty, uneducated and

incompetent practitioner (Edwards, 2005). One of the most efficient mechanisms for the subordination of women is the creation of myths, which over time become embedded in a particular culture (Pateman 1989). One such myth is that midwifery knowledge is an irrational unproven form of knowledge that harms childbearing women (Brown, 1999). Although poor practice existed it appears that more labouring women were helped than harmed by midwives and that the majority of pregnant women employed a midwife for their births (Edwards, 2005). Nineteenth century midwives delivered 75% of all babies born in England (Donnison, 1988).

However, midwives in this era were unable to challenge the involvement of medical men in childbirth (Leap and Hunter, 1993), because men were more educated and of a higher social status (Brown, 2003). In the nineteenth-century midwives like other women had little political influence, they were excluded from voting for a political party, attending universities or owning property (Witz, 1992).

The belief that science could improve upon natural processes led to a philosophical separation of the mind from the body by medicine (Goldberg, 2002). Although not unique, the dislocation of the mind and body is an important aspect of the obstetric story as it assists our understanding of the philosophies that underpin medical science. For example medical science asserts that labour dystocia is due to pathological rather than emotional causes (Walsh and Evans, 2013). During the nineteenth century, a view of the body as a defective machine, in need of technical help began to grow amongst medical men (Murphy-Lawless, 1998; Edwards, 2005). The objectification of the labouring women turned the childbearing body into a site of scientific interest (Oakley, 1984b). Science's objectification of childbirth enabled

doctors to study women's bodies in a measured and objective way (Arney, 1982). Medical power emanated from the development of obstetric knowledge that was itself a product of the scientific thinking, which pervaded society at the time (Donnison, 1988) (for example, the industrial revolution).

2.1.2. State control of midwifery practice

In 1881, the Midwives' Institute was founded by a group of middle-class women (Cowell and Wainwright, 1981). The Midwives' Institute aimed to find midwifery jobs for middle-class women raise the status of midwives in society and stop handywomen practising midwifery. Handywomen were untrained carers, who unlike midwives, worked under the supervision of experienced midwives and doctors (Leap and Hunter, 1993). The state regulation of Midwives in 1902 in England introduced professional registration and training, overseen and controlled by doctors and the Midwives Institute (Heagerty, 1997). The decision by the state to link the normality of childbirth to the midwife's role is important as this move limited midwives' ability to determine care for women, without the assistance of a medical practitioner, when pregnancies and births became complex (Mander and Reid, 2002).

The Midwives Act established the Central Midwives Board (CMB). The CMB created mandatory rules and standards to control midwives' practices; failure to adhere to the CMB could result in the loss of livelihood for the midwife concerned. Rules allowed for the regular inspection of midwives' homes, their equipment,

records, personal hygiene and dress (Donnison, 1988). Inspectors, employed by the Local Supervising Authority ensured that midwives worked within specified rules (Towler and Bramall, 1986). The role of the midwife was to provide practical comfort and emotional support during childbirth in the local community.

Thus, midwifery training consisted of practical experience gained from conducting deliveries in the local community (McIntosh, 2012). State regulation succeeded in defining the twentieth-century midwife's scope of practice and giving medicine a legitimate claim to childbearing women. However prior to the Second World War, doctors had little involvement with birth because the majority of women continued to give birth at home under the care of a midwife (McIntosh, 2012).

During the first part of the twentieth century, domiciliary midwives provided care in women's homes or small maternity homes. The establishment of the National Health Service (NHS) in 1947 led to midwifery care being relocated within acute hospitals (Fleming 2002). Acute NHS hospitals were designed to provide urgent treatment and short-term inpatient care. The Peel report's recommendation that

> 'sufficient facilities should be provided to allow for 100% hospital delivery' (DH, 1970, p 60)

This act completed the institutionalisation of normal birth care that had begun after the establishment of the NHS. The publication by the government of the Briggs report (1972, p 187) concluded that although midwives had 'an unusual degree of

clinical responsibility'; the difference between hospital midwifery and nursing practice was minimal. The primary outcome of this report was the loss of a separate professional midwifery register (Fleming, 2002). The Briggs's report (Briggs, 1972) it is said to have contributed to a view of midwifery as a branch of nursing, under the control of obstetricians (McIntosh, 2012). The demise of local maternity homes and the centralisation of midwifery services in acute general hospitals led to a smaller number of district midwives being available for homebirth (Savage, 2011). Hence, the development of a predominantly hospital based maternity service placed midwifery under the control of a centrally governed maternity service led by obstetricians (Edwards, 2005). Murphy-Lawless (1998) argues that the development of obstetric led hospital services encouraged midwives to incorporate medical interventions such as routine fetal monitoring into their practice in the belief that it reduced risk.

Risk reduction is a feature of the medicalisation of care, used to define the safety of childbirth in absolute terms (Edwards, 2005; Fielder et al, 2004). Fuerdi (1997) argues that the reduction of risk has been elevated to a level of importance that in reality restricts rather than enhances human potential. Risk reduction aims to accelerate physiological processes using medical interventions such as induction and augmentation of labour (Walsh et al., 2004). The routine use of medical intervention in normal labour led consumer groups to question the dominant medical hegemony (Thomas, 2002). Hegemony is a type of power used by powerful groups such medical doctors to dominate the thoughts and actions of others (Gramsci, 1971). Consumer groups such as the National Childbirth Trust (NCT) and the Association

for Improvements in Maternity Services (AIMS) demanded increased choice in maternity services (McIntosh, 2012). The government responded by organising a Parliamentary inquiry to assess the roles of health professionals and to find ways of improving care for women with normal pregnancies (Sargent, 2002).

The outcome was the Winterton Report (House of Commons Maternity Select Committee, 1992) and a government response, Changing Childbirth (DH, 1993). Changing Childbirth recommended a move towards (Birthchoice UK, 2012) systems structured around maternal choice, control and continuity. A women-centred maternity service that was responsive to the needs of individuals cared for by a named midwife. In some ways, what was proposed was a system of care similar to that which existed prior to the establishment of the NHS. The Winterton report (House of Commons Maternity Select Committee, 1992) recognised

> 'the right of midwives to practice their profession in a system which makes full use of their skills to provide full clinical care throughout pregnancy, in labour, at delivery and in the postnatal period and which respects their legal accountability'(House of Commons Maternity Select Committee, 1992, xxxvi).

The publication of Changing Childbirth (DH, 1993, p 1) challenged the medical definition of safety by arguing that

> 'the policy of encouraging all women to give birth in hospitals cannot be justified on the grounds of safety'.

Changing Childbirth, (DH, 1993) attempted to re-establish the role of the midwife as the lead professional in normal birth care and to shift control from medical experts to childbearing women. Unfortunately the recommendations, as set out in Changing Childbirth (DH, 1993) were never fully realised. Financial constraints, difficulties with implementation and resistance from midwives are possible reasons for its failure (Thomas, 2002,). Thomas and Mayer (1996) are of the view that hospital midwives, after decades of working in a system with little autonomy and power, found the prospect of increased accountability overwhelming. Midwives' apparent reluctance may also have been due to the fact that they did not wish to work in a system (such as team midwifery) that required them to be on-call twenty-four hours a day (Thomas, 2002).

These government reports represent 'an interesting fracture' in the State's support for medical dominance (Edwards, 2005, p 83). However, these reports represent much more than this. The setting up of a select committee and the publication of policy shows how from time-to-time women and midwives have stood against the maternity services to vindicate the safety of non-institutional birth and midwifery care. More recent examples include campaigns to save freestanding MLU's (Walsh, 2006). The rhetoric of choice and control has been reframed in the twenty first century in the language of technology, risk, rights and consumerism (Kirkham, 2010). Increases in midwives average workloads, the introduction of the European Working Time Directive and a rising birth rate appear to have left hospital midwives with little choice but to provide care based on biomedicine (Mander and Murphy-Lawless, 2013).

In the twenty-first century, the medicalisation of normal childbirth across the western world is fuelling concerns that iatrogenesis is contributing to maternal and infant mortality and morbidity (O'Connell and Downe, 2009). Iatrogenesis means accidental causing of complications or disease following medical treatment. The term 'iatrogenisis' was developed by Ivan Illich (1977) to explain how governmental organisations restrict people's freedom and incapacitate individuals; for example the induction of labour for social reasons is presented by doctors as a safe or even benign procedure, yet its use increases the risk of fetal compromise and emergency caesarean section (O'Connell and Downe, 2009). In labour ward midwifery practice the routine artificial rupture the membranes (ARM) of women in normal labour despite the increased risk of cord prolapse and neonatal infection still occurs (Mead, 2004, Scamell, 2011).

Analysis of the historical development of English Midwifery over the past four hundred years has revealed that like their modern counterparts, traditional midwives cared for women regardless of whether birth was defined as normal. This review supports Leap and Hunter's (1993) view that there is little evidence of a unique form of traditional midwifery knowledge. Rather, early modern midwives like Jane Sharp based their practice on science, intuition and practical experience of the birthing process.

The findings of the review raise fundamental questions about the role of the hospital midwife in the promotion of normal childbirth. The literature relating to organisational culture in labour ward will now be described.

2.2. The midwifery organisational culture

Davies' (1984, p 1) describes organisational culture as

> ' a pattern of shared beliefs and values that gives members of an institution meaning, and provides them with the rules of behaviour in their organisation'

Davies (1984) detailed definition will be used to support examination of the literature pertaining to the organisational culture in labour ward midwifery care. Frith et al (2014) employed Martin's (2002) categories of organisational culture to identify papers for their scoping review of the literature. Martin (2002) divides organisational culture into three distinct areas: the integration, the differentiation and the fragmentation perspectives. The integration perspective describes the agreed characteristics of a particular culture (for example midwives can be autonomous when childbirth is normal). The differentiation perspective aspect concerns variations in cultural difference (for example some midwives can promote normality despite working in highly medicalised environments). Finally, the fragmentation perspective focuses on aspects of cultural uncertainty (for example caring for women with normal and complicated labours in one physical space, makes it difficult for practitioners to provide care based on the midwifery model). Martin's, (2002) organisational categories together with Davis's (1984) definition of organisational culture, were used to identify relevant research literature about the culture of normal birth midwifery practice on labour wards.

Increases in the numbers of hospital births in recent decades has led to labour wards being ‘steeped in a busyness culture’, a culture fed by a processing mentality similar to a factory assembly line (Walsh, 2006, p1331). Weber (1978, P 987) likens such employees as agents of bureaucratic power; small cogs ‘in a ceaselessly moving mechanism’. In such organisations midwives become ‘interchangeable workers’ focused on meeting the needs of the institution (Deery and Kirkham, 2006), rather than the needs of women (Kirkham, 1999). A good example of the assembly line model is the ‘active management of labour’ protocol used in Ireland (O’Driscoll, 1972). In actively managed labours, routine interventions such as the artificial rupture of membranes and oxytocin infusions ensure that birth takes place within a particular time frame (Murphy-Lawless, 1998). English hospitals that have introduced active management policies have been able to accommodate over 8,000 births per year (Walsh, 2006). In such large birthing environments, the tendency has been for women to be viewed as ‘clinical cases’ and midwives as ‘caring robots’ loyal to the institution (Stevens, 2011). It is acknowledged that active management of labour in English hospitals is not routine practice. However, the current labour ward culture (Kirkham, 1999, Kirkham et al, 2002; Pollard, 2011) describes the majority of midwives as deliver ingstandardised care within biomedically prescribed limits (institutional time). According to Prizzini (1992), in her book about reproductive technology, institutional time can transform women’s time (biological rhythms) into a series of averages, measurements and weights. Thus, institutional time is used to manage and control the uncertainty that surrounds normal childbirth (Hunt and Symonds, 1995).

As NHS employees, there is an expectation that midwives will follow institutional guidelines and policies to support the delivery of standardised normal birth care (Stevens, 2011). Kirkham's analysis of labour ward culture appears to suggest that midwifery knowledge and skills are both undervalued and underdeveloped on English maternity units. Kirkham (1999, p 738) describes the labour ward culture as

> 'built on a contradiction. It allows individuals, in isolation, to practice Midwifery skills but cannot acknowledge the empowering potential of those skills for midwives and mothers'.

Hunter (2004) found that some labour ward midwives aspired to a type of normal birth care they called 'real midwifery'. Real midwifery is when midwives facilitate birth without unnecessary intervention and leave mothers feeling satisfied with their birth experience (Hunter, 2004). However, the facilitation of normal birth reduces a practitioners control over the labour process and so can introduce uncertainty into midwifery practice (Page and Mander, 2014). Scamell (2011) concurs arguing that intrapartum uncertainty can lead midwives to intervene unnecessarily in normal labours (Scamell, 2011;). It appears that practitioners who can tolerate uncertainty are able to construct labours as normal and facilitate physiological birth (Page and Mander, 2014). Whereas those practitioners who find it difficult to tolerate uncertainty appear more likely to construct birth as potentially hazardous and in need of medical intervention (Scamell 2011). One of the main reasons for uncertainty appears to be hospital midwives' increased sensitivity to risk (Scamell and Alazewski, 2012; Page and Mander, 2014).

The concept of risk is now recognised as an integral part of labour ward midwifery practice (Downe and McCourt, 2004). Sensitivity to risk encourages labour ward midwives to search for the abnormality rather than the normality of birth (Lavender and Chapple, 2004; Page and Mander, 2014). Where labour and birth are said to be spontaneous, UK midwives have the statutory right to act autonomously and take full responsibility for the care they provide (NMC, 2012). The International Confederation of Midwives (ICM) (2011) definition of the midwife implies that they are autonomous professionals:

> ‘ a midwife is a responsible and accountable professional who works in pregnancy, labour and the postpartum period, to conduct births on the midwife’s own responsibility and to provide care for the newborn and the infant. This care includes preventative measures, the promotion of normal birth, the detection of complications in mother and child, the accessing of medical attention or other appropriate assistance and the carrying out of emergency measures’.

Pollard (2003) was the first UK midwife to undertake research into midwifery autonomy. Autonomy can be the individual trait of individuals who can act in accordance with their professional values, beliefs, and ideas (Pollard, 2003). The extent to which individuals take autonomous decisions is dependent on their ability to make judgments, rationalise and critically reflect (Marshall et al, 2012). People can exercise autonomy in different degrees because autonomous acts relate to the amount of power/knowledge an individual holds and the environment in which care takes place (Pollard, 2003). But the concept of autonomy also includes the ability to act in a particular way, to be accountable for actions taken, to have authority to act

and the ability to self-govern. Pollard (2003) identifies the characteristics, precursors and consequences of autonomous midwifery acts as: determining the sphere of activity of one's control, having this right acknowledged by others affected by or involved in decisions, having the right and the capacity to make and act upon choices and decisions and finally to take responsibility for decisions made.

Pollard discovered that midwives did not fully understand the implications of professional autonomy and that many were unhappy with practicing outside medically defined norms (Pollard, 2011). The main barriers to autonomous practice appear to be a lack of understanding and recognition of the midwife's role and low levels of professional confidence (Herron, 2009; Stevens, 2011). Another view is that midwives' sphere of autonomous practice is limited by the amount of power given by senior midwives and medical practitioners (Thompson, 2004; Keating and Fleming, 2009). These findings have led some authors to conclude that autonomous midwifery practice is not possible in hierarchical health care settings such as NHS labour wards because their role as practitioners of normal birth is not recognised (Pope et al., 1997; Pollard, 2011). This fits with Hunter's (2004) finding that midwives who were recognised as autonomous by the organisation were more likely to practice a 'real midwifery'.

On labour wards, individual midwifery practice is tightly controlled by structures and systems that support team working and decision-making (Kirkham, 2000; Thompson, 2004). Referring to colleagues when making clinical decisions is said to

be a feature of collective autonomy (Pollard, 2011). Collective autonomy is when a group determines, after

> 'rational reflection, the sorts of policies and practices it will follow and acts in accordance with them' (Fay, 1987, p 77).

Examination of the organisation of normal birth midwifery culture implies that the practice of labour ward midwifery is problematic. Because the culture of risk has led labour ward midwives to believe that birth is potentially hazardous and therefore in need of management and intervention. Furthermore, the midwife's role as lead professional in normal birth care is not valued within the organisational culture of some labour wards. Some labour ward midwives appear not to understand the meaning of autonomy and others feel unable to take on the responsibility that comes with being a health professional. This may have led to an acceptance and promotion of collective autonomy in the hospital midwifery culture. However, in organisations where this aspect of their role is encouraged and supported, midwives were more able to practice a model of midwifery care and act autonomously.

To place these findings in context models of maternity care will be examined next.

2.3. Models of maternity care

In the midwifery model, a labouring woman is viewed as a knowledgeable decision maker in the context of her beliefs, lifestyle and concerns (Walsh, 2012) and birth is

seen as safe unless complications occur (Edwards, 2005). The midwife's role is to promote normality and women's feelings of confidence so they can birth successfully. In the midwifery model, knowledge and skills are based on the midwives' 'art' (Thomas, 2002). The 'art' of midwifery is the ability to help 'women work in harmony with their bodies and open themselves to give birth' (Kitzinger, 2005, p 4). Like other health professions, artistry is premised on the creation of meaningful relationships and use of knowledge and skills that recognise individuality and support humanness (Mander, 2001; Kitzinger, 2005).

In the midwifery model, practical forms of knowledge and expertise are used to provide physical and emotional comfort. Leap (2010, p 18) describes how knowledge of normal physiology, believing in women and 'not doing' enhances the birthing process. 'Not doing' as opposed to 'doing' (task orientated care) (Fahy, 1998), involves midwives taking a passive role during labour: 'sitting and waiting'- engaging in 'masterly inactivity' (RCM, 2014). The idea of masterly inactivity is in complete contrast to the biomedical model where midwives are expected to play an active part in women's labours.

The attributes of midwifery and biomedical models have been summarised in the following table to more easily allow for comparison (Table 1).

Table 1. Summary of the characteristics of midwifery and biomedical models

Midwifery model	Biomedical Model
Whole person-physiology, psychological, spiritual Respect and Empower Relational/subjective Environment central Anticipate normality Technology as servant Celebrate difference Institution/mean-making Self-actualisation (Adapted from Walsh, 2012, p 7).	Reductionism- power, passages, passenger Control and manage Expertise/objective Environment peripheral Anticipate pathology Technology as partner Homogenisation Quantitative research/objective facts Safety

The midwifery model is similar to the humanistic model described by American anthropologist Davies-Floyd (2011). In the humanistic model, the labouring body is a complex organism, equal relationships between midwives and mothers exist and the woman, not the midwife, leads childbirth (Davis- Floyd, 2011).

In a humanistic model of care (Davis-Floyd, 2011) the midwife minimises disturbance, direction, authority and intervention, maximises the potential for physiology, common sense and instinctive behaviour and places trust in the expertise of the childbearing woman. This approach has the effect of shifting power towards the woman and away from the midwife. In the midwifery and humanistic models, the pain of labour is viewed as a positive attribute, a central part of women's birthing experiences. In the midwifery model practitioners work from a 'working with pain paradigm' to help women cope with labour pain rather than resorting to

pharmacological analgesia or anaesthesia to take labour pain away (Leap and Anderson, 2004, P 36).

Examination of the current organisational culture of labour ward practice on hospital based labours ward has highlighted the difficulties of promoting normal childbirth in medically dominated care environments. This is compounded by a failure by organisations to recognise the autonomous role of the midwife in the promotion and facilitation of normal birth care (the midwifery model). In the midwifery model one of the most effective ways of supporting normal birth physiology and helping women cope with physiological labour pain is water immersion (Odent, 1990; Cluett and Burns, 2009; Harper, 2005).

To fully understand the potential benefits of promoting the use of water immersion on labour ward the historical origins and benefits of this midwifery approach is described next.

2.3.1.The origins of waterbirth practice

Mackay (2001) describes how European women in the twelfth century travelled to the Cairngorm Mountains of Scotland to 'take the waters' to relieve labour pain. However, there is nothing to suggest that waterbirth had a place in traditional English midwifery culture before the twentieth century (Kitzinger, 2003). Thus, waterbirth is a modern phenomenon borne out of a desire to challenge the established view of childbirth and provide women with natural birthing experiences (Banks, 2009).

Frederick Leboyer (2002) a French Obstetrician believed that delivering babies in noisy, brightly lit rooms and separating mothers and babies at birth caused emotional trauma. In his book, Birth without violence, first published in 1975, (2002), he advocates the practice of gentle birth to support a calm transition from the womb to the outside world. Gentle birth involves birthing in a quiet dimly lit birthing room, immediate skin-to-skin contact between mother and baby, followed by a warm baby bath. Leboyer (2002) observed that water caused deep muscle relaxation and contentment in the newborn. Michel Odent, another French Obstetrician, developed Leboyer's idea of gentle birth by encouraging women to use water to reduce muscle tension and pain during birth. Odent (1983) found that water immersion created a calm atmosphere, helped control labour pain and provided a natural birthing experience. Water immersion is defined as the submersion of the body in warm-water to a depth that covers a woman's pregnant abdomen and reaches the level of her breasts when sitting. This depth of water constitutes true immersion as it creates buoyancy and supports physiological labour and birth (Harper, 2005). The term waterbirth practice was chosen to describe midwives' use of water immersion in the first stage of labour and or waterbirth.

Today, waterbirth practice is associated with the role of the midwife. However its use was pioneered by a group of male doctors keen to challenge the medicalised view of childbirth (Odent, 1983; Rosenthal, 1991; Lichy and Herzberg, 1993). Once the benefits of water immersion became evident UK, midwives Burns and Greenish (1993), Nightingale (1994) and Garland and Jones (1994) began to promote waterbirth practice to other midwives. National recognition of the benefits of water immersion came with the publication of the Changing Childbirth report (DH, 1993),

which recommended UK maternity units provide women with access to a birthing pool. This move led to the UKCC (1994) incorporating water immersion into the midwife's role. The government's support for hospital waterbirth was apparent in the National Service Framework for Children, Young People and Maternity Services (DH, 2004, p 28). This report stated that women had a right to choose water immersion and that staff should have the necessary skills to facilitate care in birthing pools. Furthermore, the report recognised that birthing pools were beneficial in promoting normal birth in hospital settings. 'Maternity Matters' (DH, 2007) reiterated the government's commitment to choice for pregnant women but did not identify waterbirth practice as a way of increasing normal birth rates. Lord Darzi (DH, 2008) 'High-Quality Care' report aimed to raise standards of care through improved clinical performance and by underpinning existing incentives. This report emphasised the importance of delivering high-quality maternity care but made no recommendations relating to hospital waterbirth services.

A review of maternity services in England (Healthcare Commission, 2008) identified that eleven percent of labouring women used water immersion, and three percent gave birth in water. An average of seven waterbirths each month, approximately 80 per year, were reported as taking place in English maternity labour wards. The Healthcare Commission (2008) stated that 95% of National Health Service (NHS) hospitals provided women with access to a birthing pool. Recent research comparing perinatal and maternal outcomes by planned place of birth found that women with low-risk pregnancies experienced more interventions in obstetric led units (Birthplace in England Collaborative Group, 2011). The Birthplace study also showed that women without identified risk factors, who gave birth in a freestanding

midwifery unit, were four times more likely to use water than similarly low risk women who gave birth in an obstetric led unit (Birthplace in England Collaborative Group, 2011).

2.3.2. Benefits and risks of water immersion

Maude and Foureur (2007) descriptions of women's waterbirth experiences led to them describing the pool as a 'sanctuary'; a place that makes women feel calm and in control of their births. This research supports earlier findings that water immersion has a positive effect on women's satisfaction levels and sense of control (Hall and Holloway, 1998; Richmond, 2003). The feeling of wellbeing appears to be due to a fall in levels of adrenaline such as adrenaline and increases in oxytocin and endorphins (Odent, 1990). The main advantages of water immersion are that it can reduce the length of labour (Otigbah et al., 2000; De Sylva et al 2009), and women's use of pharmacological analgesia (Eberhard et al., 2005). Furthermore, it appears to reduce unnecessary medical intervention and augmentation of labour (Cluett et al., 2004; Woodward and Kelly, 2004; Geissbuehler et al., 2004).

The potential risks of this type of care are poor maternal thermoregulation, increased infection and respiratory problems in the neonate (Cluett and Burns, 2009, Young and Kruske, 2013). A recent statement by the Committee on Obstetric Practice American Academy of Paediatrics (AGPOG) (2014) argue that waterbirth poses rare but serious risk to neonates and that this practice was of no benefit to mothers and babies. This statement is at odds with the findings of Cluett and Burns (2009)

Cochrane review and the more recent examination of the evidence by Young and Kruske (2013) on the safety of waterbith. The consensus view is that there is no association between poor neonatal outcomes and waterbirth and in women with normal labours. The joint statement from the Royal College of Obstetricians and Gynaecologists (RCOG) and the Royal College of Midwives (RCM) (RCOG/RCM 2006, p1) states:

> 'The evidence to support underwater birth is less clear but complications are seemingly rare. If good practice, guidelines are followed in relation to infection control, management of cord rupture and strict adherence to eligibility criteria, these complications should be further reduced'.

More recently the National Institute for Health and Clinical Excellence (NICE, 2015) guidelines for Intrapartum Care recognises that the use of water immersion does not put women at any additional risk if they are in normal labour. NICE (2015) goes further by saying that women (without known risk factors) should be offered the use of a birthing pool during the first stage of labour and should be allowed to give birth in water if they wish.

Significant differences in labour ward and midwife-led waterbirth rates suggest that midwives are more likely to facilitate birthing pool in environments that have a normal birth focus and actively promote the use of water immersion. Water immersion has a number of benefits for women and babies as well as providing a framework in which normal birth practitioners may be more likely to follow the midwifery model of care.

For this study it was decided to examine if the midwifery models of care described by Walsh (2012) and Davis- Floyd (2011) could be achieved in medicalised environments through waterbirth practice.

2.4. Conclusion

In this chapter I have attempted to explore both the past and present development of English midwifery by focusing on how changes in government policy have impacted on the delivery of midwifery care in hospital. It is argued that state regulation improved the social status of midwives, but that the current organisation of care on busy labour wards has led to uncertainty about how to facilitate normal birth. There is evidence that the organisational culture affects labour ward midwives' ability to promote the midwifery model to women in their care. The use of water immersion in labour and birth has the potential to support a midwifery model of care. It can also provide women in normal labour with a humanistic birth experience that is both safe and emotionally satisfying.

In the next chapter, I review the current literature in order to situate the study within the context of organisational change and the delivery of the midwifery model of care on labour wards. The review will also provide further evidence of the need for this study.

2.5. Reflexive postscript one

Exploring the historical context of midwifery helped my understanding of the development of modern midwifery practice and helped place current practice in context. It appears that the organisation of midwifery care on labour wards influences not only the thoughts of individual midwives but also their clinical autonomy. I was disappointed to read how today's midwives have few opportunities to be truly autonomous in labour ward environments. Descriptions of the current culture of labour ward have confirmed the findings of my Master's research that it is difficult to promote midwifery models of care in such environments. So rather than continuing to add to the body of knowledge describing the labour ward culture I hope to investigate if the present organisational culture can be changed. Given that water immersion supports the delivery of a midwifery model of care, I wish to investigate ways in which to support its use on the labour ward.

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Chapter Three: Review of the literature

The chapter will present an overview of existing literature, which is relevant to the study aim. This section includes identification and review of existing literature relating to the improvement of waterbirth practice on labour wards. A preliminary review of the evidence relating to these aspects revealed no papers on labour ward midwives' promotion of water immersion. Due to the scarcity of specific papers, the review was widened to include literature relating to practice change in a range of hospital settings. The aim of the review therefore is to identify factors that support change in the organisational culture of midwifery led care and water immersion in hospital settings and to provide further evidence of the need for the study.

3.1. Approach

Literature searches conducted in 2009 and 2011 and again in 2014 and 2015 led to two American studies (Stark and Miller, 2008; Meyer, 2010) and an unpublished PhD thesis (Woodward, 2011) being located. Given the paucity of literature relating directly to the search aim, I decided to conduct a narrative review to produce a comprehensive account of available evidence (Baumeister and Leary, 1997; Collins and Fauser, 2005). In the past, narrative reviews have been accused of producing superficial results (Booth et al., 2012). According to Cook et al., (1997) this effect can be reduced by explicitly linking data to appropriate theory and contexts. The gold standard for reviewing literature are systematic reviews (Petticrew et al., 2006). However, this method can be limiting because a very particular focus is required (Collins and Fauser, 2005). Narrative reviews allow for greater flexibility in the

selection of studies and lead to the inclusion of a wider range of literature (Baumeister and Leary, 1997). Therefore, a narrative review is more suited to the aims of this study. Both qualitative and quantitative literature were studied to ensure an extensive range of current literature were included. Although not a systematic review, a systematic method for the recovery of relevant literature was employed to demonstrate consistency and transparency (Booth et al., 2012).

The following databases were searched: Academic Search Elite, BASE, CINAHL, Cochrane, EPOC, ERIC, Europe PubMed Central, Maternity and Infant Care, Index Thesis, MIDIRS, Psych Info, MEDLINE and SCOPUS (Elsevier).

All relevant papers were searched by hand and links to related papers and citations were investigated. Search terms included 'midwife', 'midwives', and 'practice change', 'organisational change', 'organisational culture' 'practice development' 'labour ward care/intrapartum care' 'waterbirth' 'water immersion' 'normal birth', 'normal childbirth'.

The search strategy was undertaken by moving from a very explicit to wider focus over three phases:

- Midwives and 'organisational change', 'practice change, 'labour ward', 'intrapartum care', 'waterbirth' and 'water immersion'.

- Midwives and 'organisational change', 'practice change', 'practice development', 'labour ward', 'intrapartum care' and 'normal birth'.

- Midwives, 'practice change', 'practice development and 'normal childbirth'.

Selected papers included these terms either in the title or abstract (Table 2).

The purpose was to select papers where the main aims or findings related to implementing change in the organisational culture of midwifery care on labour wards. The identification of only small numbers of papers using this criteria led to the search strategy being changed so that whole papers that used the terms 'practice change or development' 'labour/intrapartum care', 'normal birth' and 'midwifery practice' were included. Identified papers were reviewed for relevance.

Table 2. Inclusion and exclusion criteria for paper selection

Inclusion criteria	**Exclusion criteria**
Research papers with aims or hypothesis related to practice change and its evaluation.	Papers describing organisational culture or water immersion without practice change
Waterbirth or Water Immersion	Hydrotherapy using baths or showers
Normal birth or Normal Childbirth	Complicated childbirth
Papers relating to midwives and nurse-midwives	Papers concerned with nurses doctors, students or pregnant women
Papers written in English	Papers not written in English
Primary or secondary research papers	Opinion pieces

3.1.1. Challenges in reviewing the literature

My original aim was related to change in UK labour ward waterbirth practice, and after an extensive search an unpublished UK PhD thesis (Woodward, 2011) and two American studies (Stark and Miller, 2008; Meyer et al., 2010) were located. All three studies measured labour midwives' attitudes to birthing pool use but unfortunately

the aim of the research was not to improve or change existing services. The papers were therefore excluded from the review. However, given that the studies offer valuable insights into the organisational barriers to birthing pool use, their findings will be used to support the analysis of identified papers. A large amount of the literature focused on describing women's experience of water immersion, the risks and benefits of this type of care and the current labour ward culture, rather than on implementing cultural change. Furthermore, only one UK paper related to change in the delivery of normal birth care on labour ward (Walton et al., 2005). Following these findings, papers from a variety of hospital practice settings and countries, with similar health care systems that focused on the delivery of midwife led care were included for review. This strategy led to an increase in the number of papers selected for appraisal.

3.2. Quality appraisal

The quality of the research evidence was reviewed by using a variety of Critical Appraisal Skills Programme (CASP) tools for appraising quantitative studies (2004). Reviewing the literature in relation to change in the organisational culture of midwifery practice, led to a total of eight relevant papers from the UK, Sweden, Canada and Australia being selected (Table 3).

Table 3. Included papers for review

Paper	Aim	Setting and Sample	Design	Findings/Results
Walton et al. (2005)	To promote a midwifery model of care on labour ward	Labour ward situated in a London maternity unit Hospital and community midwives	Action Research Over three phases Project group established to lead change <u>Actions</u> Two nominated normal birth rooms on labour ward Purchasing of midwifery equipment Educational workshops to improve midwives confidence in normal birth skills	Normal birth rooms closed after 3 months Lack of support from medical staff, midwives and managers for normal birth rooms. Conflicting priorities and dominance of medical model of care blamed for failure of the normal birth rooms.
Nyman et al. (2013)	To examine midwives responses to the introduction of a new humanistic admission procedure	Labour ward situated in a Swedish maternity hospital 37 labour ward midwives	Action Research Over four phases Project group established to lead change <u>Actions</u> A new admission care pathway was developed to support reciprocal relationships between women and midwives. Interviews Thematic analysis of data	Midwives felt the new procedure gave them permission to occupy ‘emotional space’ in which ‘to ‘be’ and ‘not do”. Resistant midwives were pressured (stressed) by the change process. They felt more comfortable with the previous procedures based on the completion of tasks.

Paper	Aim	Setting and Sample	Design	Findings/Results
Davies et al. (2001)	To reduce nurses routine use of electronic fetal monitoring (EFM) in low risk women and promote labour support	Four labour wards in Ontario, Canada Maternity nurses 103= Two control groups 113= Two intervention groups Not Randomised	Tailored Intervention Worked with managers and stakeholders to implement change <u>Actions</u> Educational workshops on labour support skills and fetal monitoring New clinical guidelines contained in work books for nurses to carry with them Self-efficacy questionnaires and interviews pre workshop and at six months. Direct observation of nurses use of labour support skills	Self-efficacy scores in the intervention and control groups were high and remained so over time. A change in nurse's use of EFM and labour support was seen in one of the control and intervention groups. Practitioner beliefs, previous experience, charting system, administrative and financial support may have contributed to the observed change in nurses use of labour support
Bick et al. (2009)	To assess the use of a care pathway to support normal birth care on one English Birth Centre	Birth centre (MLU) in an English maternity unit 18 interviews: midwives, women, senior midwifery managers and obstetricians Observations of women in labour	Realistic evaluation framework Worked with unit managers and midwives <u>Actions</u> Introductory talks on the pathway, led by midwife for normal birth, led to a revised MLU clinical pathway being introduced One-to-one interviews with midwives and participant observation of labouring women. Thematic analysis of data	Increased midwifery confidence in normal birth skills and reduced labour care documentation. The pathway gave midwives more time, promoted team working and improved communication between MLU staff. Midwives and doctors raised concerns that the new pathway put practitioners at risk of litigation. The introduction of a care pathway for midwives had a negative impact on working relationships with obstetric and midwifery colleagues.

Paper	Aim	Setting and Sample	Design	Findings/Results
Deery and Hughes (2004)	To explore the processes and outcomes of a project to strengthen and support the delivery of a midwifery model of care	MLU situated on a hospital labour ward in the north of England Community and MLU midwives	Action Research Over four Phases Project group established to lead change <u>Actions</u> Educational workshops to improve confidence in midwives normal birth skills Purchasing of midwifery equipment Telephone interviews, participant observations, personal construct analysis and observation of midwifery care.	MLU was not threatened so much by the medical hegemony but by the community midwives themselves: there was no common shared vision of MLC. Over a two-year period the reflective process and positive collaboration fostered a shared concept of MLC and an expanded skills base for the facilitation of physiological childbirth.
Turnbull et al. (1995)	To examine the changes in midwives attitudes to their professional role following the implementation of a midwifery development unit (MDU)	Midwifery development unit (MDU) based in a major teaching hospital in Glasgow 21- MDU midwives 64- non MDU midwives	Prospective cohort study over 15 months Worked with the senior management team <u>Actions</u> Focus groups with midwives were used to develop attitudinal questionnaire Purchasing of midwifery equipment Talks to inform midwives about the MDU Actions taken included improved staffing levels. Audit questionnaire every 3 months- findings used to inform change	The MDU midwives experienced a significant positive change in attitudes to their professional role as the lead in normal birth care. Midwives experienced increased support, improved client interaction, work satisfaction. Professional development needs were met No increase in MDU midwives stress levels No change in non-MDU midwives attitudes

Paper	Aim	Setting and Sample	Design	Findings/Results
Mckellar et al. (2009)	To enhance the provision of postnatal care to parents in the early postnatal period	Postnatal ward situated in a Hospital in Australia Postnatal ward midwives 122 Parents	Action research Project group of parents, ward midwives and perinatal mental health nurse <u>Actions</u> Postnatal booklet, brochure and postcards were developed based on parents views collected from the questionnaires Ward midwives consulted and asked to provide feedback on the materials Focus groups with ward midwives following intervention. Thematic analysis	Negativity from midwives about the new materials led to resistance and limited introduction. Midwives questioned the benefit of the new materials for midwifery practice. A perceived lack of ownership in the change process and problematic nature of the existing organisational culture led to new ways of working not being introduced.
Hunter et al. (2015)	To identify elements in the environment of a postnatal ward which impacted on the introduction of a breastfeeding intervention	British Maternity ward 12 Midwives (this number included two ward managers) 5 Maternity support workers	Realistic evaluation framework 3 evaluation points <u>Actions</u> Separate area on the ward to provide breastfeeding support to young mothers- to increase the numbers successfully breastfeeding Participant observation and semi-structured interviews. Thematic analysis	Limited support for the intervention from midwives. Resistant to a non-medical approach to care. Ward midwives had limited control over the organisation of time and space and task-orientated focus.

After reviewing the papers in relation to organisational change and midwifery practice a number of themes were revealed. All studies related to the development of interventions to improve the delivery of the midwifery model of care in hospital settings. Other areas considered in this review are, changing midwifery practice and creating space for the midwifery model of care. Finally, the factors identified from this review, which appear to support the implementation of change in midwifery practice are examined.

3.3. Changing midwifery practice

Of the eight papers identified six papers related to improving the delivery of the normal birth care in midwife-led units and labour ward (Turnbull et al., 1995; Davies et al., 2001; Deery and Hughes, 2004; Walton, 2005; Bick et al., 2009; Nyman et al., 2013). Two studies took place in maternity wards (McKellar et. al, 2009; Hunter et al., 2015) (see Table 3). Interventions included introducing normal birth rooms on a labour ward, a normal birth care pathway (clinical guideline), a new admission procedure, a new midwife-led unit (MLU), and the enhancement of an existing MLU. The remaining two studies described organisational change in relation to enhancing hospital midwifery postnatal care (McKellar et al., 2009; Hunter et al, 2015).

Davies et al., (2001) study related to Canadian maternity nurses. Given that the nurses provided intrapartum care in settings similar to UK hospital labour wards, it was anticipated that there would be similarities in the way midwifery care and organisational change were introduced and evaluated. In all of the other studies

participants were midwives working in the UK, Sweden and Australia. In addition Bick et al., (2009) included obstetricians and women's views and McKellar et al, (2009) the views of parents. Walton et al., (2009) also obtained the views of obstetricians, while Hunter et al., (2015) recruited maternity support workers. Seven studies followed a qualitative design and two were quantitative in nature.

Some of the selected studies failed to include the term 'change' in their research aims using instead terms such as 'enhancement' 'introduction' 'promote' facilitate' 'strengthen' 'assess' or 'support' the delivery of the midwifery model of care.

3.3.1 Creating 'space' for the midwifery model of care

It has been argued that 'space' and 'place' in obstetric led hospitals impacts on midwives' ability to provide care based on meaningful and reciprocal relationships (Davis and Walker, 2010; Locke and Gibb, 2003). All of the studies explored 'space' in terms of improving the physical and/or chronological aspects to improve the delivery of the midwifery model of care. Nyman et al., (2013) study describe 'space' in terms of the physical (place, environment, resources), emotional (social relations, reciprocity) and chronology (time, routines) aspects.

Davies et al (2001) used a non-randomised, controlled, tailored intervention design to reduce maternity nurses' routine use of Electronic Foetal Monitoring (EFM) to increase time for labour support skills in two maternity units. The paper used a newly developed labour support self-efficacy questionnaire and interviews to measure change in maternity nurses routine use of EFM and labour support. Davies et al., (2001) collected data pre and post workshops (six months). Labour support self-

efficacy scores in the two intervention groups were high and remained so over time. An improvement in nurses' use of EFM and labour support skills occurred in one of the control and intervention groups. The reduction in nurses' routine use of EFM increased the amount of emotional and chronological space for labour support in one of the control and intervention groups. However, whether this was due to the interventions employed is unclear given the high levels of labour support self-efficacy and reported practice change in intervention and control groups.

Turnbull et al., (1995) used a prospective cohort study to examine changes in midwives attitudes, following the introduction of an MLU or as they termed it a Midwife Development Unit (MDU). An attitudinal questionnaire was developed, based on the findings of focus groups with MDU midwives. Questionnaires were distributed every three months to MDU and non-MDU midwives over a twelve-month period. The findings from the focus groups and mean scores from the questionnaires were used to inform the delivery of normal birth care on the newly developed unit. MDU midwives experienced a significant change in attitudes when compared with non–MDU midwives. The development of a separate physical space, controlled by midwives, created an emotional space in which to practice the midwifery model of care.

Bick et al., (2009) used a realistic evaluation framework to assess birth centre midwives' use of a normal birth care pathway. Hunter et al., (2015) used the same methodology to implement a breastfeeding intervention on a hospital postnatal ward. The realist evaluation framework consists of four-stage process similar to the action research cycle (see chapter four of this thesis). Both studies employed interviews and

participant observation to collect data. Bick et al., (2009) reported increased confidence in midwives' normal birth skills and improved relationships with MLU colleagues following the introduction of the new care pathway. Hunter et al., (2015) changed an existing four-bedded bay on a postnatal ward to create a specific space in which to provide breastfeeding support to young mothers. Midwives and maternity support workers resisted changes to the physical layout of the ward. It was stated that this was because practitioners were unable to adapt because of adherence to pre-existing task-orientated routines based on biomedicine.

Three studies used action research to strengthen and support the delivery of the midwifery model of care in birth settings (Nyman et al., 2013; Deery and Hughes, 2004, Walton et al., 2005); two others used the method to enhance hospital postnatal care (McKellar et al., 2009). These studies used project groups to develop practical solutions to implement change in the organisation of the midwifery model of care. Researchers collected data using a range of collection methods: interviews, focus groups, participant observation and personal construct analysis. Walton et al., (2005) was the only study not to specify how data was collected and describe agreed actions from the project group. All other action research studies used thematic analysis to identify emergent themes and evaluate organisational change. McKellar et al., (2009) included parents and a perinatal mental health nurse in their project group and distributed questionnaires to inform the development of a booklet and postcards to enhance parents early postnatal care experience.

Walton et al., (2009) audited the use of the normal birth rooms and reported the outcomes of project group meetings. Deery and Hughes (2004) worked with community midwives to strengthen the delivery of the midwifery model of care on an existing MLU. Walton et al., (2009) aimed to promote the midwifery model of care on a labour ward. Both studies sought to improve the physical space through the purchase of normal birth equipment, the introduction of normal birth workshops and implementation of evidence-based normal birth guidelines. Walton et al., (2009) introduced two normal birth rooms to support the delivery of normal birth care. Unfortunately three months after their introduction the normal birth rooms reverted back to general labour rooms. The main reason given was that these rooms put a drain on available resources; the implication being that it was not feasible to have designated normal birth spaces on busy labour wards.

Practical workshops to support the introduction of new ways of working and to improve midwives confidence in normal birth care featured in all but three of the action research studies (McKellar et al., 2009; Nyman et al; 2013; Hunter et al, 2015). A new admission procedure aimed to give midwives more time to occupy an emotional working space; a space in which 'to be' and 'not do' (Nyman et al., 2013). The humanistic based admissions procedure (see chapter two of this thesis), enabled midwives to build reciprocal relationships with women and their partners.

Despite the group developing a clinical supervision model, there was limited support for the intervention. McKeller et al., (2009) aimed to increase time and space for midwives to help women's transition to parenthood, but it was not well received by

postnatal midwives. Midwives who were not part of the project group said they could not see how the proposed change would improve existing postnatal care.

All of the studies aimed to create physical, emotional and chronological space for midwife-led care within existing hospital services. However, some of the studies had methodological limitations that may have impacted on the interpretation of findings. Davies et al., (2001), Turnbull et al. (1995) and McKellar et al., (2009) used non-validated tools with which to measure change in midwives self-efficacy, attitudes and parents' views. Walton et al (2009) action research study failed to include a data collection method or provide detailed information about project team discussions. It is, therefore, difficult to interpret how activities were developed or if all members of the project group agreed them. In the action research studies, it was clear that the researchers had a vested interest in the outcome of the inquiries. However, two of the action research studies included in this review failed to recognise the researchers position or consider ethical issues (Walton et al., 2009; McKellar et al., 2009). Due to the level of involvement and collaboration in action research, investigators are required to consider how personal values and relationships may have influenced the research (McNiff and Whitehead, 2010).

Bartunek and Louis (1996) use the term insider/outsider in relation to describing relationships between researcher and participants in action research studies. Purely insider researchers are those from within an organisation who aim to develop their practice (Anderson and Jones, 2000). Conversely purely outsider studies are those where the research has no pre-existing relationship with the members of the

organisation. Most insider studies bring about change through collaboration with others. Anderson and Jones (2000) use the term ‘insider in collaboration with other insiders’ to describe this type of action research study. Nyman et al., (20130 and Deery and Hughes, (2004) described their position within the research as ‘insiders’. Waterman et al., (2001) systematic literature review concluded that insider action research studies are more successful in achieving organisational change.

This review revealed that Hunter et al., (2015) conducted her study from the ‘outsider in collaboration with insiders’ position (Anderson and Jones, 2000) (see chapter four of this thesis). The primary author of the McKellar et al., study (2009) was employed by the University of South Australia, so appears be positioned within the research as an outsider. Commonly, ‘outsider in collaboration with insiders’ studies are used to implement change in organisations (McNiff and Whitehead, 2014). One of the main disadvantages of being positioned as an outsider, even when working collaboratively with members of the organisation, is getting participants to commit and take ownership of projects (French and Bell, 1999). It is, therefore, vital for researcher ‘s positioned as ‘outsiders in collaboration with insider ‘ to find ways of supporting ownership of change amongst members of the organisations.

3.4. Implementing change in midwifery practice

It became evident that some studies were successful in implementing change in midwifery practice, and others were less so. Given the paucity of appropriate literature it is difficult to make any firm conclusions but it does appear that practice

change was more likely to succeed in care environments under the sole control of midwives. It is also recognised that all the studies reviewed were undertaken in very particular contexts that are not easily transferred to other midwifery settings. However, the studies are sufficiently similar to allow for the identification of common factors that influence the success of organisational change in midwifery practice. This review of the literature led to the following factors thought to influence change in the organisation of midwifery care being identified as: ownership of change, an individual's capability to change and leadership.

3.4.1. Ownership of change

Ownership requires participants to take responsibility for actions taken or decisions made. Ownership can be difficult to achieve if individuals have not been sufficiently prepared for change or the benefits are not recognised (Deery, 2011; McNiff, 2014). One of the most effective methods to support ownership of change is action research. Action research focuses on solving practical problems within local contexts by establishing collaborative partnerships with stakeholders (McNiff and Whitehead, 2010) (see chapter four of this thesis). Project groups are needed to steer the change process, communicate actions and provide necessary support to those being asked to implement change (Kotter and Rathgeber, 2006). The type of practice change being proposed should determine the composition and size of project teams. Generally project teams consist of personnel with clinical, leadership, coordinating, technical and administrative expertise (Grol et al., 2013). Involving senior managers with the power to sanction additional resources such as staffing and equipment are critical to

the success of practice improvement (Berwick, 1996; Conger, 2000). Managers' involvement can be achieved by including them in the project team but it is more usual for them to be involved via the project group coordinator (Grol et al., 2013).

Change in clinical practice setting is recognised as a complex phenomenon, closely intertwined with understandings of working practices (Pendani and Walsh, 2000). It is important to recognise that the successful implementation of change is often dependent on how individuals cope with the uncertainty that change brings (Grol et al., 2013). Lindberg et al., (2005) describe how some midwives, who found it hard to relinquish previous working practises, became negative and resistant to the intended change. In Hunter et al (2015), Walton et al (2005) and McKellar studies practitioners argued against the introduction of new ways of working on the grounds of limited resources or the 'ideology of scarcity' (Varacoe et al, 2003).

Scarcity is where practitioners deny or limit aspects of care viewed as non-essential by the dominant discourses such as biomedicine (Varacoe et al., 2003). Scarcity is described by Varacoe et al., (2003) as the 'taken for granted' assumptions about the availability of resources (time, staff, finance) and is used to deny or restrict patients' access to services. Gould (2007, p 24) suggests that labour ward midwives restrict the use of pools because they lack confidence in birthing pool care. However, Woodward (2011) found that midwives were confident in waterbirth practice but that they failed to offer the birthing pool to labouring women because their primary focus was to provide biomedically orientated care (see chapter two of this thesis). Labour ward midwives' inability to promote the choice of a birthing pool, despite being confident, suggests that waterbirth practice was viewed by the organisation as a non-

essential type of midwifery care. Lipsky (1980) describes how the bureaucratic nature of organisations, such as the NHS, makes it impossible for workers, within the time allocated, to achieve a way of working true to their value and beliefs. For example, 'doing midwifery' may be prioritised over 'not doing' in order to get through the work (Hunt and Symonds, 1995; Locke and Gibb, 2002; Lindberg et al., 2005). Organisational issues such as staff shortages, limited time and high workloads are common reasons why change in midwifery practice is often not achieved (Hughes et al., 2001; Lindberg et al, 2004; Hodinott et al., 2010).

3.4.2. Capability to change

Bandura and Walters (1963) developed a social learning theory to include the concepts of observational learning and vicarious reinforcement. Vicarious reinforcement concerns how individuals create perceptions of capability and use these to exercise control over their environment. High levels of self-efficacy are sufficient for some individuals to take steps to behave in a particular way (Bandura, 1997). Self-efficacy beliefs are thought to help determine how much effort people will expend on an activity; how long they will persevere when confronting obstacles; and how resilient they are when faced with adverse situations (Schunk and Hanson, 1985).

Bandura (1997, p 182) argues that self-efficacy is not the same as being confident:

> ‘Confidence is a nondescript term that refers to strength of belief but does not necessarily specify what the certainty is about…confidence is a catchword rather than a construct embedded in a theoretical system’.

Therefore, confidence is a feeling that an individual has in himself or herself; this feeling can lead to having self-confidence to act in a certain way even if they lack the capability. Self-efficacy measures an individual capability and the strength of that belief (Bandura, 1997). Woodward (2011) measured the attitudes of thirty-one labour ward midwives using Q Methodology. Q methodology is a qualitative method that requires the participant to rank previously identified statements in order of importance (McKeown and Thomas, 2013). Midwives agreed that they were confident to conduct waterbirths but said they required further training. Woodward (2011) surmises from this finding was that the infrequency of waterbirths by midwives (an average of ten in their career) was insufficient to support continued confidence in its use. The midwives concerned felt they needed to master their waterbirth skills through the acquisition of ‘cognitive, behavioural, and self-regulatory tools’ (Bandura, 1995, p 3). Mastery of a particular activity is achieved through authentic (real life) experiences, personal knowledge and the acquisition of self-regulatory tools (Bandura, 1997). Hence, more frequent use of the birthing pool on labour ward could help increase waterbirth practitioner’s self-efficacy and encourage other midwives to practice in this way.

The transition to different ways of working requires social support for individuals to become confident in their abilities and fulfil their professional role (Kiefer, 2002). One way of promoting the development of individual practitioners capability is through clinically based skills workshops. Interactive workshops are more effective than formal lectures in changing participants' behaviour and improving professional practice (Oxman et al., 1995). Workshops that combine the acquisition of skills with current evidence and provide opportunities for critical reflection are particularly successful (O'Brien et al., 2002). Hence, clinically based workshops can be a useful way of supporting an individual's capability to change. Davies and Hodnett (2001) stated that maternity nurses found normal birth workshops helpful when learning labour support skills. Similarly, UK midwives' attendance at workshops has been shown to improve confidence in skills such as perennial repair and ventouse delivery (Alexander et al., 2001; Wilson 2012). Educational initiatives when used in conjunction with evidence-based normal birth guidelines and clinical care pathways can also provide opportunities to explore clinical decision-making (Carolan- Olah et al., 2015) (see chapters seven to nine of this thesis).

Clinical guidelines are a useful way of supporting individuals to implement change in clinical practice (Grol et al., 2013). The National Institute for Health and Care Excellence (NICE) Intrapartum Care Guideline for Healthy Women (2015) provide detailed information on how doctors and midwives should care for women with normal labours and births. This revised NICE guideline includes a small amount of information on water immersion and the cleaning of birthing pools. The Normal Birth Welsh Care Pathway is unique in that it is designed solely for midwives use (Hunter and Segrott, 2010). Context specific evidenced-based guidelines have been shown to be particularly useful in supporting change in clinical practice (Grol et al.,

2013). Thus, the successful introduction of clinical practice change requires actions that help individuals to develop the capability to change and leadership from key personnel within the organisation (Ashford et al., 1999).

3.4.3. Leadership

In order to bring about organisational change, leaders need to be able to inspire and lead by example. Transformational leaders are individuals with vision who can enable others to implement change using non-coercive methods (Keough and Tobin, 2001). Walsh (2005, p 39) describes how the birth centre manager, in his study, transformed the organisational culture by focusing on the 'values, emotions, and preferences of individuals'. This created a supportive working environment. Managers, like the one described by Walsh (2005) with ambition and confidence to initiate change can drive change forward (Clarke and Meldrum, 1999).

Social learning theory recognises the importance of the environment on individual and group behaviours. Central to this theory is the idea that individuals learn from the people around them; by observing behaviours, attitudes and outcomes of those behaviours (Ormrod, 1999). Respected individuals perceived as 'trustworthy' and 'likeable' tend to make convincing opinion leaders when introducing change (Doumit et al., 2007). Opinion leaders do not necessarily have a formal leadership role rather they influence the opinions of their peers and support innovation (Rogers, 1983). The network of influences described by Doumit et al., (2007) in their systematic review, includes change agents, transformational leaders and managers. Change agents can be individuals from inside or outside the organisation, they are

similar to opinion leaders but tend to have a more specific role in coordinating and leading practice change. The aim of the change agent is to involve groups in diagnosing problems and then finding practical solutions so they can initiate change (Beckhard, 1969).

The successful introduction and acceptance of practice change also requires a comprehensive strategy to address organisational issues and which supports individuals to change. Transformational leadership, opinion leaders and change agents at all levels of an organisation play an important part in effecting clinical practice change. (Grol et al., 2013).

3.5. Conclusion

A number of studies have investigated organisational change in relation to the development of the midwifery model of care in a range of hospital settings. In general, studies considering organisational change demonstrated a good understanding of the change process, and some researchers were able to bring about practice change. Ownership of the change process, the capability to change and transformational leadership across all levels of the organisation appear to be important in the successful implementation of practice development. A lack of ownership and control can lead to practitioners resisting new ways of working. The use of methodologies such as action research is an effective way of ensuring ownership of change. Organisational routines, high workloads and staff shortages may contribute to resistance from practitioners to improve the way they work. Thus,

the implementation of the midwifery model of care in institutional settings appears to be particularly challenging because it requires midwives to occupy chronological and emotional spaces entirely different to those created by biomedicine.

Recognising the importance of support during the transition from existing to new ways of working is necessary to ensure individual practitioners have the capability to change. The use of educational and practice interventions such as workshops and clinical guidelines can support practitioners to obtain the necessary knowledge and skills to change the way they work.

The literature review highlighted the paucity of studies considering how to improve the delivery of the midwifery model of care on labour wards. Where such studies exist, they are limited to measuring organisational change in hospital wards and midwife-led practice settings. No papers aimed at improving the delivery of water immersion on labour wards were located. This suggests that there is a real need to research this aspect of labour ward midwifery practice. Hence this study will add to existing midwifery knowledge by supporting change in the organisational culture to improve midwives use of birthing pools to women with normal labours and births. Consequently this study is the first to explore this area of UK midwifery practice.

3.6. Reflexive postscript two

Reviewing the literature has highlighted that changing clinical practice in hospital environments is both complex and difficult to achieve. Prior to conducting the review I had thought to employ a tailored intervention study design. Following examination of the literature I have learnt that action research provides a more

flexible, person centred approach to implementing organisational change. What also appeals to me about action research is that it is a collaborative methodology that supports practitioners to solve practical problems to improve the way they work. I need to explore the literature pertaining to action research to ensure I understand the strengths and limitations of this methodology. The identification of the factors that influence the successful implementation of change has provided some insight into the difficulties I might face in undertaking an action research study of this kind. In particular, how I ensure that midwives take ownership of change when it is I who is leading the research inquiry.

Chapter Four: Theoretical Perspective

This chapter will discuss the theoretical perspective that underpins the research study. Critical realism was chosen as the theoretical perspective for this study because it helps identify underpinning generative mechanisms responsible for the surface problem being addressed, in this case, the marginalisation of midwives' water immersion and water birth practices. . Action research was deemed an appropriate methodology as it employs collaborative approaches to support organisational change. Important issues surrounding the chosen theoretical framework and associated debate relating to action research will also be discussed before concluding the chapter.

4.1. Theoretical perspective

When adopting a particular paradigm, it is important for the researcher to recognise how the paradigm choice influences their study. A paradigm is a set of fundamental beliefs to explain a particular view of the social world (Khun, 1970). In a qualitative paradigm, the social world tends to be understood from the standpoint of people and groups (Cohen et al., 2011). However, there is no agreement on the constituents of paradigms. For example, Dykes (2004) describes the constituent parts of a paradigm as epistemology, ontology and methodology. Lincoln and Guba (2000) advise ethics, epistemology, ontology and methodology be addressed. This lack of consistency in the terminology has led to confusion amongst some researchers (Silverman, 2005; McNiff and Whitehead, 2014). To avoid any misunderstanding, I will now explain my stance within these recognised terminologies.

Epistemology provides a philosophical knowledge base and looks at ‘what knowledge is’ and ‘how it can be acquired’ (Hart, 2002). Consequently, the generation of knowledge occupies a prominent position in the development of theory (Silverman, 2005). Thus, epistemology is ‘the object of understanding’ or ‘what it means to know’ (Crotty, 2003). The study of ontology reveals the nature or essence of human reality (Mathews and Ross, 2010). Ontology adds ‘what is’ or ‘what things are’ to theoretical perspectives (Cohen et al., 2011). Hence, the concepts of ontology and epistemology are closely linked to one another (Crotty, 2003). A number of different epistemologies and ontologies exist but the three prevailing ontological and related epistemological positions that emerge are objectivism, constructivism and realism.

Objectivism utilises the scientific method to measure natural phenomena that make up the social world, hence knowledge is considered to be an independent entity that is separate from human existence (Robson, 2011). Therefore, knowledge of the world exists and is understood by observing and testing people and objects (Cluett and Bluff, 2006). Consequently, its accompanying epistemology of positivism typically gathers quantitative (numerical) data to answer research questions or to test a hypothesis. The researcher is viewed as an objective observer with no influence on the analysis or outcome of the research inquiry. Hence, large-scale surveys, randomised controlled trials, and laboratory experiments are commonly used to develop new theory and understanding (Cohen et al., 2011).

Constructivists believe that language is the foundation of social reality and that peoples’ interpretations are the best way to make sense of the world we live in

(Mathews and Ross, 2010). Thus, constructivists believe that social reality and how it works comes from people's personal understanding of the world they live in (Cohen et al., 2011). For example, it is accepted that gender is not only dependent for its construction on biology, but also on social and historical practices that affect our understanding of what gender means. Therefore, in constructivism the aim is not to describe the inevitable aspects of human existence, as in objectivism, but to construct social phenomenon that permits a view of social reality to be presented. Social construction is therefore considered a dynamic, developmental process, produced by people situated within a particular context (Fox, 1997). Its accompanying epistemology of interpretivism utilised to 'know' people's lived experiences and to improve our understanding of social phenomena (Cluett and Bluff, 2006). The data collected is qualitative (in-depth human description). The aim of the analysis is to reveal subjective meaning within a particular social context. In an interpretive epistemology the researcher is a subjective, empathetic observer who 'stands in the shoes of others' to develop new meaning and understanding (Mathews and Ross, 2010, p 28). Examples of data collection methods include interviews, case studies, focus groups and participant observation.

Descriptions of objectivism and constructivism suggest they sit at either end of a philosophical continuum and, therefore, encompass all there is to know about the social world (Cluett and Bluff, 2006). However, these epistemologies fail to recognise the aspects of social reality that cannot be observed or constructed directly from human experience (Sayer, 2000).

Realism asserts that there is a social reality distinct from human behaviour that can only be understood through the senses (Robson, 2011). These hidden aspects of reality contain powerful generative mechanisms responsible for social inequality or injustice (Walsh and Evans, 2013). Critical Realism is an approach, which aims to identify such hidden structures in order to bring about social change (Mathews and Ross, 2010). Critical realism puts forward a form of social science based on an interpretive understanding of the social world (Bhaskar, 1997). It challenges notions of objectivity but asserts that scientific knowledge should not be discounted (Stones, 1996). Critical realists argue that the ontological depth of their epistemology enables them to focus on revealing the properties of objects and wider social context. Critical realists do this by asking questions such as 'what does', 'what can' or 'what could' and 'what is and is not' (Bhaskar, 1997). By asking questions such as these, critical realists can probe below surface level phenomena and reveal the generative mechanisms that maintain the status quo in organisations. In a critical realist ontology, the potential possibilities (theories) of objects; how people exist in the world can be understood and improved (Walsh and Evans, 2013) is the main aim of the inquiry. A layered ontology is employed to identify key aspects of social life necessary for knowledge generation, namely: the empirical, the actual and the real (Bhaskar, 1997).

Empirical knowledge (the first layer) refers to what is seen or known, surface level phenomena and so is the most superficial layer, for example biology. Next is the 'actual' layer, which focuses on those things that are hidden but which regulate the empirical layer (individual). Finally in the 'real' layer generative mechanisms are revealed (society). Generative mechanisms help understand what aspects of the topic

need to be explored or investigated further to bring about social change. Thus critical realism marries realist ontology with an interpretivist epistemology.
The application of a stratified ontology to the concept of institutional racism reveals the political mechanisms that influence not only each individual but also the entire social system (Lawson, 1997, p 64). Critical realists view human action at the strata of biology (empirical), the individual (actual) or society (real) (Bhaskar designation). The identification of generative mechanisms elucidates the 'foundational tendencies that underpin surface phenomena' (Walsh and Evans, 2013, p 3) for example institutional racism:

> 'At an empirical level: the police stop and search black men (Biology)
> At an actual level: police officers perceive that black men offend more (individual)
> At a real level: police believe there is a link between skin colour and offending' (society)

Critical realism also accepts that peoples' social constructions do not remain constant because the relationship between macro and sub level phenomena is continually changing (Bhaskar, 1997). The objective closed system view of causality fails to acknowledge that the same causal powers can lead to a number of outcomes and social conditions. Hence, causation in critical realism is not dependent on the frequency of times an object is observed, like in objectivism. In critical realism, it is accepted that a range of factors influence outcomes (Walsh and Evans, 2013). Consequently a range of data collection methods to collect qualitative and quantitative data is usual in critical realist studies. To better understand the reality of labour ward midwives normal birth practices it was decided to adopt stratified critical realist ontology based on Foucault's theories.

Foucault power/knowledge dynamic (discussed later in this chapter) is included as part of the theoretical perspective, as it explains how organisations control and regulate peoples thoughts and actions. In his work it is evident that Foucault distinguishes between biological (the 'body'), individual (tactics) and social properties (political strategy) (Al-Moudi, 2007). I have used the following example to illustrate how this tiered ontology could be applied to the midwives normal birth role:

At an empirical level: midwives use continuous fetal monitoring on women in normal labour even though evidence does not support this (the body) At an actual level: this action reassures midwives regarding the health of the fetus during labour but puts the mother at greater risk of caesarean section (institutional tactics) At a real level: midwives comply with a biomedical, rather than social (midwifery) model of birth (political strategy)

This example illustrates how midwives' normal birth practice can be controlled by conforming institutional norms based on the biomedical model of birth. Similarly, the underutilisation of water immersion and water birth could be explained at the real level by a similar compliance with a biomedical model that marginalises non-technological and non-pharmacological approaches. The endorsement of (social) midwifery approaches to care (for example birthing pools) at a real level could lead to changes at both 'actual' and 'empirical' levels (Walsh and Evans, 2013). Combining critical realism and Foucauldian theories in this way is relatively unique (Al-Moudi, 2007).

Action research uses a cyclical process of planning, acting and reflecting to generate practical knowledge that can stimulate people to take social action to improve their

lives (Lewin, 1946). This threefold dynamic is arguably more likely to identify underlying generative mechanisms and address the multiple elements influencing surface behaviours (empirical level). It is therefore more likely to bring about sustainable and lasting change. Thus action research methodology connects and resonates with a critical realist theoretic perspective.

4.2. Action research

> 'Action research involves the collective, self-reflective inquiry of participants in a situation to improve the rationality of their practices, while developing understanding of the situation and their practices' (Badger, 2000, p 202)

This definition highlights that action research methodologies use a scientific process to support collaborative action amongst groups of people. Use of collective and self-reflective inquiry implies that active participation of interested individuals is central to the process of knowledge generation. The definition also infers that action research is a qualitative methodology, although the inclusion of rationality suggests that quantitative research methodologies are also acceptable (see chapter two of this thesis). The foundation stone of action research is considered to be Critical Theory.

Critical Theory is founded on Marxist thought and the traditions of critique and literary criticism (Robson, 2011). Critical theorists focus on the constructed nature of people and reality and so is a kind of social philosophy operates at both a theoretical and practical level (Crotty, 2003). A key aim of the theory is to address social injustice by making connections between knowledge and power (Brown and Jones, 2001). Hence, the main aim of critical theory is to emancipate people.

4.2.1. Lewin and Action Research

Lewin focused on resolving a social conflict by helping people develop new ways of working (Burns, 2006). Lewin (1946) believed that if workers were encouraged to make decisions about issues that were important to them, then they were much more likely to accept new ways of working. In his work Minority Problems, Lewin (1946) describes how motivation and collaboration lead to action; hence the term action research. Originally, action research was conceived in three-stages to help people analyse their current situation, implement solutions and evaluate change (Williamson, 2012). However, Lewin (1946) discovered that people's 'felt need' (acceptance of the necessity to change) was missing from his original model. Gestalt psychology emphasises that behaviour change is more likely if individuals are given time to reflect on their current situation (Burnes, 2004). Thus, if 'felt-need' is small in either an organisation or its members then change in working practice are deemed unlikely. This discovery led Lewin to add a reflective stage to his action research cycle (Figure 1).

Figure 1: The Action-reflection cycle (Adapted from Lewin 1946)

(Williamson, 2012, p13)

Each cycle is repeated until a satisfactory outcome is affected, this has the effect of producing a spiral process of inquiry. Each of the steps

> ‘is composed of a circle of planning, action, and fact-finding about the results of the action. It is an iterative process whereby research leads to action and action leads to evaluation and further research'. Lewin (1946, p 206)

Lewin's work is considered the foundation stone for modern action research (McNiff and Whitehead, 2010). He provided a new change process and criteria for validating human inquiry (Williamson, 2012) and in addition moved the position of the researcher from objective observer to that of co-researcher (Greenwood and Levin, 1998)

4.2.2. Underpinning assumptions of action research

Action research is ‘collaborative and democratic’ (McNiff and Whitehead, 2014, p23), meaning that the participants and the researcher work in partnership to make decisions about how they are going to implement and evaluate change. Thus, in action research both participants and researchers are viewed as change agents (McNiff and Whitehead, 2014). Therefore, participants in action research studies are expected to diagnose problems and find practical solutions to change and transform their situation (Noffke and Somekh, 2009). Collaborative experiences guide the research process; equal relationships between participants and researchers are essential to the generation of knowledge and social intent (Williamson et al., 2012). Consequently, the influence exerted by action researchers is accepted and recognised as part of the learning process. Therefore, action researchers are required to ask

questions about the area of practice they are investigating and reflect on how the inquiry has impacts on their practice (reflexivity) (see chapter one of this thesis).

Critical reflection is an essential part of understanding social situations and making connections between knowledge and power (Williamson et al., 2012). In doing, so action research brings

> 'together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern'
> (Reason and Bradbury, 2006, p 1).

Unlike traditional methodologies, action researchers are not expected to begin with a hypothesis or question. Instead, they focus their inquiry on an idea or aim to solve practice situations. The adoption of an emergent methodology gives the researcher and participants freedom to solve unforeseen problems and use innovative methods to evaluate agreed actions (Deery, 2011). Uncertainty about the type of methodology has led to action research being described as ' untidy, haphazard and experimental' (McNiff and Whitehead, 2014, p 18). Action research consequently, employs qualitative data collection methods to develop practical forms of knowledge (Herr and Anderson, 2005). Methods used to generate data include interviews, focus groups and questionnaires (Reason and Bradbury, 2006).

Knowledge generated through action research tends to be constructed, locally distilled and focused on solving problems (Williamson, 2012) and so can be difficult to generalise or transfer to other social settings (Reason and Bradbury, 2006). Herr and Anderson (2005) claim that local knowledge can be relevant beyond the immediate setting because some aspects will resonate with other settings (Deery, 2011).

4.2.3. Knowledge and human interests

Habermas (1976), the German critical theorist and philosopher argues that knowledge and human interest are linked because they are both generated by the mind. He describes three different types of human interest: technical, practical and emancipatory. These knowledge interests support the generation of particular forms of knowledge to help answer a range of social issues. Each of these types of human interest will now be described together with examples of the relevant action research paradigm.

Technical interest concentrates on the human need to control the natural world. Consequently, the researcher takes an objective stance in relation to the topic being investigated. Instruments and causal relationships are used to generate knowledge and increase understanding of natural phenomena. Action research tends to be undertaken by disinterested researchers to develop new forms of knowledge by studying participants (Williamson, 2012). This type of action research does not recognise the potential for studying the on-going nature of the researcher/practitioner relationship and so according to Herr and Anderson (2005) is therefore fundamentally flawed.

Practical interest increases knowledge of a particular social situation through interpretation. Hermeneutic phenomenology and discourse analysis are examples of some of the strategies employed to obtain knowledge of specific social conditions. Examples of this type of action research include participatory, action inquiry and organisational development (Reason and Bradbury, 2006). Practitioners often

employ participatory inquiries to close the so-called theory- practice gap (Bellman and Webster, 2012). Action inquiry emphasises the transformation of people's thinking and behaviours through improvement of organisational structures and systems (Argyris et al., 1985). Organisational development action research uses psychological theories to improve organisations and the working lives of individual members (French and Bell, 1999).

Emancipatory interest focuses on freeing human potential by studying ideology and power within organisations and social groups. This paradigm encourages critical self-reflection so that people can find ways of transforming their circumstances and addressing injustice and oppression. Emancipatory forms of action research involve participants identifying problems and formulating interventions to promote transformative change (Cohen et al., 2011). It differs from other types of action research in that the primary aim is to promote social action that challenges the status quo and so can emancipate communities (McNiff and Whitehead, 2010).

This study aims to generate both practical and emancipatory knowledge in collaboration with labour ward midwives. These knowledge interests are consistent with a critical realist perspective. The paradigms of Action Science, Action Inquiry and Organisational Development were all considered appropriate for this study. But as they all support organisational change it was difficult to differentiate between them.

Since Lewin first developed his action-reflection model, a number of different strands of action research have been developed. However, a degree of overlap

between paradigms is recognised (Hart and Bond, 1995; Holter and Schwartz-Barcott, 1993). Examples include Hart and Bond (1995) four typologies, McNiff's (1984) three-dimensional model and Kemmis and McTaggert (2007) spiral model of self-reflection. As Noffke and Somekh (2011, p 14) state that

> 'numerous authors and researchers have proposed models for the action research process. Because this process is somewhat dynamic, various models look a bit different from one another but possess numerous common elements'.

Nonetheless, theoretical categorisations guard against action research being used unreflectively or to reproduce rather than change existing practices (Herr and Anderson, 2005). Deery (2011, p 89) argues that rigid frameworks 'restrict the fluidity' of action research approaches. Therefore, action research paradigms and models should be seen as a guide rather than a rule (McNiff and Whitehead; 2010).

I understand that the choice of model is not crucial to the success of this study (Kemmis, and McTaggart, 2007) and that if applied rigidly models can be restrictive (Deery, 2011). I therefore decided to employ a broad framework to support achievement of the study aim by employing Lewin's adapted action reflection cycle (Figure 1, page 72 of this thesis).

4.2.4. Politics, power and change

Deery in McNiff and Whitehead (2010, p178) describes her experiences of conducting action research in midwifery settings, argues that implementing change in the NHS requires different ways of thinking.

> 'There is a need to address the bureaucratic, hierarchical nature of the maternity services and the prevalent medicalised paradigm of health care that is intolerant of these different ways of thinking.'

Action research is known as a 'bottom-up' change management research approach because the research is often instigated and led by practitioners. In organisational and quality assurance projects 'top-down' management approaches are often employed to bring about practice change, because senior mangers have the power to sanction additional resources (Badger, 2000). Shanley (2007) in discussing organisational literature recommends these approaches be used in combination to improve and understand the change process. This implies that the amount of power or authority individual members of an organisation possess is essential to introducing and embedding change. Involving midwifery managers and clinical midwives in project groups and the change process appears to increase the likelihood of successfully introducing change in clinical practice settings (see chapter three of this thesis). In order to understand the relationship between power and hierarchy in organisations such as the NHS, Foucault's (1980) concept of power/knowledge will be examined next.

Power is considered an enabling and disabling concept because it helps people

engage or disengage with particular social acts. Social actions therefore, can lead to deliberate or unintended political consequences (Foucault, 2002). In societies, power is often associated with dictators and totalitarian regimes. Foucault sees power as acting on people in a non-democratic way. That is the thoughts and actions of authority figures and the dominated are both influenced by powerful forces (Dyson and Brown, 2006). As Driver (1994, p116) explains:

> 'power/knowledge , in Foucault's analysis, does not exist prior to discourses and practices, on some other plane or level; rather, it operates through them; hence power is inextricably linked to the production of knowledge…they are in effect two sides of the same coin'.

Thus, for Foucault power/knowledge is a synergistic relationship that society and social groups choose to uphold or subvert (Foucault, 1980). For example, the dominance of the obstetric knowledge (see chapter two of this thesis) marginalises normal birth discourses and midwifery knowledge (Fahy, 2008). Therefore, authoritative knowledge is able to dominate the thoughts and actions of people and weaken other recognisable belief systems (Jordan 1993). Hence, authorative types of knowledge override other forms of knowledge or ideologies and weaken their credibility in society. According to Illich (1977), the growth of the disciplines in the twentieth century created discrete types of elite power to control and legitimise the work of their members. Foucault was particularly interested in medical power and how doctors used power within social institutions such as hospitals. He argued that doctors use a coercive form of power that he named disciplinary power (Foucault, 1977).

Disciplinary power operates through four particular techniques.

> ‘It draws up tables; prescribes movements, it imposes exercises; in order to obtain the combination of forces, it arranges tactics. Tactics are the art of constructing, with located bodies, coded activities and trained aptitudes, mechanisms in which the product of the various forces is increased’ (Foucault, 1977, p167).

In traditional organisations such as the NHS (see chapter two of this thesis), people (bodies) are positioned within hierarchical structures (political strategies) that determine their role and responsibilities (institutional tactics). Those at the top of the hierarchy are presumed to have the power to control the thoughts and actions of individuals situated lower down the hierarchy (Hollins-Martin and Bull, 2008). Disciplines such as medicine create systems of knowledge to which individuals are expected to adhere. Hence, disciplinary power is a type of invisible power that maintains the status quo by targeting the social body. Subsequently people only recognise disciplinary power when actions taken by individuals lower down the hierarchy threaten the dominant discourse (Foucault, 1977). For example, Walton et al., (2009) normal birth rooms on labour ward ceased after three months because they were considered a drain on existing obstetric resources (see chapter three of this thesis).

In time and motion studies, individual acts of the body are broken down and the duration of particular activities analysed to improve the efficiency and productivity of organisations (Adler, 1993). Foucault (1977), argues that timetabling such as this penetrates the individual bodies to ensure workers maintain maximum speed and efficiency. The body then becomes a mechanical body that can be manipulated by

those in positions of authority; a docile body that can be trained and measured against particular standards of productivity, rank and occupation (Danaher et al., 2000) . The body is kept docile through tactics such as surveillance operationalised by the 'panopticon', which ensures permanent visibility and control of subjects (Foucault, 1977) . The Panopticon (observation tower) was introduced to support continual surveillance of prisoners' activities, without the guards themselves being seen (Wuthnow and Hunter, 1984). The continual threat of the 'panoptic gaze' and the associated punishment for misdemeanours encouraged conformity from the whole social body (Foucault, 1977). Responsibility for monitoring and surveying bodies was delegated to prison guards who acted as 'embodiers of the gaze'; the 'eyes and ears' of the institution they served (Danaher et al., 2000, p 56). It is important to point out that the authorative gaze doesn't emanate from a particular person, but rather forms part of an accepted or right way of monitoring and regulating bodies within a particular culture. The panopticon

> 'is an important mechanism for it automatizes and disindividualizes power… whatever use one may wish to put it to, produces homogeneous effects of power' (Foucault, 1977, p 202).

The threat of the gaze led to prisoners being the subject of their own gaze; that is they monitored their own bodies, actions and feelings to ensure their behaviour fitted with accepted rules (Foucault, 1977). Prisoners in effect, became self-regulating subjects whose minds and bodies were shaped to function in particular ways. Self-regulating subjects are desirable for institutions as

> 'keeping people under constant surveillance all of the time is a very costly exercise' (Danaher et al., 2000, p 75).

Institutions such as the NHS regulates and normalises 'the disciplines' (professionals) through discursive strategies: socially accepted rules about the way individuals from a particular social group construct meaning and relate to each other (Foucault, 1977). For example hospital midwives are expected to work shifts, wear uniforms and adhere to clinical guidelines written by the organisation (see chapter two of this thesis). Institutional strategies like these may restrict power and new types of knowledge being developed. Thus, dominant social groups such as obstetrics determine the 'right' and 'wrong' ways of thinking and behaving (Fairclough, 1989). The labour ward hierarchy controls midwifery 'bodies' by imposing socially constructed norms that meet the needs of the institution (see chapter two of this thesis). This may be why Coghlan and Brannick, (2001b, p. 54) chose to describe hospital nursing environments as places

> 'of love, hate, jealousy, goodwill and ill will, politics, infighting, cliques and political fractions; a stark contrast to the formal rational image which organisations tend to portray'

Action research has been criticised for not adequately addressing existing power relations (Williamson and Prosser, 2002). When this happens, organisational change tends to be dealt with superficially and of a limited duration only (Argyris et al., 1985). Inclusion of critical realism and power/knowledge in this study will ensure that existing power relationships present on labour wards are revealed and addressed (see chapters two and three of this thesis). Other issues surrounding the use of action research qualitative methodologies will be discussed next.

4.2.5. Issues surrounding the use of action research

A number of criticisms of action research have surfaced in recent years, and the debate continues today (Hart 1996; Koch and Harrington, 1998; Badger, 2000, Williamson and Prosser, 2002; Hope and Waterman, 2003, Bradbury and Reason, 2006; Deery 2011; McNiff, 2013). The main issues appear to centre on the uniqueness of the methodology and its validity.

The cyclical process and the aim of helping people live better lives make action research distinct from other methodologies (Hart and Bond, 1995). Qualitative researchers also claim that their work improves people's lives. The essential difference is that the overall aim of action research is to transform people's lives (Badger, 2000), whereas in qualitative research transformatory intent tends to be an associated outcome (Williamson and Prosser, 2002). Therefore the combination of action, research and transformatory intent makes action research distinct from other qualitative methodologies (Hope and Waterman, 2003). The method promotes reflexivity (see chapter one of this thesis) and action to bring about social change (praxis). In summary it is action researches' use of reflection and action as of part an on-going cyclical process that distinguishes it from other qualitative methodologies and makes it unique and valid research approach.

The main criticism of Lewin's Action-Reflection model is that it is over-simplistic and does not represent the complexity of change in social situations (Winter and Munn-Giddings, 2001). Lewin responded to his critics by devising a number of experiments to test the effectiveness of the model. He showed conclusively that his

action- reflection model was an effective way of supporting social change (1966). Fundamentally, Lewin believed that the process of change is as important as the successful implementation of change (Schein, 1996). His theories focus on understanding how planned change is possible at the individual, organisation and societal levels (Smith, 2001). Some authors have expressed doubts about Lewin's role in the historical development of action research (Reason and Bradbury, 2001; Herr and Anderson, 2005). However, most agree that Lewin has made a significant contribution to our understanding of modern action research (Waterman et al., 2001; McNiff and Whitehead, 2010; Koshy et al., 2011).

Action research's use of reflexivity and emergent methodologies and rejection of positivist notions of validity and reliability, has led to some critics to argue that it is an unreliable research method (Badger, 2000). In addition, the proximity of participants to researchers and subjectivity of the methods used, has led to accusations that action research is a 'sloppy' methodology that is difficult to validate (Badger, 2000). Dialectical validity has been used to challenge such claims and validate action research studies (Waterman, 1998). The dialectical movement (created by the action research method) between planning, action, reflection and evaluation acknowledges the complexities of change and allows emerging topics to be refined and developed (Waterman, 1998). Lather (1986) refers to the cyclical process of 'conceptualised pruning'. Therefore the cyclical process aims to reduce ambiguity, expand the research focus and enhance the development of new concepts. The process of dialectical cycling together with the adoption of a reflexive approach increases the validity claims made by action researchers (Rolfe, 1996). However, this is not to suggest that the number of cycles increases validity. Rather, it is the back-

and-forth relationship between each element of the cycle and transparency of the process that increases validity of the methodology (Hope and Waterman, 2003).

4.3. Researcher positionality

Researchers positioned in an outsider role tend to identify, initiate and lead the research inquiry (Herr and Anderson, 2006). Insider researchers are those from within an organisation who wish to develop their practice or introduce new ways of working (Bartunek and Louis, 1996). Identifying the researcher's position within action research promotes critical consideration of personal interests, understanding of the 'political tradition' and supports the development of tacit knowledge (McNiff and Whitehead, 2014, p 25). Tacit knowledge is described as ingrained ways of thinking and being in the world. It is therefore an unconscious type of cognitive knowledge that can be improved upon through reflexivity (Herr and Anderson, 2005). Reflexivity is a process of self-examination that aims to expose a researcher's practice to scrutiny and help them acknowledge

> 'how their experience and contexts, (which might be fluid and changing), inform the process and outcomes of inquiry' (Etherington, 2004, p 31).

Reflexivity requires continual reflection on one's experiences and the topic under investigation; it helps the researcher go beyond previous understanding and existing bias (Finlay, 2002) (see chapter one of this thesis). Hence, reflexivity views the role of the researcher as a significant influence on the research process. McNiff and Whitehead (2014) state that answering questions such as 'who I am' and 'whose interests are being served' helps researchers identify their position within the inquiry.

4.3.1. Who am I?

My background is that of a community midwife and educator. Although my midwifery training took place within an obstetric-led unit, electronic fetal monitoring and epidural anaesthesia, at the time, were not readily available and caesarean sections, uncommon. Hence, normal birth midwifery knowledge and skills were the social norm. However, I am aware that the maternity system of the nineteen eighties was very paternalistic; it accepted that midwives and doctors, not women, were the childbirth experts. Concepts such as choice and continuity of care were not discussed or considered in the way they are today. I see myself as an advocate for normal birth but acknowledge that technology, when used appropriately, can save the lives of women and their babies. My concern about current midwifery practice lies in the unnecessary use of obstetric interventions by midwives in uncomplicated labours and births (O'Connell and Downe, 2009).

As a lecturer, I believe that the promotion of meaningful interaction with learners enables the facilitation of critical thought, active learning and the attainment of skills and attributes that support evidence-based midwifery practice. Active enquiry and experiential learning are fundamental to my teaching practice. I believe that I been able to transform the student learning experience. The award of a National Teaching Fellowship, during the course of this study, is used to support my claim of learning and teaching expertise.

I am aware that these early experiences have shaped my understanding of what it means to be a midwife has led to the belief that most women can give birth normally.

These beliefs are the reasons why I chose to be a community midwife and educator, to give birth to one of my children at home and to undertake research to improve the use of water immersion on labour wards. I also believe that my higher education experiences enhance my ability to promote reflection and participation amongst midwives who take part in the study.

4.3.2. Whose interest?

Managers at the research site were interested in improving their normal birth rate and so agreed to support the study. The decision to focus on water immersion was decided following discussions with the Head of Midwifery (see chapter five of this thesis). My primary interest was to help labour ward midwives improve their use of water immersion during labour and birth. It was hoped that labour ward midwives' increased use of birthing pools will improve women's experience of childbirth and increase opportunities for student midwives' to witness midwives practising the midwifery model of care (see chapter two of this thesis). My interest in undertaking a PhD cannot be ignored. It is important as it provides the impetus to undertake and complete the study and help me grow and develop a research career.

Insider researchers usually have a good understanding of organisational and working relationships (Williamson, 2012). Those in the role of outsider may find it difficult to bring about significant change due to the absence of pre-existing relationships or common ground (see chapter three of this thesis). As a practicing midwife for more than twenty-nine years, I believe that my professional role is an inextricable part of who I am. As such, I recognise that I have a strong emotional relationship with the

culture I was researching. It is, therefore, important to consider how my previous experiences and current relationships with the research participant's influences achievement of the research aim.

Prior to the commencement of the study, I was appointed as a link tutor to a community team situated in the maternity unit concerned. In addition, I had previously taught a small number of midwives during their training or on post-registration courses. So although a midwifery lecturer with previous links to the unit I was not viewed as part of the labour ward or senior management team. Hence, I am an outsider with extensive experience of both the cultural and professional background of labour ward midwifery practice. I also recognise that the generation of knowledge is dependent on establishing collaborative learning experiences with midwives on the unit may be difficult (see chapter five of this thesis). Prior to a commencement of the research midwives on the unit led me to believe that they wished to improve the way they worked. Determining common ground with key stakeholders is considered vital to establishing collaborative intent (when individuals are willing to examine their practice) (Hockley, 2006). Gardner (2005, p) defines collaboration as

> 'a process and an outcome in which shared interest or conflict that cannot be addressed by a single individual is addressed by key stakeholders. A key complex problem.'

This definition is useful as it highlights the importance of involving clinical midwives and managers to identify the problems relating to birthing pool use (see chapters two of this thesis). My role is to provide effective facilitation that promotes active participation and learning, and fosters collaboration and partnership (McNiff

and Whitehead, 2014). As an experienced educator, I am used to using facilitation techniques such as enquiry-based learning. So, I feel confident in my abilities to facilitate collaborative learning experiences. I believed that having a pre-existing professional relationship with the unit would support midwives participation. In attempting to identify my position within the study, it has become apparent that I occupy a number of positions. Herr and Anderson (2000) propose a positionality continuum framework to support educational researchers to identify their position within action research inquiries (Table 4). Use of Anderson and Jones (2000) positionality framework has confirmed that I am an outsider in collaboration with insiders (point 5). However, given my background I recognise that I occupy a number of positions and knowledge interests. My obligation as a researcher is to acknowledge these multiple positionalities and to ensure that I am honest and reflective about how these positions influence the research process (McNiff and Whitehead, 2014).

Table 4. Anderson and Jones Positionality Continuum

Number on the continuum	Positionality of the Researcher	Contribution to knowledge
1.	Insider (researcher studies own self/ practice	Improved/critiqued practice. Self/professional transformation
2.	Insider in collaboration with other insiders	Improved/critiqued practice. Professional/organisational transformation
3.	Insider in collaboration with outsiders	Improved/critiqued practice. Professional/organisational transformation
4	Reciprocal collaboration (insider and outsider team)	Improved/critiqued practice. Professional/organisational transformation
5	Outsider in collaboration with insiders	Improved/critiqued practice. Professional/organisational transformation
6	Outsider studies	Knowledge

4.4. Reflexivity

The experiences and prejudices I bring with me have been acknowledged from the outset. The adoption of a reflexive position will continue from designing the study and through each cycle of data collection and analysis. My prejudices began to emerge once the topic area had been decided. I began to think in depth about labour ward midwives' apparent failure to promote birthing pool use to women in their care. My belief that the promotion and facilitation of normal birth are central to the midwives' role was challenged during examination of the evidence around the current labour ward culture (see chapter two of this thesis). The findings confirmed my fears about normal birth practice and left me to doubt that change could be achieved. However, conducting the literature review enabled me also to see that change in midwifery practice settings is possible (see chapter three of this thesis).

Before exploring the literature around organisational change, I had considered developing a tailored intervention type study to bring about change in the labour ward midwifery culture. Following examination of critical realism and action research I feel a quantitative methodology would have failed to reveal the complexity of labour ward practice or support a collaborative approach. I now believe that the chosen theoretical framework will not only support practice change but also allow mechanisms responsible for the labour ward culture and organisational change to be revealed.

Once data collection began, I continued to challenge my preconceived ideas. During the interviews, focus groups and workshops, I found listening to midwives'

descriptions of everyday practice and suggestions for improving practice illuminating. Discussing the cycles of data collection and analysis with my research supervisors enhanced my reflexive abilities. In addition, the choice of Foucauldian discourse and statistical analysis methods (see chapter five of this thesis) provided clear frameworks with which to view and construct knowledge. Using these analytical methods reduced the risk of making judgments based on my knowledge of the study site (Breen, 2007). Furthermore, the use of a reflective journal during my Ph.D. studies has supported reflexivity and enabled me to reflect effectively on my research journey.

As part of my Master's degree, I learnt how to reflect critically and apply findings to clinical situations. The journal I kept as a postgraduate researcher differed in that it provided me with a record of the research process. In the beginning, I tended to write about the completion of specific tasks, but later on, my reflections helped me refine my decisions about the theoretical underpinning of the study and data analysis. To demonstrate how reflexivity informed the research process and developed my tacit knowledge, extracts from the journal are included for each cycle of data collection (see chapters six to nine of this thesis). Regular meetings with my supervisors also provided opportunities for me to discuss my progress as a researcher and to share my experiences and ideas. The submission of papers to peer-reviewed journals and conferences enhanced my understanding of the research process and methodology. Attendance at training events provided opportunities to reflect with other Ph.D. students and supported my understanding of research methodologies.

As the study progressed, I became concerned that my outsider position might have an adverse impact on midwives' commitment to the project. The first problem-solving workshop was cancelled due to a poor response from coordinating midwives. Heron (1989) highlights that insiders (participants) are often too busy to commit to projects led by researchers positioned outsider the organisation. I contacted the labour ward matron for help with supporting coordinators' attendance. Following her intervention the majority of coordinators came to the first workshop. McNiff and Whitehead (2010, p 181) assert 'mobilisation is essential because collective voices are stronger than lone ones'. I am aware that this action involved using my power as a researcher and midwifery lecturer. I appreciate that by asking someone higher up the hierarchy for help that I used my power to support workshop participation. Deery and Hughes (2004) describe how to succeed in changing midwifery practice that action researchers have to engage directly with the 'messy' realities of hospital micro-politics (see chapter three of this thesis). I now recognise that I employed 'creative compliance' (McNiff, 1994). Creative compliance strategies are used to help individuals achieve their aims within systems of power and influence. So, while recognising that collaboration is central to the process I am also aware of that my co-researchers (managers, coordinating and clinical midwives) had the power to support or limit the progress of the project. I therefore negotiated attendance at subsequent workshops with coordinating midwives directly.

I was conscious that when working with busy practitioners, especially in relation to the collection of data, that only those midwives who volunteer to take part are contacted. I continue to be aware of how I might influence the research by

continually re-evaluating my position. Examples of my reflexivity can be seen at regular intervals throughout this thesis.

I felt that my lack of credibility in relation to waterbirth practice might have a negative impact on the success of the problem-solving workshops, so, I obtained the services of a labour ward coordinator from a comparable unit with experience of increasing birthing pool use. This decision added clinical credibility to the study and enabled midwives to see the possibilities of waterbirth practice. The increased time I spent on the labour ward at weekends and evenings led to a closer professional relationship with the coordinators and labour ward manager. I felt they came to see that my main reason for undertaking the research was to help them improve midwives' ability to deliver the midwifery model of care on the ward.

I have conducted a number of waterbirths and found the experience for women was a positive one. At the time, I had not fully appreciated how waterbirth practice could be used to change the way midwives thought about normal birth. As a midwifery researcher, I was aware of my bias towards waterbirth and had some insight into what the barriers to waterbirth practice might be. For example, I expected midwives to tell me that they were too busy to offer the use of the pool. Throughout this thesis, I will endeavor to recognise and make clear my prejudices in order to achieve transparency of the research process.

4.5. Methodology rationale

The research aim of changing midwifery culture to improve the provision of water immersion and water birth on labour ward reflects both explanatory and transformatory intent. It was therefore decided that action research would be the most suitable methodology. Critical realism was chosen as the most appropriate philosophical stance to inform the basis for this study. Inclusion of Foucault's theories of power will be used to support the identification of the power/knowledge to better understand how change in midwifery practice is both resisted and realised.

Lewin's action research model adapted by Williamson (2012) will be used to guide the research process. Action research accepts the potential effect of researcher bias and acknowledges the importance of the dialectical process of knowledge generation and interpretation. It is expected that a critical realist theoretical perspective informed by Foucault power/knowledge dynamic along with action research will make an original contribution to existing midwifery knowledge.

4.6. Conclusion

This study aims to foster collaborative partnerships with labour ward midwives in order to improve the delivery of water immersion on labour wards. The study employs an action research methodology based on critical realism. The historical and theoretical development of action research together with discussion of power in organisational change provided a coherent account of the evidence. Discussion of

some of the problems associated with action research increased awareness and consideration of how I will demonstrate validity. The inclusion of the ethical and reflexive stance adopted provided a detailed account of my position within the research and the measures taken to ensure good ethical practice.

In the next chapter, I present a detailed account of the design of this action research study, discuss the strengths and limitations of the research methods and consider ethical aspects of the study in more detail.

‘

Chapter Five: Study Design and Methods

This chapter begins with a discussion of the issues surrounding the design of action research studies before the research aims, objectives, phases, data collection methods, ethical considerations and validity of the proposed research is described. The specific design and methods for each of the research phases is detailed in chapters six to nine of this thesis.

5.1. Issues surrounding the design of action research studies

It is important that the researcher communicates how the process of collaboration and reflexivity has informed the research design (Bellman et al., 2012). Some action researchers have described the process of study design as similar to 'designing the plane while flying it' (Herr and Anderson, 2005, p69). This is because reliance on an emergent and responsive methodology makes it difficult to predict the design of action research studies in advance (see chapter four of this thesis). Attempting to construct a thesis that illustrates the dialectical process and emergent methodology has been particularly challenging. In the end, I decided to consider the issues relating to collaboration, data collection, analysis and validity and to present the design for the research phases as distinct chapters (see chapters six to nine of this thesis). I felt that this structure allowed the collaborative and emergent nature of the research design to be described after the general theoretical principles and practical considerations have been examined.

5.2. Setting the scene, research aim, objectives and phases

The research inquiry focused on a group of midwives and their managers working in an English obstetric led maternity unit situated in a District General Hospital. The maternity unit had a labour ward that catered for 3,800 births per year. There were no Alongside or Free-standing midwife led unit in the locality and home birth rates across the trust varied between two and three percent. At the start of the study, the labour ward had one poolroom. To help focus the research I requested access to the maternity unit data set for the previous year. This exercise revealed a normal birth rate of 30% (Birthchoice UK definition of normal birth, 2012b) and a waterbirth rate of 1%. No data on the use of birthing pools during the first stage of labour was available prior to the second research phase (see chapter six of this thesis).

The midwifery managers were aware of the need to improve normal birth rates on the unit. As waterbirth is known to maximise normal labour physiology and reduce the risk of unnecessary intervention (see chapter two of this thesis) it was therefore decided to focus the study on helping midwives to promote birthing pools to women in their care.

The following aim and objectives of the proposed study were agreed with the senior midwifery management team and ethics committees prior to commencement of the study.

Aim

The aim of this study is to understand how the organisational culture of a labour ward can be changed to support midwives use and promotion of birthing pools for women in normal labour.

Objectives

To describe and analyse midwives' waterbirth practice experiences in order to reveal the generative mechanisms that inhibit and support the increased use of birthing pools in medicalised environments.

To identify the barriers to labour ward midwives' use of birthing pools when caring for women during normal labour and birth.

To describe the learning experiences of midwives and the researcher during the course of the study

To measure change in midwives' use of birthing pools and waterbirth self-efficacy over-time.

5.2.1. Sample

The aim of most qualitative studies is to generate in-depth data from a limited number of carefully selected participants to inform rather than generalise the findings (Robson, 2011). Qualitative studies often use purposive sampling to describe phenomena (Seidman, 1998). The aim of purposive sampling is to choose people with

the characteristics or experiences necessary to answer a specific research question (Mathews and Ross, 2010). In action research the sample is usually decided during the course of the study (see chapter four of this thesis). Hence, the sampling strategy in action research is purposive, opportunistic and emergent (McNiff and Whitehead, 2012). For this study the sample for each of the research phases was determined following collaboration with midwives working in the chosen maternity unit (see chapters six to nine of this thesis).

One hundred and eighteen midwives (Bands 5/6, 7 and 8) were based in the maternity unit (midwives permanently based in the community were excluded from the sample). Fifty-three clinical (Bands 5/6) and nine coordinating midwives (Bands 7) worked on labour ward at any one time. The majority of clinical midwives rotated onto labour ward every three, six and twelve months. The time midwives spent on labour ward varied from four to twelve months. A small number of clinical midwives, the coordinators and the consultant Midwife (Band 8) were permanently based on the ward.

5.2.2 Research phases

The study was designed on four interrelated and overlapping research phases:

Phase 1: Identification of barriers to waterbirth practice**.**
Data collection methods: Interviews and focus groups with labour ward managers (Bands 7 and 8) and midwives (Bands 5/6).

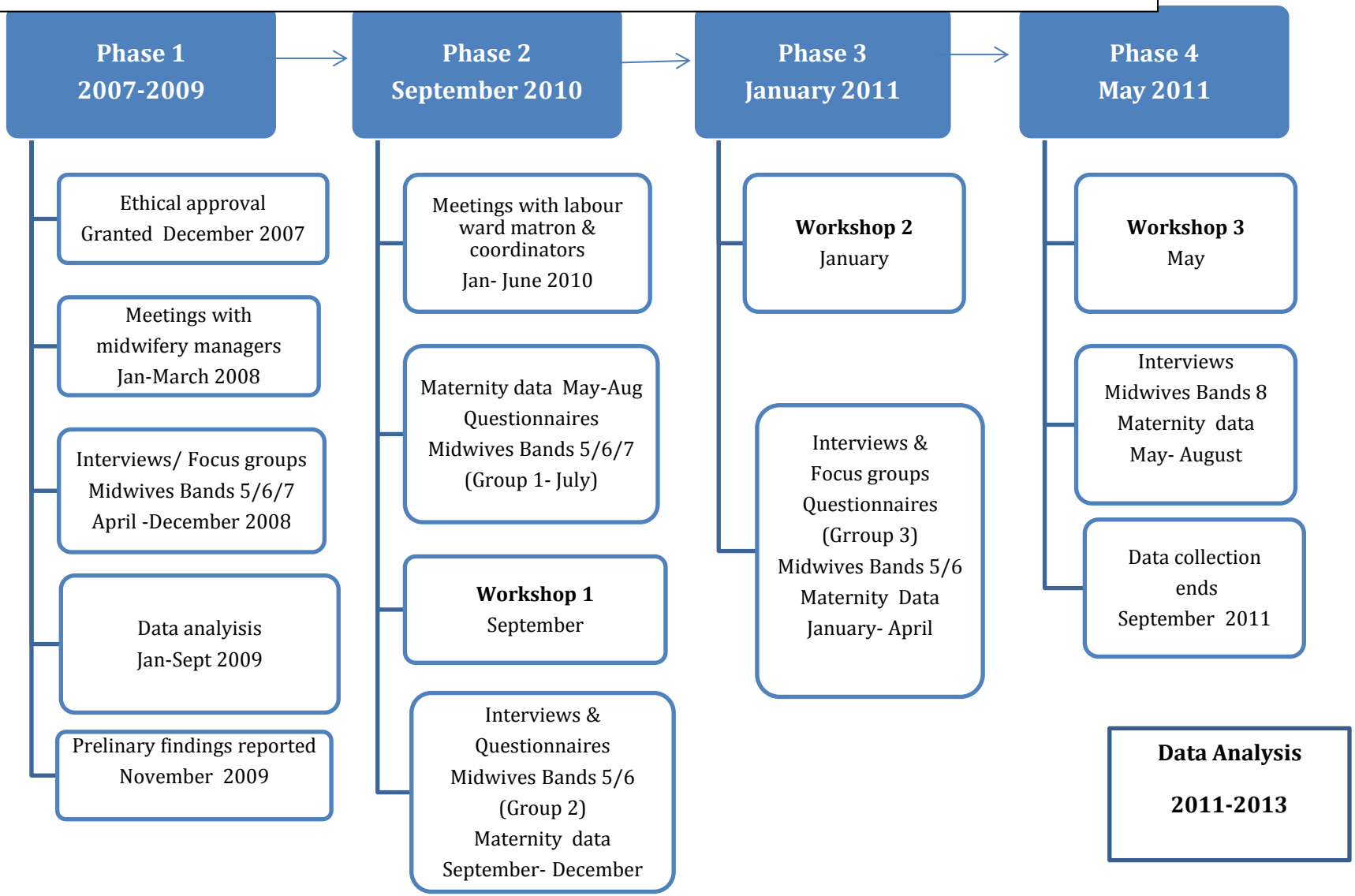
Phase 2: Problem-solving workshop with coordinating midwives to create collaborative intent and support the development and implementation of solutions to bring about change in the organisation of waterbirth practice.
Data collection methods: Pre and post workshop questionnaires, interviews with labour ward midwives (Bands 5/6) and numerical data from the birth register.

Phase 3: Workshop two aimed to evaluate previous solutions before developing and implementing new solutions to bring about change in the organisation of waterbirth practice.
Data collection methods: post workshop questionnaires, interviews and focus groups with clinical with labour ward midwives (Bands 5/6) and numerical data from the birth register.

Phase 4: Workshop three aimed to evaluate the research study and change process.
Data collection methods: Interviews with senior midwifery managers (Bands 8) and numerical data from the birth register.

A chart detailing (Figure 2) the project timeline, sample and methods is provided on the following page.

Figure 2 Research phases & progress of the study



5.3. Establishing collaborative partnerships

Prior to commencement of the study, managers, clinical midwives and students told me that they wished to improve the delivery of normal birth care on the unit concerned. Establishing common ground with key stakeholders is considered vital to establishing collaboration and collaborative intent (that is when individuals are willing to examine their practice) (Hockley, 2006).

Gardner (2005, p) defines collaboration as

> 'a process and an outcome in which shared interest or conflict that cannot be addressed by a single individual is addressed by key stakeholders. A key complex problem.'

Gardner's (2005) definition is useful as it highlights the importance of involving clinical midwives and managers in identifying problems relating to birthing pool use. According to Bellman and Webster (2012) successful collaboration involves skilful facilitation and communication. Facilitation is defined as a planned, skilled activity that addresses the learning needs of individuals and groups (Manley et al., 2008). A number of models have been developed to help improve our understanding of the facilitation process (Bellman and Webster, 2012). Heron (1989) put forward a model that describes the different types of facilitation and three styles of intervention (Table 5). Heron's model portrays the aim of facilitation as the promotion of active participation and learning that results in autonomous decision-making. As such, effective facilitation can support the successful implementation of practice improvement through 'critical companionship' (Titchen, 2000).

Critical companionship is where an experienced facilitator helps others to take an experiential journey and supports joint decision-making and the adoption of cooperative and autonomous intervention styles (Heron, 1989).

Table 5. Heron's six dimensions of facilitation and three styles of intervention

Planning- focus and purpose of group meetings
Meaning- purpose of group learning and identification of participants
Confronting- challenging assumptions and preconceived ideas
Feeling- conscious control of emotional processes
Structuring- sessions, presentations and structuring of group interactions
Valuing- others, self and group processes and giving all participants an equal voice
Three styles of intervention
Hierarchy- the facilitator is responsible for all decision-making and subsequent action
Cooperation- collaborative working between facilitator and participants supports joint decision-making
Autonomy- decision making and responsibility is devolved to individuals

As an experienced midwifery educator, I feel that I possess many of the skills and attributes associated with effective facilitation (see chapter four of this thesis). My aim during this study was to foster an intervention style that supported cooperation and ownership of change. However, in order to provide opportunities for clinicians to reflect critically on their experiences of promoting birthing pools to women in normal labour, I needed to provide participants with a 'safe communicative space' (Williamson and Prosser 2002).

Safe communicative spaces are said to provide

> ‘a sense of comparative experience, to discover local or immediate constraints on action by understanding the contexts within which others work, and, by converting experience into discourse, uses language as an aid to analysis and the development of a critical vocabulary which provides the terms for reconstructing practice’. (Carr and Kemmis, 1986, p 40)

The establishment of communicative spaces in clinical practice settings during work time required managerial support. If such agreements are not in place, then action research projects are less likely to succeed (Williamson et al., 2012). For this study managers agreed to midwives attending interviews/focus groups and workshops during shift handover or at the end or beginning of the working day. Permission to conduct interviews and workshops in a seminar room situated a short distance from the labour ward was granted by the Head of Midwifery.

The findings of the literature review identified the importance of developing project teams to support ownership of change (see chapter three of this thesis). Generally, project groups consist of personnel with clinical, leadership, coordinating, technical and administrative skills and expertise (Grol et al., 2013). Involving managers with the power to sanction additional personnel or equipment can also increase the success of practice improvement teams (Berwick, 1996; Conger, 2000) (see chapter three of this thesis). Project teams provide an effective way of developing a collaborative research design grounded in a specific clinical practice context. In addition, project meetings play an important part in facilitating on-going critical reflection and

implementation of change (Bellman, 2012). Once the barriers to waterbirth practice were identified (see chapter six of this thesis), problem-solving workshops were utilised with labour ward coordinators to support collaboration and ownership of change (see chapters seven to nine of this thesis).

Educational approaches such as workshops have been identified as an effective way of changing participants' behaviour (Oxman et al., 1995) and improving professional practice (O'Brien et al., 2002). The term workshop rather than project meeting was used to emphasise that the meetings involved group learning. It was also hoped that a workshop format would support sharing of knowledge and ideas to develop interventions to address barriers to midwives' use of birthing pools. During the workshops my role was to build rapport and meaningful relationships with the participants. Krueger (2000) describes how group meetings such as focus groups can create compatible and meaningful relationships between the researcher and co-researchers (coordinating midwives and the external change agent). Borg et al (2012) also describe how the use of group meetings supports informal talk. Informal talk

> 'acts as a means of creating the focus group ethos as the session commences, it is further hypothesised that the use of such talk as a facilitation strategy enables the equalisation of power relationships among co-researchers' (Borg et al., 2012 p 5).

Group meetings based on informal talk are not normally recorded as this can inhibit communication and introduce a researcher- participant power dynamic. Hence, in this study, workshops were not recorded. Instead the researcher summarised discussions and developed an action plan with the help of workshop attendees. During the

workshops, I adopted a similar reflexive stance to that described (later in this chapter) when conducting the research interviews. The main difference was that as a facilitator I challenged the preconceived ideas and assumptions of my co-researchers by presenting them with descriptive data from the maternity data set, interviews, focus groups and questionnaires. The workshop format allowed the co-researchers to challenge and debate their own feelings and actions about the existing waterbirth service. As a facilitator, my main aim was to create a focus for the study, provide emotional and practical support and be a critic and recorder of the research process (Munn-Giddings, 2001). The structure and outcomes of each of the three workshops is described in chapters' seven to nine of this thesis.

5.3.1. Acknowledging different 'voices'

Within the collaborative process a number of different voices are heard. In this study the voices of clinical midwives, coordinators and managers were collected in order to bring about change. These different voices were heard both in isolation and collectively with that of the researcher (Borg et al, 2012). Identifying the voices of research participants, co-researchers (coordinators) and the researcher, and acknowledging their contribution helped ground the study in a specific practice context and support validity claims (Bellman, 2012).

The aims and objectives of this study led to midwives' voices rather than those of pregnant women who accessed the service being actively sought. Within action research many authors have argued about the importance of acknowledging the voices

of participants and non-participants (Chandler and Torbet, 2003). In this study women's voices are represented through midwives' perceptions of the care they provided to women who chose to give birth in hospital (see chapter ten of this thesis). The voices of midwives who chose not to take an active part in the research were represented in participant's descriptions of their experiences of the promotion of waterbirth practice on labour ward. In addition the maternity unit data provides numerical information about the practice of midwives who decided not to take part in the study.

It is also necessary to acknowledge how my own learning has influenced the collection of data, interpretation of findings and decision-making process (Williamson, 2012). Planning the research involved my meeting with the midwifery managers, the consultant midwife (bands 8) and labour ward manager (band 7). Clinical midwives' views (Bands 5/6 and 7) and those of their managers (Bands 8) were obtained using research interviews, focus groups and workshops.

Prior to undertaking data collection, I adopted a reflexive stance by reflecting on my previous experiences of interviewing and filming a practice interview with a work colleague. The latter exercise provided a wealth of valuable information on my listening and interpersonal skills. I became aware that like other researchers, I tended to speak too much during the interview (Robson, 2011) and so began to focus on developing active listening skills to improve my interview technique. I worked on embracing short silences and took occasional memos (with the consent of the participants) during interviews and focus groups to improve my listening skills. These memos also provided additional information for participants and the researcher to

reflect on at the end of the interviews. During the focus groups I used my skills of facilitation to ensure that it was not only the dominant voices that were heard. I adopted a neutral stance by keeping my own views on waterbirth practice and normal birth care private. This stance enabled midwives to articulate and reflect on their practice and freely share ideas for changing the current situation.

5.4. Methods

Interviews are described as a conversation between the researcher and participant that adds to our understanding of the topic under investigation (Seidman, 1998). Robson (2011) argues that interviews differ from normal every-day conversations because they require the researcher to help participants talk freely without indicating what their own views are. The importance of adopting a neutral stance during interviews, positions the researcher as an interested listener who encourages rather than stifles participants' views (Cohen et al., 2011; Mathews and Ross, 2010).

Interviews chosen for this study were exploratory in nature, largely participant led and supported collaboration and joint decision-making. However, it was important that the discussions focused on the topic under investigation (Mathews and Ross, 2010). This is particularly important in focus groups where the researcher role is to facilitate and control group discussions. According to Brown (1999), problems with facilitating focus groups can be reduced by using an interview guide and choosing participants with similar characteristics and/or experiences. Subsequently two interview guides (see chapters six and nine of thesis) were developed that covered the use of birthing

pools on labour ward. It is important to note that although the guides comprised of questions, these were used as prompts to guide and focus the interviews if required.

Focus groups provide a format for lively discussion and debate about a specific topic and so are known to influence preconceived ideas and opinions of participants and the researcher (Robson, 2011). This is particularly important given that the aim of the data collection methods was to develop a collaborative process and to help midwives find ways to improve birthing pool use. It is therefore vital that focus groups have a sufficient number of participants and allow sufficient time for active participation and interaction. Krueger (2000) recommends eight to twelve focus group participants but recognise that smaller numbers can still generate quality data. Decisions to conduct interviews during midwives working day meant that only a small number of participants were available to take part in focus groups. I hoped, rather than anticipated, that some midwives would attend the focus groups in their own time. I therefore decided to conduct the focus groups with fewer than eight but more than two participants. Practicalities of room bookings and access to participants meant that a time allocation of two hours had to be imposed. In the end none of the interviews or focus groups required more than two hours and so the prescribed time limit proved sufficient.

Both of these methods were chosen as they enable the discourse between human beings to be described and allow for 'the lived response of people to their situation' (McNiff and Whitehead, 2012, p 96). These methods also allow possible actions to improve midwives' use of birthing pools on labour ward to be identified so led to practitioners taking collective action (see chapter four of this thesis).

As discussed previously, critical realist ontology that includes Foucault's power/knowledge dynamic was chosen to underpin the study (see chapter four of this thesis). Data from a newly developed waterbirth questionnaire (see chapter seven of this thesis), the births register and maternity computer records were collected during the final three phases to inform the development of interventions and identify generative mechanisms (see chapters seven to nine of this thesis). Thus this data was part of the on-going evaluation of solutions implemented by the coordinators during the workshops.

5.5. Data Analysis

5.5.1. Analysis of qualitative data

Exploration of the literature around organisational change and action research led to examination of Michel Foucault's work on power/knowledge (see chapter four of this thesis) and discourse. The term 'discourse' is used by Foucault to describe the ways, in which institutions communicate, control and normalise their conduct (Petersen and Bunton, 1997). Discourses are much more than the spoken word; they are a mechanism by which power operates to control the actions and thoughts of people.

Consequently discourses are said to be a

> ‘set of ideas, of concepts and a way of thinking, but it is also a set of material social arrangements, in terms of reflecting a particular order of things’ (Dyson and Brown, 2006, p 55).

Therefore, discourse represents a way of developing specific types of socially constructed knowledge and practises, it is a form of power used to regulate and control the thoughts and actions of less powerful individuals (Foucault, 1977). Thus, discourses are not fixed but constantly struggling for control and determination and therefore are considered as imbalanced, conflicting and open to challenge (Caribine, 2001). Accordingly, discourses have a regulatory and normalising function in society (Quinby and Diamond, 1988). Dyson and Brown (2006) liken Foucault’s concept of discourse to the composition of light. They explain that light appears white (dominant discourse) but it is in fact made up of a number of colours (supressed or invisible discourses). By using a prism, less dominant colours can be seen.

Although discourse can regulate social behaviours, there will always be individuals who resist social controls. Such acts may be recognised as deviant behaviour by dominant discourses (Petersen and Bunton, 1997). In studies of hospital midwives’ ‘rule bending’ behaviours (Parsons and Griffiths, 2007), practitioners who followed hospital policies or worked outside hospital guidelines tailored their care to the individual needs of the pregnant woman. The decision not to follow clinical rules (resistance) was made in the full knowledge that their behaviour put them at risk of censure from authority figures (senior midwives and doctors) (Parsons and Griffiths,

2006). Foucault (2002) views resistance as part of subjugated discourse rather than a revolutionary act, meaning that people's actions are always products of discourses, ideologies and institutional practices. Thus individuals, by sensing who they are, take up subject positions on a contingency basis; so that the position a person occupies is dependent on the particular set of circumstances they find themselves in (Dyson and Brown, 2006). Therefore, subjects negotiate their social identity (the self) in relation to the discourse they inhabit at any one time. This means that the number of subject positions a person can occupy is restricted by discourses (Foucault, 1986). Danhaher et al., (2000, p 75) state that

> 'once our bodies and minds have been formed in particular ways, we then take it upon ourselves to make sure we function in these ways, and remain good, healthy subjects'

Accordingly, subjects decide how to think and act by examining their intentions against self-perception, imposed societal rules and ethical/moral principles (Foucault, 1986). To explain subject positions I chose the example of a car driver with the social identities of father, brother and policeman.

On approaching a set of traffic lights that suddenly change to red, the car driver is expected to stop and give way to oncoming traffic. The driver needs to decide to obey the red light and stop immediately (be a law abiding subject) or continue through the red light (break the law and potentially face prosecution).

To reach a decision the subject has to decide the degree to which he feels he is breaking the law. This is dependent on the driver's self-perception and their place in

society. As a policeman, society would expect him to obey the law. What are the potential risks to himself and/or his passengers and other road users if he proceeds through the red light and doesn't obey the law? Can this decision be morally justified? For example, if he had a seriously sick relative or partner in the advanced stages of labour he may feel morally and ethically justified in breaking the law.

My example of the car driver illustrates how self-perception, the interpretation of social rules and decisions about what is right and what is wrong, impacts on peoples' everyday lives. Foucault (1977) calls this process subjectification. Subjectification allows organisations to regulate the thoughts and actions of its members through the creation of hierarchies, rules and procedures (see chapter eleven of this thesis). However, subjectification also allows individuals to adopt a number of subject positions to govern their own behaviours and challenge the status quo ((Dyson and Brown, 2006).

The key aim in Foucauldian discourse analysis is to reveal discursive strategies and subject positions to construct dominant and subjugated discourses, and to understand social life (Foucault, 1986). Discursive strategies refer to socially accepted rules about the way individuals from a particular social group construct meaning and relate to each other (McGregor, 2003). The identification of discursive strategies present in everyday language or 'speech acts' can therefore uncover human behaviour and help distinguish between true and false, and the valuable and valueless in society (Dreyfus and Rainbow 1982). Once discursive strategies are known, power relationships can be highlighted and action taken to correct the balance between dominant and subjugated discourses. Thus, the key aim of discourse analysis is to describe discursive practices

and discourses and highlight how organisations control the thoughts and actions of its members (Fairclough, 1992).

Discourse analysis was chosen to help answer the study aim (see page 112 of this chapter). The advantage of this type of analysis is that it allows the current organisational culture of the midwifery model of care to be explored and for future possibilities to be revealed (Seidman, 1998, p 73). The disadvantage is that no universal method for Foucauldian discourse analysis exists (Fairclough, 1992; Wilson, 2001). Some methods, such as Critical Discourse Analysis include the study of linguistics (Fairclough, 1992). The overall aim of this study is to present a critical view of labour ward midwifery practice and to explain the generative mechanisms responsible for change, not the structure and features of language itself (see chapter three of this thesis). Therefore a form of discourse analysis that accurately reflected the research aim was required. After an extensive search of the literature I decided that Wilson's (2001) method for Foucauldian analysis was the most appropriate for this study.

Wilson (2001) used Foucauldian discourse analysis to explore nurse-mother partnerships in community paediatric care. The method supports the identification of dominant and subjugated discourses within a particular social and theoretical context and so was deemed appropriate for this study. The method is comprised of three stages of analysis: the microanalysis of social interactions, identification of discursive strategies and discourse types. Once discourses have been identified they are examined within a broad socio-political context. The main advantage of this method is that the microanalysis stage focuses on the identification of language patterns and

imagery rather than on examination of the structure of words themselves (linguistics). The final stage of Wilson's (2001) method was changed to ensure identified discourses were examined within the critical realist dimensions chosen for this study (see chapter four of this thesis).

Foucault power/knowledge dynamic (1992) (this is discussed later in this chapter) is included as part of the theoretical perspective, as it explains how organisations control and regulate peoples' thoughts and actions. In his work it is evident that Foucault distinguishes between biological (the 'body'), ~~i~~nstitutional (tactics) and social properties (political strategy) (Al-Moudi, 2007). To illustrate how a stratified ontology may be applied I chose the following midwifery example :

At an empirical level: midwives use continuous fetal monitoring on women in normal labour even though evidence does not support this (the body). At an actual level: this action reassures midwives regarding the health of the fetus during labour but puts the mother at greater risk of caesarean section (institutional tactics) At a real level: midwives comply with a biomedical, rather than social (midwifery) model of birth (political strategy).

This example illustrates how midwives' normal birth practice can be controlled by conforming to institutional norms based on the biomedical model of birth. Similarly, the underutilisation of water immersion and water birth could be explained at the real level by a similar compliance with a biomedical model that marginalises non-technological and non-pharmacological approaches. The endorsement of (social)

midwifery approaches to care (for example birthing pools) at a real level could lead to changes at both 'actual' and 'empirical' levels (Walsh and Evans, 2013). Combining critical realism and Foucauldian theories in the following way is relatively unique (Al-Moudi, 2007):

The three stages of discourse analysis for this study are:

Microanalysis of social interaction

The aim of this stage is to identify key words, repeated phrases or terminology, imagery and metaphors, which have been used to persuade or ensure conformity to the social order (Billig, 1990).

Identification of discourse types

Here the aim is to identify the types of discourse and how they are articulated. This enables dominant, contradictory and silent discourses and subject positions to be examined (Fairclough 1992).

Dominant and subjugated discourses are examined within the following critical realist/foucauldian dimensions: political strategies (Real), Institutional tactics (Actual) and the body (Empirical)

Foucault power/knowledge dynamic will be used to understand how the labour ward organisational culture controlled and regulated midwives use of birthing pools. For this study, the identified midwifery discourses will be discussed along with the findings from the research phases and results of the analysis of the waterbirth questionnaires within the following critical realist dimensions:

- At a Real Level: Political Strategies,
- At an Actual Level: Institutional Tactics
- At an Empirical Level: The 'body'.

The process and method used to analyse the data from interviews and focus groups over the course of the study is as follows. All of the interviews and focus groups were transcribed verbatim using an independent transcriber. Following this, I listened to the recordings while reading the transcripts to ensure they were a true record and to increase theoretical sensitivity (Robson, 2011). It was at this point that I removed all identifiable characteristics and applied an identification code (for example M1). In focus groups texts, each person's contribution was given a code to ensure all voices were heard and to illustrate the dynamic nature of the discussion. Concordance software (version 3.3) was used to store data and support analysis. The following procedure was used to analyse interview and focus group data.

Firstly, all transcripts were combined to form one text document; this allowed the frequency of words to be listed and the different stages of discourse analysis to be completed. Next, repeated phrases and words were identified. Repeated phrases and words are important as they show a preoccupation with an aspect of reality. These sections of text were then examined for the presence of pronouns, auxiliary verbs, metaphors and words with a relational value (for example those relating to formal language and social relationships). Sections of text containing these types of words and phrases were coded and used to form discursive strategies. Discursive strategies were developed through a process of reconstruction: moving back and forward between sections looking for similarities in both content and to look for the presence

of pronouns, auxiliary verbs, metaphor and relational words/phrases. The findings from these stages of analysis led to discursive strategies and subject positions of labour ward midwives being constructed (see chapter ten of this thesis). Finally the discursive strategies and subject positions were used to construct the dominant and subjugated midwifery discourses on labour ward (see figure 17, page 229 of this thesis). The identified discourse types together with other study findings will be examined within the critical realist dimensions chosen for this study (see chapter four of this thesis).

5.5.2. Analysis of quantitative data

The method for analysing quantitative data is dependent on the survey tools employed and the types of numerical data (Pallant, 2001). The process of developing the waterbirth questionnaire is described in chapter seven of this thesis. Questionnaire data were collected prior to the first workshop to provide a pre-workshop comparison and again prior to workshops two and three (see chapters seven to eight of this thesis).

Descriptive questionnaire data were shared with workshop attendees. Also, data on the frequency and use of birthing pools provided participants with feedback about the success of interventions they implemented (see chapters seven to nine of this thesis). Following completion of the workshops, the questionnaires were analysed using statistical tests. The final sample sizes, together with the type of nominal data collected, determined the choice of statistical method (see chapter ten of this thesis for more information). After testing, questionnaire data were identified as being suitable for parametric testing. The aim of the analysis was to discover if the section scores

differed significantly between the three groups of midwives. One-way ANOVA with Tukey post-hoc tests were used to identify statistical differences between the three groups of questionnaires. The One-way ANOVA value identifies the statistical significance of variance between groups. Tukey post-hoc tests provide additional information about statistical differences between group scores (Scott and Mazhindu, 2005).

5.6. Recruitment

To advertise the study, I placed flyers detailing the aims of the research around the maternity unit. The selection of participants was agreed in consultation with midwifery managers and workshop attendees (see chapters six to nine of this thesis). The following steps were taken to ensure the confidentiality and anonymity of those taking part.

5.7. Ethical considerations

Adherence to ethical principles such as beneficence, non-maleficence, autonomy and justice (Manning, 2004) aims to protect individuals who take part in research. The principle of autonomy respects the individual's right to make decisions, take action and give consent to participate (see chapter two of this thesis). Winter and Munn-Giddings (2001) argue that the close relationships and focus on changing practice poses different issues for action research studies. Hart and Bond (1995) provide a

code of ethics to address the ethical dilemmas faced by action researchers. However, qualified health professionals who undertake action research must also adhere to their professional code of ethics (NMC, 2012). When planning to undertake a research enquiry it is vital that ethical aspects of what is being proposed be considered (Robson, 2011; Williamson et al., 2012). Research undertaken on NHS premises has to be approved by local ethics committees. These procedures ensure that ethical issues such as autonomy and the safeguarding of participants are considered in detail before NHS ethics approval is given (Bellman, 2012). Approval to conduct this study was received from the Head of Midwifery of the chosen maternity unit (see chapter five of this thesis). Ethical approval from the NHS Trust's Research and Development Unit and NHS Ethics Committee was also obtained for all research phases prior to commencement of the study (Appendix V).

Consideration was given to how the data was collected, stored and analysed to ensure ethical issues pertinent to the study were addressed (Williamson and Prosser, 2012; Mathews and Ross, 2010).

5.7.1. Participation, consent, anonymity and confidentiality

Midwives' participation in interviews and focus groups was voluntary. Midwives were invited to take part in the study via email and the maternity unit's internal postal system. Midwives were provided with a letter, a reply slip (Appendix II), participant information sheet (Appendix III), consent form, (Appendix IV) and a stamped addressed envelope. The inclusion of information about the study ensured that midwives understood the nature of the research and that their participation was

voluntary (Robson, 2011). This strategy guaranteed that the researcher only contacted those midwives who expressed an interest in taking part in the study. The National Research Ethics Service Committee (Appendix V) approved the content of these documents as part of the ethical approval process. The use of letters posted directly to participants is considered an effective way of negotiating and obtaining access (McNiff and Whitehead, 2010).

Prior to interviews and focus groups, participants were asked to indicate if they had read the research information sheet. If a participant stated that they had not, then time was given for them to do so before being asked for written consent (Cohen et al., 2011). The Midwives who took part in the research were aware that they were consenting to the recording of interviews/focus groups and for the use of verbatim quotes in conference presentations and publications. A copy of the signed consent form was made available to each participant and the researcher kept copies. Completed consent forms were stored securely and destroyed at the end of the study.

The evolutionary nature of action research makes it difficult to predict in advance what the involvement of research participants might be. Therefore, consent procedures were reviewed on a regular basis (Williamson and Prosser, 2002). Conducting action research in clinical settings, such as a hospital maternity unit, can make it difficult for researchers to make guarantees about confidentiality and anonymity (Robson, 2011). To address these concerns, interviews and focus groups were conducted in a private room away from the clinical area either during shift handover or at the beginning of end of the participant's working day (see chapter four

of this thesis). The relatively small number of midwives taking part and the on-going nature of the inquiry increased the possibility of personal characteristics being revealed. It was therefore made clear to all participants that I would not disclose their identity. Participants were informed that interviews, and focus groups would be digitally recorded, and that identifiable characteristics would be removed during transcription. Names of midwives were removed and replaced with their clinical band and awarded a specific code (for example. M1). Participants were also told that a copy of their interview transcript would be sent to them for comment and validation (Mathews and Ross, 2010).

Questionnaires were distributed via the maternity unit's internal post and email systems. The questionnaires were printed on different coloured paper and numbered to denote a different cycle of data collection (Robson, 2011). Midwives were asked to complete unmarked questionnaires within four weeks of receiving them. Email reminders were sent at two and four weeks during each phase of data collection. Participants were requested to place completed questionnaires in a collection box on the labour ward. The box was collected at the end of each research phase (see chapter seven to eight of this thesis). Midwives who returned completed questionnaires were deemed to have given consent.

Interviews and focus groups were digitally recorded and transferred to a password-protected computer immediately. No data were stored on university or shared computer systems. All completed questionnaires and consent forms were kept in a locked filing cabinet in the researchers' home. All data about the study will be

destroyed following completion of the project. It was anticipated that these additional precautions would help protect the on-going relationships with midwives and strengthen the integrity of the research project (McNiff and Whitehead, 2014).

5.8. Validity

Validity is a term normally associated with epistemologies such as objectivism (see chapter three of this thesis). In such studies, the research is said to be valid if the findings are either representative of a social situation or population (generalisable) (Mathews and Ross, 2012). In qualitative studies terms such as 'trustworthiness', 'authenticity' and 'conformability' (Lincoln and Guba, 1985, 1994) are generally used to make judgments about the quality of research. Winter and Munn-Giddings (2001) assert that researchers have a moral responsibility to be honest with participants about the aims and objectives of the research so that individuals can take on co-researcher roles. Therefore, it is important that I made it clear to my co-researchers that the study was a learning process for all those involved (Bellman, 2012). Waterman (1998) uses the term validity to measure to what degree action research studies have dialectical, critical (the study is morally responsible) and reflexive validity. McNiff (1994) linked validity to new knowledge that has been produced by working with participants in an ethical and meaningful way. Titchen (1995) argues that the validity of action research can be demonstrated through methodological triangulation, prolonged and persistent observation in the field and participants confirmation of the accuracy and completeness of the finding.

Titchen (1995) framework for establishing the validity of action research studies was chosen to demonstrate the validity of this study.

5.8.1. Triangulation of data

The inclusion of triangulation in study designs increases research validity and ensures completeness of data (Robson, 2011; Mathews and Ross, 2010). The process of triangulation ensures that a number of different methods, all aimed at answering the same research question, have not been affected by the way they have been gathered or interpreted (Cresswell and Plano-Clarke, 2007). The inclusion of labour ward midwives, matrons, managers and senior midwives ensured a range of responses and experiences were collected. The use of interviews, focus groups, questionnaires and maternity data were identified as appropriate for action research methodology (see chapter four of this thesis).

Emerging themes from the interviews and questionnaires for each research phase were included in the workshops or disseminated to participants (see chapters six-nine of this thesis). Ultimately data from the interviews and focus groups were analysed as one text, using the chosen method of Foucauldian discourse analysis (see chapter ten of this thesis). The identified midwifery discourses will be discussed along with the findings from the research phases and results of the analysis of the waterbirth questionnaires within the critical realist dimensions defined for this study. It is anticipated that the simultaneous examination of the study findings will increase understanding of how the organisational culture of a labour ward can be changed to support midwives' promotion of birthing pools during normal labour care.

Data from the maternity dataset on the frequency of waterbirth practice was presented sequentially across the final three research phases. Questionnaire data were analysed

using statistical tests to identify differences between the three groups of midwives (see chapter ten of this thesis). Triangulation of data was used to formulate the overall findings and to achieve completeness (Mathews and Ross, 2010): where data collected from different sources agree, the researcher can be assured that the study has methodological validity (Titchen, 1995).

5.8.2. Prolonged and persistent observation in the field

Titchen (1995) argues that the length of action research studies conducted in proximity to the practice area and participants can be used to support validity claims. The presumption being that the longer the researcher spends working with participants, the more likely it is that collaboration has taken place. The number of phases used to collect data gives an indication of the length of studies but on its own does not necessarily indicate validity. Rather, it is the process of dialectical cycling and transparency of the process together with the adoption of a reflexive approach that increases validity claims (Rolfe, 1996; Hope and Waterman, 2003) (see chapter four of this thesis).

The length of the study was difficult to pre-determine because of the emergent and unpredictable nature of the action research process. The first research phase took place over an eighteen-month period. An interim research report, describing the findings from the first research phase was sent to study participants and the Head of Midwifery prior to planning the next research phase. Although no written comments were forthcoming, managers and coordinators were happy to meet and discuss future

research plans. It was during these meetings that I became aware of the changes that had been implemented by the managers since completion of the first research phase. Midwifery managers had introduced mandatory normal birth training to improve the use of midwifery knowledge and skills on the ward, and appointed two band six midwives as 'normality trainers' to lead the days. The hospital training day did not include any discussion of the benefits of water for labour and birth but a large number of midwives were sponsored to attend external waterbirth conferences. Also, the Trust's clinical guideline had been changed so midwives no longer needed to constantly stay in the poolroom during active labour. In addition, three portable birthing pools had been purchased to improve access and opportunities for waterbirth practice on the ward. A normal birth DVD, developed by the consultant midwife, was now included in all booking information packs. The DVD included information about the benefits of water immersion.

The number of waterbirth increased from twenty-five at the start of the study, to forty-five, eighteen months later. These changes demonstrate the managers' commitment to improving the waterbirth service. The midwifery managers told me, at the start of the second research phase, that initial findings had spurred them on to improve the existing waterbirth service. However, the labour ward matron questioned the need for further research because of increases in the waterbirth rate. However, when I shared the waterbirth and water immersion data from a comparable unit in the West Midlands she became aware of how the service could be further improved (see chapter seven of this thesis). The three remaining cycles of data collection occurred sequentially over a twelve-month period. Preliminary findings and emerging themes supported co-researchers to develop and implement changes in the organisation of

waterbirth practice. Detailed analysis of qualitative and quantitative data took a further twelve months. The workshops supported a collaborative process and ownership of the research. A preliminary research report was sent to the local NHS ethics committees and the Head of Midwifery in August 2012. The apparent ownership of change, reflexive approach and descriptions of a protracted collaborative research process supports the claim that this action research study is valid.

5.8.3. Involving participants

In general, qualitative methodologies require participant involvement in validating data they have produced. Providing opportunities for participants to validate data improves the credibility of the findings (Lincoln and Guba, 1985) and 'confirmability' of the research process (Fleming et al., 2003). In this study, research participants had the opportunity to validate interview transcripts before data analysis commenced. However, only a small number of participants responded. Those who responded confirmed the transcripts were accurate and requested minor grammatical changes. Asking focus group participants to comment on the accuracy of transcripts was problematic because of the number of different voices included. I was also concerned that despite only sharing the transcript with attendees that I might breach confidentiality or put participants at risk of censure from their colleagues (Waterman 1998). It was therefore decided not to ask focus group participants to validate transcripts.

During phase one focus groups and interviews, participants identified the barriers to water birth practice (see chapter six of this thesis). In subsequent phases, participants were asked to discuss each of these barriers to waterbirth practice and to say which ones prevented them from using birthing pools (see chapters seven to nine of this thesis). This approach allowed coordinating midwives to develop interventions to address continuing barriers to midwives' use of birthing pools. The coordinators also collected the waterbirth and water immersion rates alongside the researcher.

Additionally, when I have presented the research at both national and international conferences, the study findings appear to resonate with the audience. The design of the study supported the involvement of midwives; midwifery managers, clinical midwives and coordinators. Therefore, I am confident that the findings presented in this study are accurate and consistent with the midwives views and actions.

5.9. Conclusion

This chapter identified some of the difficulties in designing emergent action research methodologies and provided an overview of the methodology for this study and clarified the research aim. The design and intended data collection methods have been discussed and justified. The four research phases and use of a range of qualitative and quantitative data collection methods over a prolonged period increased the validity of the study. The design for each of the research phases along with the outcomes of data collection and the workshops are described in the following four chapters.

Chapter Six: Research phase one

After discussions with the Head of Midwifery and the labour ward matron, it was agreed to focus on working with midwives to increase the use of birthing pools on the unit. I then met with the labour ward manager to discuss the research aims and to seek her advice on gaining access to participants. The first research phase began in March 2008 and was concluded in December 2009.

6.1. Participants

Clinical midwives rotated every six months between the labour, postnatal and antenatal wards. Therefore clinical midwives (Bands 5 and 6), coordinators (Bands 7) and midwifery managers (Bands 8) who had worked on labour ward in the previous two years were invited to take part in the first cycle of data collection (n=118).

6.2. Data collection methods

6.2.1. Interviews and Focus groups

Interviews with senior midwives (Bands 7 and 8) and focus groups with clinical midwives (Bands 5 and 6) were employed. Senior midwives and clinical midwives were interviewed separately to allow individuals to express opinions within a safe environment (Krueger, 2000) (see chapter five of this thesis). An interview/focus group guide was developed to maintain focus and elicit participants' everyday experiences (Table 6).

Table 6. Interview and focus group guide

Introductory questions When was the last time you worked on labour ward? How often do you rotate between departments? **Exploratory questions** What experiences have you had of waterbirth in this maternity unit? Do you think women are able to have a waterbirth if they wish? Is there anything that stops you offering waterbirth as a choice? Have you ever felt unable to support a woman's choice of waterbirth if so- what happened? **Summary questions** All things considered what sense do you make of the issues raised about the provision of waterbirth? Think for a moment? Is there anything we should have talked about today but did not cover?

After the topics on the interview guide had been explored the researcher and participants worked together to agree the perceived barriers to waterbirth practice.

Data analysis

Qualitative data from this research phase were analysed using the method for Foucauldian discourse analysis identified in chapter five of this thesis. The findings are presented in chapter ten of this thesis. Key barriers and solutions suggested by participants to improve the use of birthing pools are presented here.

6.3. Findings

Five interviews (35-60 minutes) with midwifery managers (Bands 7 and 8) and three focus groups (40 -60 minutes) with eleven midwives (Bands 5 and 6) were completed.

Following the interviews, transcripts were sent to the participants for validation and comment (see chapter five of this thesis). Two participants asked for minor grammatical changes to be made to their interview transcripts. Midwives who participated in the interviews and focus groups identified the following barriers to pool use and suggestions for improving the service are summarised in Table 7 below.

Table 7. Perceived barriers to the use of birthing pools & suggestions for improvement

Perceived barriers to pool	**Participants suggestions for improving pool use**
Midwives thought they couldn't leave a woman in the birthing pool unattended	Change the clinical guideline so that midwives can care for more than woman at a time
The majority of midwives on the unit hold negative attitudes towards waterbirth	Encourage labour ward coordinators to promote use of the birthing pool to midwives
Lack of encouragement and support from most of the labour ward coordinators to offer waterbirth/lack of incentive	
Only a small number of midwives on the unit have the skills/experience to undertake this type of care	Increase midwives confidence in caring for women in birthing pools during labour through training
Midwives fearful of coping with emergencies in the pool	
The pool room is not always available because its use is blocked by coordinating midwives	Purchase portable birthing pools to improve access
Women don't want waterbirth/ women don't ask for a waterbirth/waterbirth not popular	Raise pregnant women's awareness of the waterbirth service by promoting waterbirth during antenatal classes. This would increase the frequency of requests to use the poolroom.
Waterbirth not routinely offered by midwives as a choice/no incentive	

6.4. Reflection and Evaluation

The decision to interview managers and clinical midwives separately aimed to helped participants speak candidly about their professional roles and to share the difficulties they faced in promoting birthing pools to women in their care. The main advantage of focus groups over interviews was that the method enabled groups of midwives to share previous experiences and to debate the barriers to waterbirth practice on the ward. The focus groups produced a wealth of data but collection took longer than anticipated as a number had to be rearranged due to midwives cancelling at the last minute. However the data generated from the focus groups was particularly enlightening and informative. I feel that both data collection methods helped me build rapport and trust with the midwives who participated.

The use of memos during the interviews and focus groups not only improved my active listening skills but also supported midwives' involvement in constructing knowledge necessary for the identification of barriers to waterbirth practice (see chapter 5 of this thesis). In addition, participation in the research interviews and focus groups led some individuals to promote pool use as part of their everyday normal birth practice. An example of this is demonstrated in the an email I received from one focus group participant:

> *Inspired by our discussion on waterbirth when working a shift the other day I asked a young 18 year old if she would like to try the water, she said she would give it a go although she hadn't considered it before. She spent 5 hours in the pool and loved it. Unfortunately she had to get out after a two-hour second stage... However she really enjoyed the water and I enjoyed the experience too. So thanks to you and [the other midwives at the focus group] for the inspiration. It's never too late to teach an old dog new tricks, thank you! (Midwife, Band 6).*
>
> (Permission to include this data was obtained)

During this first research phase I learnt about the difficulties labour ward midwives faced in providing women with one-to-one care and alternatives to the delivery of standard care. I also discovered that the majority of participants found it difficult to view birth as a normal physiological event. A good example of this was midwives' concerns over managing emergencies such as shoulder dystocia in a birthing pool (see chapter ten of this thesis). Midwives appeared to be preoccupied with complications and risk assessment and so found it difficult to see any birth as a normal physiological event. Use of a birthing pool introduced a degree of uncertainty that made some midwives fearful of promoting its use, even to women with no known risk factors. This finding was similar to that described previously in the midwifery literature relating to the organisational culture of labour wards (see chapter two of this thesis).

Most of the midwives who agreed to take part in the study were clearly advocates for normal birth but due to acceptance of the biomedical model, failed to promote birthing pools to women in their care. A recurring theme was that women had to ask to use the pool because the majority of midwives did not feel it was part of their role to promote water immersion. The main reason for this was that they tended to focus on supporting birth choices from a limited menu based on pharmacological analgesia and bed birth. In essence midwives were following what Leap (2004) called the 'take labour pain away' rather than the 'working with pain paradigm' (see chapter two of this thesis). Midwives did not see that failing to include water immersion as a choice prevented women using a birthing pool. This latter point is evidence that the midwifery culture used the ideology of scarcity to determine the care women in normal labour received (see chapter three of this thesis).

However, I also learnt that the majority of participants were willing to examine their own practice and that managers were keen to improve choice for women admitted in normal labour. Prior to commencement of the second research phase I sent a preliminary report describing the key findings to the Head of Midwifery and those practitioners who had participated in the first research phase. Following dissemination of the report I met with the Head of Midwifery and her senior team to make plans for subsequent research phases. I became aware of the changes that had been implemented following my research report (see chapter five of this thesis). What was heartening was that most of the suggestions put forward by midwives had been addressed by the senior management team (see Table 7). This gave a clear indication that the Head of Midwifery and her senior team had taken ownership of change (see chapter three of this thesis). The next challenge was to find ways to get coordinating midwives to take ownership of the project.

The findings from the first research phase were used to inform the design of the second research phase.

Chapter Seven: Research phase two

At the beginning of the second research phase I arranged to meet the labour ward manager and matron to develop solutions to increase midwives' promotion of birthing pool. I also attended a coordinating midwives team meeting to update them on the progress of the research and obtain their views on how to further improve waterbirth practice on the unit. Following discussion the senior management team said I should work with coordinators as most of the other solutions identified by participants in phase one had been implemented (see table 7, chapter six). Coordinating midwives were recognised as occupying a position of authority to influence the practice of clinical midwives (Bands 5/6). I agreed to develop and lead a series of problem solving waterbirth workshops with coordinating midwives.

Furthermore, the findings from the first research phase indicated that the majority of clinical midwives lacked confidence in waterbirth practice. I agreed to develop a waterbirth questionnaire to measure waterbirth self-efficacy (see chapter three of this thesis). The second research phase took place between September and December 2010.

7.1. Developing a tool to measure waterbirth practice

Following a search of literature for possible tools the following three papers were identified: Murphy and Kraft (1993), Davies and Hodnett (2002) and Davies et al., (2002). Murphy and Kraft (1993) designed a self-efficacy scale to assess the delivery

of perinatal nursing care across the following aspects of hospital practice: labour and delivery, postnatal care and social support. Maternity nurses' self-efficacy was measured before and after an educational intervention to develop their knowledge and skills in maternity care. Psychometric testing of the scale proved that it was both reliable and valid. Davies and Hodnett (2002) developed a self-efficacy labour support scale for Canadian maternity nurses based on Murphy and Kraft's (1993) survey tool. Their questionnaire used fourteen items to measure labour support self-efficacy across two aspects of clinical practice: foetal health assessment in labour and labour support skills and contextual practice domain. Following a pilot study with maternity nurses, the Cronbach alpha coefficient was found to be 0.98 and the test-retest correlation 0.93. There was statistically higher labour support self-efficacy (Wilcoxon rank sum test) for labour nurses when compared with those working in postnatal areas. The median value for labour ward nurses was 92.0 (out of a maximum score of 98) and 65 for postpartum nurses, ($p < .0001$). The authors concluded that the psychometric properties of the scale were valid and reliable (Davies et al., 2002). The questionnaire was later used to evaluate a larger study (described in chapter three of this thesis) to reduce delivery nurses' routine use of continuous electronic foetal monitoring (Davies and Hodnett, 2002).

As no specific survey tool on waterbirth could be identified, permission was sought to adapt the self-efficacy tool developed by Davies et al., (2002). The lead author provided an original copy of the survey tool and gave permission for it to be adapted for this study.

7.1.1. Designing the questionnaire

In his guide to constructing self-efficacy scales, Bandura (1997) advises that questions should relate directly to the social behaviours or practice under investigation. In this way a judgement about how efficacious people are in undertaking a particular behaviour in a given social context (functioning domains), can be made. To identify the functioning domains for hospital waterbirth practice, I reviewed the waterbirth literature (see chapter two of this thesis). I also read a number of national and locally approved midwifery guidelines (Garland, 2002; RCOG/RCM, 2005; MIDIRS, 2008), research audits and published literature (Burns, 2001; NCT, 2002; NICE, 2014).

The review led to three practice domains being identified and incorporated into the questionnaire design: personal knowledge of waterbirth practice, waterbith self-efficacy and social support for waterbirth practice. For the purposes of this study the widely excepted view of social support put forward by Willis' (1991) that emotional and physical support provided by peers and organisational practices enables individuals to act outside social norms will be used.

The length of the questionnaire and the wording of questions were revised and a third section added, but the overall structure of the original scales was left unchanged. The waterbirth practice domains described above were used to structure the waterbirth questionnaire into three distinct sections (Table 8).

Table 8. The waterbirth questionnaire

Section A: Personal knowledge

1. Decreases the likelihood of caesarean section
2. Decreases the use of pharmacological analgesia
3. Decreases the length of the first stage of labour
4. Decreases the need for labour augmentation
5. Increases the time the midwives spends with women in labour
6. Increases the likelihood of a vaginal birth
7. Increases the use of midwifery knowledge and skills
8. Increases maternal satisfaction rates
9. ***Better than bedbirth in terms of normal birth outcomes***
10. ***Better than bedbirth in terms of neonatal outcomes***

Section B: Waterbirth self-efficacy

11. Discuss the use of water pools for labour and birth with all low risk women on admission
12. Support a woman's choice of a birthing pool in the first stage of labour
13. Support a woman's choice of a birthing pool for the second stage of labour
14. Support a woman's choice of staying in the pool to deliver her placenta
15. Offer the use of a birthing pool as a method of non-pharmacological analgesia
16. Understand the physiological processes which prevent a baby breathing under water
17. Understand how water immersion affects the release of labour hormones
18. Understand which women can use water for labour and birth
19. Understand the optimal temperature of the water during labour/birth and recording
20. Understand how to help a woman out of a birthing pool in an emergency
21. Understand how to put up and fill a portable birthing pool
22. Understand how to fill the plumbed in birthing pool
23. Use intermittent foetal heart monitoring to assess well-being
24. Monitor maternal well-being and maintain hydration
25. Assist a partner or friend to provide labour support when you leave the room
26. Assist labouring women to get in and out of the pool at will
27. Use non-invasive methods to assess normal progress in established labour
28. Use observational skills to assess progress during the second stage of labour
29. Facilitate the second stage of labour in water
30. Facilitate the third stage of labour in water

Section C: Social support for waterbirth practice

31. When was the last time you were asked by a labouring woman to use the birthing pool
32. When was the last time you had the opportunity to offer the pool to a woman in your care
33. When was the last time you were encouraged by another midwife to offer a birthing pool to a woman in your care.
34. Would you like to opt out of waterbirth practice (Y/N)- ***added by panel members***

N.B The items 9 and 10 were removed after testing

In section A (Personal knowledge), the first three items asked participants to indicate if they had used water immersion, conducted a birth or the third stage of labour in water. If participants answered 'Yes' to any of these they were then asked to indicate the number of times they had done the activity in the previous three months. The remaining ten items asked participants to record their opinion (strongly disagree to agree) about statements relating to personal knowledge of waterbirth practice on a seven-point Likert-type scale.

Section B (waterbirth self-efficacy), consisted of twenty Likert-type items relating waterbirth knowledge and skills, the terms not very confident to very confident were used to label this 7-point scale.

Section C (social support), the scale consisted of three items on a 5-point score to identify levels of social support for waterbirth practice. Participants were asked to indicate if they had been asked by a labouring woman or midwifery colleague to use the birthing pool within the last week, four weeks, eight weeks, twelve weeks or if the situation had not arisen. In addition, participants were asked if they had had the opportunity to use a birthing pool within the last week, four weeks, eight weeks, twelve weeks or if the opportunity had not arisen. This section also contained seven items designed to identify the characteristics of midwives who participated in the study, (for example year of qualification, current length of time working on the labour ward and the hours they currently worked). Midwives were also asked to indicate if they had received training in the use of birthing pools and/or the practice of waterbirth.

7.1.2. Testing the questionnaire for validity and internal consistency

Content validity tests whether a survey tool covers the topic under investigation in sufficient depth and breadth. That is, does the tool provide 'a fair representation of the wide issues under investigation?' (Cohen et al., 2011, p110). Lynn (1986) recommends using a panel of independent experts to test content validity. Panel members are asked to rate the relevance of each item from 1-4, identify any omissions and put forward suggestions for improving the content validity (Lynn, 1986). For this study, the panel consisted of two labour ward midwives, a consultant midwife from an Alongside Midwife Led Unit and a midwifery lecturer with a particular interest in waterbirth practice. Panel members scored the questionnaire items in sections A, B and C three or four, indicating that they found the questionnaire content valid. Panel members suggested including an item in Section C, which asked midwives if they would like to opt out of waterbirth practice (YES or NO). The panel also made changes to the wording of items in section B. Once these changes had been made the construct validity of the waterbirth questionnaire was examined.

Construct validity is when an agreement on 'what we mean by the construct' is sought (Cohen et al., 2011, p110). That is, does the tool measure the trait or behaviour that it is meant to. Use of the known groups method is a recognised method for testing the construct validity of survey tools (Portney and Watkins, 2008). For example, a group known to have rheumatoid arthritis would be expected to have higher scores on a pain scale than people without the condition. For this study, the known groups consisted of first-year student midwives who had not

worked on a labour ward, and waterbirth practitioners from a maternity unit known to have high rates of birthing pool use (see chapter five of this thesis). It was anticipated that student midwives would have lower scale scores for sections B and C than experienced waterbirth practitioners. However, given that Section A asked for personal knowledge of waterbirth practice, so I predicted that midwives and students might have similar scores.

Twenty-three first-year student midwives and sixty-two waterbirth practitioners were sent questionnaires. Each group of participants was asked to complete a questionnaire on one occasion and to return it to the researcher in the stamped addressed envelope provided. Twenty-two student midwives and nineteen waterbirth practitioners returned completed questionnaires (46% response rate). Tests for normality on the summative item scores revealed that the questionnaire data were normally distributed (Kolmogorov-Smirnov was > 0.05, Histograms and Q-Q plots, and suitable for parametric testing (Pallant, 2005). An independent sample t-test was used to ascertain statistical differences between scale scores between student midwives and experienced waterbirth practitioners.

The independent samples t-test was used to compare the mean scale scores for A, B and C by participant group. As anticipated, no significant differences in personal knowledge of waterbirth practice scores between students ($\bar{X}$=46.5, SD= 5.05) and midwives ($\bar{X}$=50.8, SD= 5.76; t (39)= 2.56, P= >0.05) were found. However, significant differences between waterbirth self-efficacy scores for student midwives ($\bar{X}$=51.09, SD= 23.79) and midwives ($\bar{X}$= 117.36, SD= 13.15; t (31.77)=-11.03, P= <0.05) was identified.

Significant differences in the social support scores between student midwives (¯X=3.22, SD= .751) and waterbirth midwives (¯X=10.56, SD=4.59; t (18.83)=-6.839, P=<0.05) were demonstrated.

Internal consistency is concerned with determining if all of the questionnaire items produce similar scores (Proctor, 1993). The usual way to measure internal consistency is the Cronbach alpha coefficient test (Scott and Mazhindu, 2005). A Cronbach's alpha coefficient of .70 to .90 indicates that the tool has good internal consistency (Proctor, 1993). To ascertain if the waterbirth questionnaire had a good level of internal consistency, the Cronbach alpha for Scale A, B and C was ascertained using SPSS (version 19).

The Cronbach alpha for Scale A was found to be low at .51, indicating that some items within the scale were not consistent with the rest of the scale. To improve the internal consistency, Pallant (2005) recommends removing items with Cronbach alpha scores of .30 or less improves the internal consistency of the scale.
Items 9 and 10 (see Table 8, p131 of this thesis) in section A were found to have Cronbach alpha coefficients of less than .30 and were therefore removed. On retesting the Cronbach alpha coefficient for scale A had increased to an acceptable .71. The Cronbach alpha coefficient for Scale B was 0.80 and .77 for scale C.

For all three scales the Cronbach alpha coefficient was calculated at .97. This indicates that the tool had a high level of internal consistency. Because the high value further scale analysis such as factor analysis was deemed unnecessary.

The statistically differing responses between the two groups of participants demonstrate that the tool has construct validity and produces a results pattern that can be predicted. According to Cronbach (1951) the validity of questionnaire tools is hard to determine on the findings of a single study. However, the results of psychometric testing suggest that the newly developed tool is valid under the conditions of this study and as such makes an original contribution to existing midwifery knowledge. Once psychometric testing was concluded, it was decided to distribute questionnaires prior to the first workshop in order to obtain a baseline for later comparison.

7.1.3. Questionnaires (Group 1)

All midwives working on labour ward (n=62) at the time were asked to complete a questionnaire six weeks prior to the first workshop (Group 1). Email reminders were sent at two and three weeks. Completed questionnaires were placed in a collection box situated in the midwives' restroom. Twenty-nine (46%) completed questionnaires were returned. Group 1 questionnaire data was not presented at the first workshop but analysed along with the other questionnaires at the end of the data collection (see chapter ten of this thesis).

7.2. Workshops

The aim of the three two hour workshops was to develop interventions to address the barriers identified by participants during the first research phase (see chapter six of this thesis). A key aim of the workshops was to facilitate praxis and to raise

coordinators' awareness of the existing waterbirth service. According to Reason and Bradbury (2006), the promotion of critical praxis helps people focus on what ought to be, what is right and what is wrong, with their current situation. Given that I did not have a clinical midwifery role I decided to enlist the services of a waterbirth coordinator from a comparable unit to help facilitate the workshops. The unit concerned had one birthing pool and conducted two hundred and eighty waterbirths per year. I hoped that employing an external change agent would allow for comparison, given the absence of any local MLU, and support coordinators to implement practical solutions to influence other midwives' use of birthing pools.

I anticipated, given the small number of coordinators, that some individuals would attend workshops in their own time so I decided to give all of those who attended a twenty-pound Amazon voucher (from an RCM research bursary, see page 4 of this thesis) as an incentive.

Workshop aims:

To explore the barriers to waterbirth practice and find interventions

To set goals/targets

To ensure the group takes responsibility for actions

To promote critical thinking, creativity and group working

7.2.1. Workshop one

All of the labour ward coordinators (n=9) were invited to take part in the first workshop. Letters were sent via the hospital internal post and email systems two months prior to the first workshop. Regular reminders were sent by email. Workshops planned for July were unfortunately cancelled as only one coordinator agreed to take part. The labour ward matron agreed to speak to the coordinators about the importance of attending and suggested that the consultant midwife should also be invited (see chapter four of this thesis), as she had been involved in increasing midwives' use of the birthing pools previously. Following this intervention four out of the nine coordinators and the consultant midwife (n=5) attended the first workshop in September 2010. Coordinators who sent apologies were met after the workshop to provide them with an opportunity to be involved in the change process (n=7). The labour ward manager (a coordinator who works clinically but who also supports the labour ward matron in managing the ward area) was invited to take part but did not reply. The workshop began with a thirty-minute presentation by the waterbirth coordinator from the comparable unit. The aim of the presentation was so she could share her experiences of developing the waterbirth service in her unit and the changes in the rates of water immersion and waterbirth over the previous three years. The group and facilitators identified the following learning points from the presentation:

Auditing waterbirth and disseminating water immersion rates on a regular basis and disseminating these to junior staff helped bring about organisational change.

Increases in midwives' use of birthing pools had been due to encouragement from coordinators and other midwives. Furthermore, the appointment of a waterbirth champion raised the profile of waterbirth practice on her unit. This role included monitoring the frequency of pool use, training and support and challenging midwives who did not promote the choice of the birthing pool to women in normal labour.

Following the presentation I provided the group with a summary of the monthly waterbirth rates for 2009-2010. This information helped participants make comparisons with the data presented by the waterbirth coordinator. Reasons why it was not possible to increase the current waterbirth rate were put forward by some of the coordinators. The commonest reasons for not promoting pool use were a lack of staff and limited availability of birthing pools, despite four pools now being available for use. When questioned about this the group said that the pools were still in the store cupboard and had hardly been used. The external change agent was able to challenge these preconceived ideas because she could show that it was possible to bring about change in midwives' use of birthing pools without any additional resources.

A group discussion followed about the perceived barriers to waterbirth practice (see chapter six of this thesis). A couple of participants said they felt 'hurt' that some midwives had said coordinators did not encourage waterbirth practice. A discussion ensued about the role of the coordinator and the demands placed upon them by the organisation. It was clear that they had a difficult role that required them to promote the delivery of biomedical rather than the midwifery model of care (see chapter two of this thesis). Some of the group said that this led to normal birth care and the

waterbirth service being ‘neglected’ or ignored by the organisation. It was felt that waterbirth in particular was not actively promoted despite having three new pools.

I encouraged the group to discuss each barrier in turn to identify possible interventions to improve current waterbirth and water immersion rates. At the end of the workshop, the group agreed to implement the following solutions.

Agreed solutions:

To appoint a waterbirth coordinator to promote and support midwives’ use of birthing pools. Action: The researcher to approach the midwife identified by the group.

To collect the number of waterbirths and episodes of water immersion from the birth register and maternity data records. Action: The researcher to undertake prior to next workshop

To collect waterbirth and water immersion data as part of productive ward initiative and display the findings on the labour ward notice board. It was anticipated that this would act as a visible prompt midwives to promote birthing pools to women in normal labour. Action: Coordinators to initiate

To invite the two Band Six midwives, responsible for normality training to the next waterbirth workshop. Action: The researcher to initiate

Labour ward coordinators to encourage midwives to offer water immersion rather than Pethidine/Meptid. Action: The Pethidine/Meptid rates to be collected by the researcher four months pre and post workshop one

To improve the recording of water immersion rates in active labour. The researcher asked if the coordinators would like midwives to record bath and birthing pool use. The group said that 'the important thing was to find out if women have been offered water for pain relief, not where it took place'. The group suggested that a self- inking 'water immersion stamp would improve recording in the birth register. Action: The researcher to purchase an ink stamp.

7.3. Data collection methods, sample and analysis

At the end of the workshop the group was asked to agree the data collection methods and sample for the next research phase. The group agreed to collect data from Band 5/6 midwives currently working on labour ward using interviews and questionnaires. It was also decided to collect the numbers of waterbirths, episodes of water immersion and practitioner's names (September- December 2010). It was felt that this information together with data from the maternity dataset would help the group evaluate interventions.

Interviews

Bands 5/6 midwives working on labour ward (n=53) were invited by letter and email to take part in the interviews. Interviews were conducted in a private room away

from the clinical area (see chapter five of this thesis). The interview guide from phase one was used (see Table 6 in chapter six of this thesis). Barriers to waterbirth practice were placed on separate pieces of card. After the topics in the interview guide had been explored, midwives were asked to examine each barrier in turn and discuss if it was or was not, a barrier to pool use.

Waterbirth questionnaires

Four weeks prior to the second workshop, fifty-three questionnaires printed on blue paper (marked with a number two and dated) were sent to Bands 5/6 labour ward midwives (Group 2). Midwives who had previously completed a questionnaire were directed not to complete a second one.

Maternity unit data

The numbers of waterbirths and episodes of water immersion were collected for four months before, and after the first workshop. The limited availability of data on water immersion made it difficult to determine pool use during the first stage of labour. I therefore decided that midwives recorded as conducting a waterbirth would have also provided water immersion.

The names of midwives who had undertaken water immersion and/or waterbirths were collected from the birth register four months prior to the second workshop.

Data analysis

Descriptive questionnaire data (Group 2) was collated along with emerging themes from the interviews with midwives. These preliminary findings were presented at the second workshop. The analysis of qualitative and quantitative data from this research phase is presented in chapter ten of this thesis.

7.4. Findings

7.4.1. Interviews

Nine midwives (Bands 5/6) agreed to being interviewed. Of these, two failed to reply to my emails and one was unable to attend due to difficulties with being released from the clinical area. Six interviews (50- 80 minutes) were undertaken over a six-week period. The following preliminary themes were identified from the interview transcripts:

Midwives did not consciously think about using or offering waterbirth or water immersion as part of their everyday practice.

Cultural prompts to perform this type of care came mainly from labouring women.

No mechanism for disseminating waterbirths/water immersion rates to labour ward midwives existed.

Encouragement and support for this type of care from coordinators and midwifery colleagues was uncommon.

Interview participants felt that only a small number of midwives held negative attitudes to waterbirth practice and most felt happy to leave labouring women alone in the pool.

Blocking of the poolroom with medical cases [by coordinators] no longer occurred.

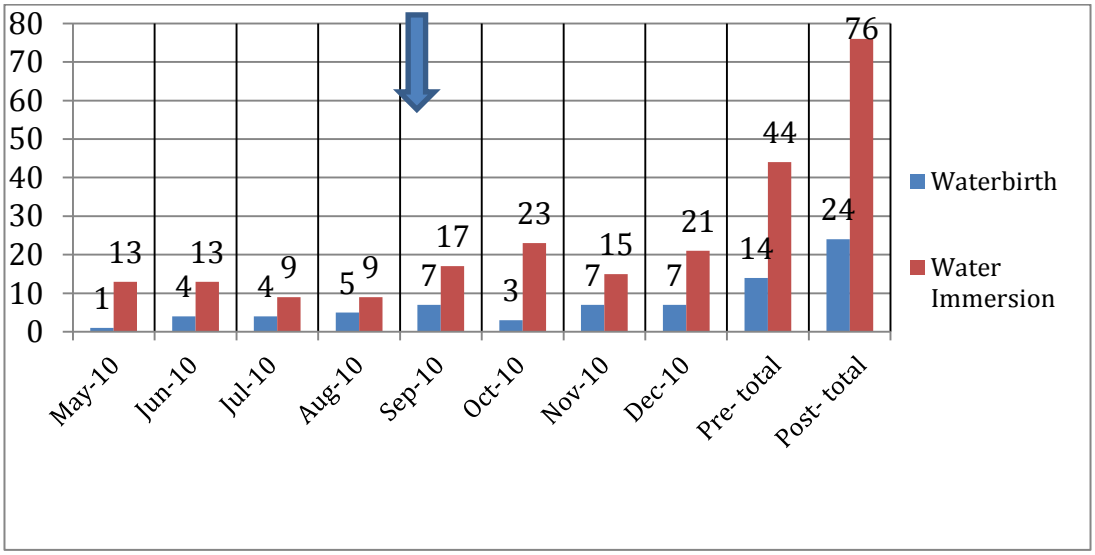
7.4.2. Questionnaires (Group 2)

A total of twenty-five completed questionnaires were returned (47%). Overall levels of personal knowledge and waterbirth self-efficacy were good with the majority of respondents scoring five or above for items in sections A and B. Lower scores (four or less) related to the third stage of labour (in water) and use of the portable pools. Forty-four percent of respondents stated that they had been asked by a labouring woman or her partner to use the birthing pool within the past four weeks. Twenty per cent of respondents had been asked within the past twelve weeks, and sixteen percent said the situation had not arisen. Sixty-eight percent of midwives indicated that they had opportunities to offer the birthing pool within the previous eight weeks. Only twelve percent of respondents said that the situation hadn't arisen. Thirty six per cent of respondents said that they had been encouraged by another midwife to offer a birthing pool within the last twelve weeks. Two out of the twenty-five midwives who completed a questionnaire stated that they would like to opt out of waterbirth practice. These initial findings that respondents had good waterbirth self-efficacy and that opportunities to promote pool use occurred infrequently. However, given the small number of respondents it is difficult to make any firm conclusions at this stage.

7.4.3. Maternity unit data

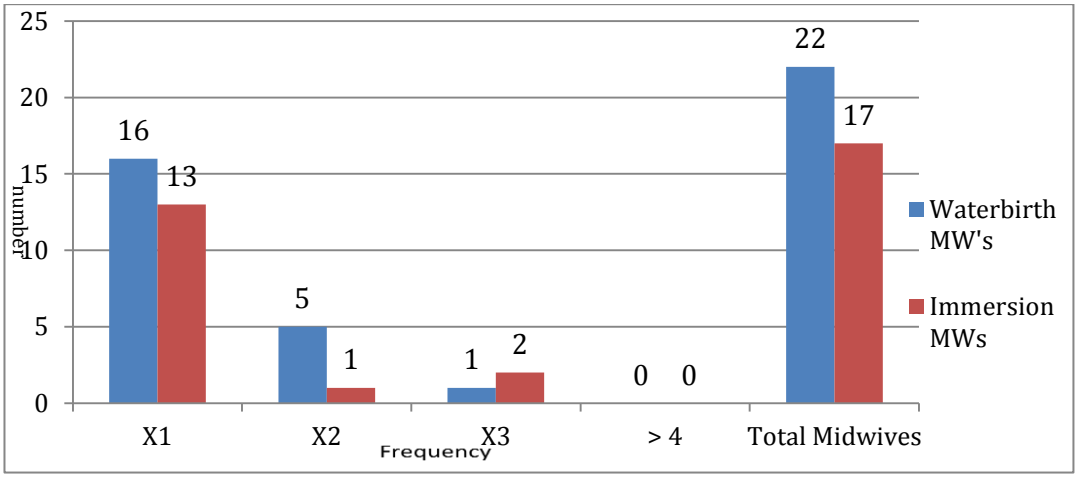
Episodes of water immersion increased slightly from an average of eleven to nineteen episodes per month between May and December 2010. The number of waterbirths during the same period increased from an average of three to six per month (Figure 3). Overall the rates post workshop one (indicated by the blue arrow) appear to have increased.

Figure 3. The frequency of water immersion & waterbirth (pre and post workshop one)



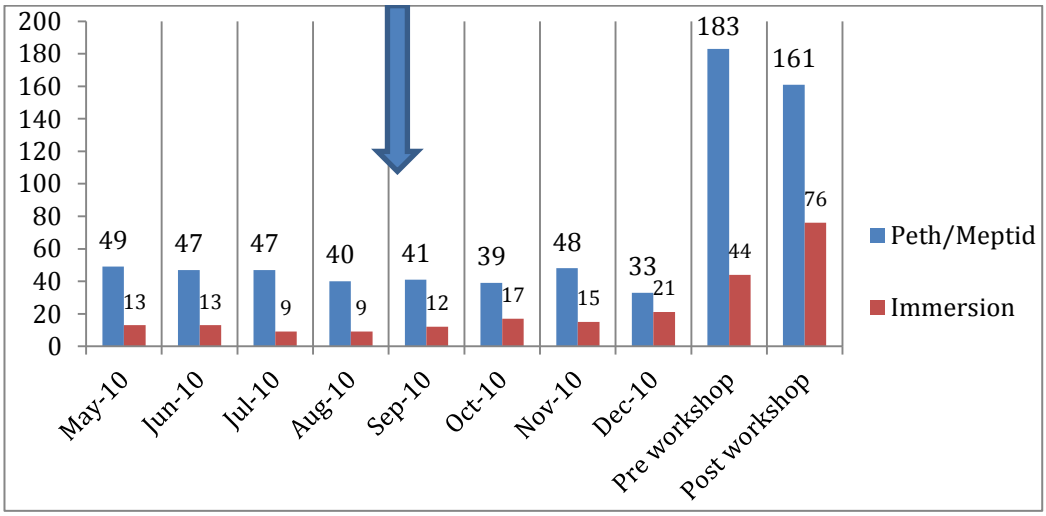
Twenty-two midwives were recorded as having conducted a waterbirth between May and December 2010 (Figure 4). Of these, sixteen midwives conducted a waterbirth once, five on two occasions and one three times in the previous eight months. A similar pattern of water immersion activity also emerged, although this was less reliable as the data had been collected by hand prior to the first workshop. The reason for the low rate of repeat waterbirths is unclear but may be due to poor recording systems or as Woodward (2011) surmises infrequent exposure (see chapter two of this thesis).

Figure 4. Episodes of water immersion/birth by individual midwife May to December 2010



The frequency of pethidine/meptid used during normal vaginal deliveries (NVD) was ten times greater than water immersion prior to the first workshop (Figure 5). Overall, practitioner's use of pharmacological analgesia following the workshop did not appear to have changed.

Figure 5: Episodes of pharmacological analgesia & water immersion May to December 2010



7.5. Reflection and Evaluation

In the first instance, my role was to organise and plan the workshops. But I was also a change agent because my aim was to work with midwives in raising their awareness of the need to improve the waterbirth service. In the workshops, I used Heron's six dimensions of facilitation (see chapter five of this thesis) to prompt cooperation and help practitioners find solutions to improve pool use. The use of an external change agent from a comparable unit worked well. Her previous experience and clinical expertise enabled the group to see how they could increase midwives use of birthing pools on their ward. As such her involvement was key in providing support and adding clinical credibility.

When I presented the coordinators with the perceived barriers and described interview participants' responses I felt nervous about how the group would react to the criticism that many of them did not promote pool use. Some of the coordinators were visibly offended and annoyed. However, these feelings led the group to find ways of addressing criticism about coordinators not actively promoting the use of birthing pools. In Heron's model of facilitation (1989) challenging assumptions is an important part of group learning as long as the facilitator is able to control emotional processes and resolve confrontation (see chapter five of this thesis). To manage the emotions of the group I let them share their feelings of hurt and unfairness with each other. This led to the group discussing the difficulties the coordinators faced in their role and to gain support and comfort from each other. My role at this point was simply to listen and encourage them to share their experiences of working on labour ward. I felt this was important given that the workshop provided a rare opportunity

for them to reflect together as a group. This technique worked well and enabled the group to resolve feelings of hurt by developing actions to improve the use of birthing pools.

During the workshop, I mentioned the absence of the labour ward manager to the coordinators who said that they would speak to her about attending future workshops. The appointment of a waterbirth coordinator did not go as expected. The individual concerned said she did not have the capacity to take on the role. The group were asked to consider how this issue might be resolved.

The monthly waterbirth totals increased from four to seven immediately after the first workshop. Changes in the barriers to waterbirth and increases in the waterbirth and water immersion rates suggest that more midwives were promoting this type of care. The reasons behind the low rate of repeat waterbirth/immersion over the eight months up to December 2010 were unclear and so require further investigation by the group.

One of the actions from the first workshop was that the number of water immersion and waterbirths would be collected monthly as part of the productive ward initiative. The number of waterbirths and episodes of water immersion were sent to the senior management team. The monthly waterbirth practice totals were displayed on the labour ward notice board. Although I could access these charts I decided to continue to collect the waterbirth and water immersion figures and names of waterbirth practitioners from the birth register. I think this was important given the suggestion in phase one that only a small number of midwives engaged in this type of care.

I decided to give a list of the names to the coordinators who attend the second workshop. The decision to give an Amazon voucher as a thank you to those coordinators who attended was appreciated.

The second workshop marks the beginning of the third research phase described in the following chapter.

Chapter Eight: Research phase three

The third research phase began in January 2011 with the second workshop. Labour ward coordinators, consultant midwife and the two band 6 midwives (responsible for providing normality training) were invited to take part. Three coordinators, the labour ward manager, consultant midwife and one of the 'normality' trainers attended the second workshop (n=6). Two of the labour ward coordinators sent apologies. Coordinators who sent apologies were seen by the researcher after the workshop to provide them with an opportunity to be involved in the change process (n=8).

8.1. Workshop two

The findings from the data collected prior to the second workshop indicated an increased use of birthing pools. However the decision to encourage midwives to use the pool instead of pharmacological analgesia appeared to have had no impact on current practice (see Figure 5 in chapter seven of this thesis). Because of these findings, the group decided to stop using this measure to determine practice change. Other solutions such as the waterbirth ink stamp for the birth register had been successful but the group said it was difficult to determine if midwives were using the pool for water immersion. The group agreed to the purchase of another ink stamp that would differentiate the recording of baths and pool use in the birth register.

The researcher then gave the group the names of waterbirth practitioners between May and December 2010 (taken from the birth register). The limited number of coordinators on the list appeared to make some attendees uneasy. After identifying some of the reasons behind this the group said they did not wish to see the list of names again but were happy for this data to continue to be collected.

The suggestion that coordinators were not supportive of waterbirth practice led to a great deal of discussion. The low frequency of repeat waterbirth amongst midwives on the unit was also discussed. The group suggested that the low number of repeat waterbirths might be due to the limited availability of the pool. The midwife who was co-facilitating the workshop suggested that it might also be due to limited prompts from other midwives to offer the pool to women in their care. The group agreed that this was a factor. It was pointed out that midwives had identified a lack of cultural prompts and midwives not consciously thinking about offering the pool during interviews. The group agreed that raising awareness of the waterbirth practice and encouraging the use of pools by coordinators and other waterbirth midwives was key to increasing pool use.

It was at this point that the labour ward manager began to take the lead and make suggestions to move change forward. She encouraged those present to reach a consensus on the interventions to increase pool usage and pushed forward the idea of setting a waterbirth target. The group felt that a target would give midwives something to aim for and enable coordinators and the normality trainers to actively promote pool use to other midwives. It was at this point that the group began to take ownership of the project and make their own decisions about how to improve the

organisational culture without any prompts from the workshop facilitators. I was aware that the group had some way to go before they met the target but I felt they had shown real commitment and enthusiasm during the workshop. They had come to see the project as their own rather than as a research project led by an outsider. I feel this was partly due to adopting a facilitation style similar to Heron 's (1989) autonomous intervention (see table 5 in chapter five of this thesis). By allowing the labour ward manager to take the lead I devolved decision making to the group and allowed them to take autonomous actions.

The following solutions to improve midwives' use of birthing pools were agreed by the group.

Agreed solutions:

To improve the recording of bath and pool use for water immersion by purchasing a second self- inking stamp that specifies bath, birthing pool or waterbirth. Action: Researcher to purchase a new ink stamp for use in the birth register.

To improve the dissemination of findings coordinators agreed to use 'effective handover'. Action: Coordinators to initiate

To achieve 100 waterbirths by the end of data collection (August 2011). Action: Labour-ward manager to disseminate the agreed target at unit and ward meetings and continue to place water immersion statistics on the ward notice board.

The Band 6 midwife involved in normality training agreed to act as a waterbirth coordinator.

To continue to collect numbers of waterbirths, episodes of water immersion and the names of practitioners (January - April 2011). Action: Researcher to initiate

To stop collecting the frequency of pethidine usage in normal labours

Action: Researcher to initiate

8.1.1. Data collection, sample and analysis

At the end of the workshop the group was asked to agree the data collection methods and sample for the next research phase. The group decided to collect data from Band 5/6 midwives currently working on labour ward through interviews, focus groups and questionnaires. The group also agreed that the numbers of waterbirths, episodes of water immersion and practitioner's names (January- April 2011) would continue to be collected. It was felt that this information together with data from the maternity dataset would help the group to evaluate interventions.

Waterbirth questionnaires

The coordinators agreed to inform midwives of the need to complete questionnaires during shift handover. Questionnaires (n=53) were distributed four weeks prior to the third workshop via the hospital's internal email and postal systems. The questionnaires were printed on pink paper and marked with a 3 to denote the third data collection cycle. Midwives who had not completed a questionnaire previously were asked to complete one within four weeks. Email reminders were sent at two and

three weeks. Midwives were asked to place the completed questionnaires in a collection box situated on labour ward.

Interviews and focus groups

The aim during this phase was to continue to collect qualitative data from clinical midwives (Bands 5/6) six weeks prior to the third workshop. Focus groups and interviews were planned for when labour ward was adequately staffed and the interview room available. The interview guide described in phase one was used (see Table six in chapter six of this thesis) to maintain focus and stimulate participants to share their experiences. Previously identified barriers to waterbirth practice were placed on pieces of card. After the topics in the interview guide had been explored, midwives were asked to discuss each barrier in turn and to say why it was, or was not, a barrier to care.

Maternity unit data

The frequency of water immersion, waterbirth and the numbers of individual waterbirth practitioners were collected four months prior to workshop three (January-April 2011).

Data analysis

As in the second research phase, qualitative data were analysed in two ways: first key themes were identified from interview notes and recordings. The analysis of qualitative data from this research phase is presented in chapter ten of this thesis. In order to present possible trends at the next workshop, descriptive questionnaire data from phases two and three were combined.

8.2. Findings

8.2.1. Interviews and focus groups

Four Band 6 midwives agreed to take part in a focus group, and six to being interviewed. In the end, three midwives took part in a focus group (60 minutes) and three were interviewed (40-60 minutes). This was due to difficulties with midwives being released from the ward area. The following themes were identified:

Midwives said that the use of birthing pools had increased and that having three pools available made it easier for them to promote their use to labouring women.

Midwives perceived that the birthing pools were now in regular use.

It was felt that some coordinators could do more to encourage and promote this type of care by supporting midwives who lacked confidence in caring for labouring women in water.

Midwives viewed waterbirth knowledge and skills as ‘desirable’ rather than essential to labour ward practice. Some midwives commented that this would not be the case if they worked on a midwife led unit. Some of the midwives didn’t like using the portable pools because they had to use a bucket to empty and refill the pool to maintain water temperature.

One out of the six midwives interviewed knew that the project group had set a target of 100 waterbirths.

Waterbirth was viewed more positively but it was still felt that concerns over coping with the emergencies in the pool prevented some practitioners from using birthing pools.

8.2.2. Questionnaires (Groups 2 and 3)

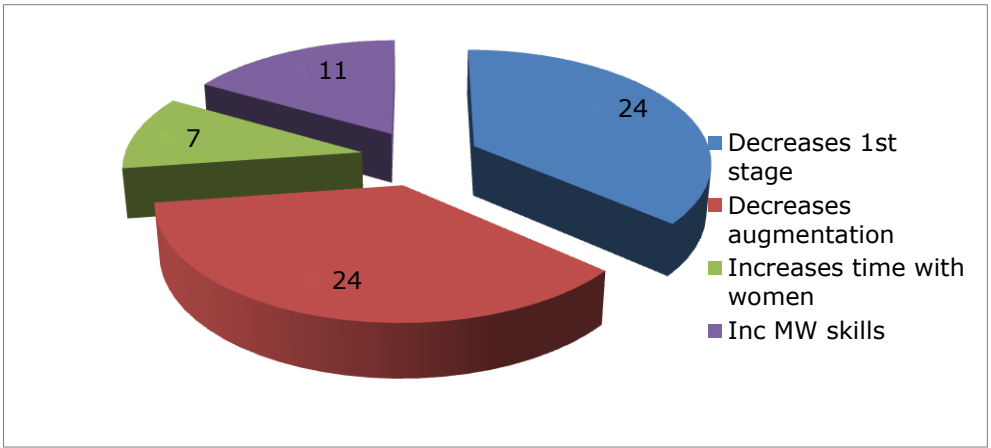
Forty-one completed questionnaires were returned (77%). The high return rate is thought to be due in part to a recent staff rotation and the intervention of the coordinators. As discussed previously the descriptive questionnaire data from Group 2 and 3 (n=66) were combined.

Section A: Personal Knowledge

There were a number of low scores (4 or less) relating to the benefits of water immersion for labour and birth (Figure 6). Items 3 and 4 asked midwives to indicate the degree to which they agreed with the statement: ‘water decreases the length of

the first stage and the need for augmentation of labour'. Twenty- four (37%) respondents indicated that they disagreed with both of these statements. When asked if waterbirth practice increased the use of midwifery knowledge and skills eleven (16%), indicated that they strongly disagreed with this statement. These findings are interesting given that 66% of respondents had indicated that they attended the NHS Trust's 'normality' training or a waterbirth study day.

Figure 6: Questionnaire items 3, 4, 5, 7 by number of respondents



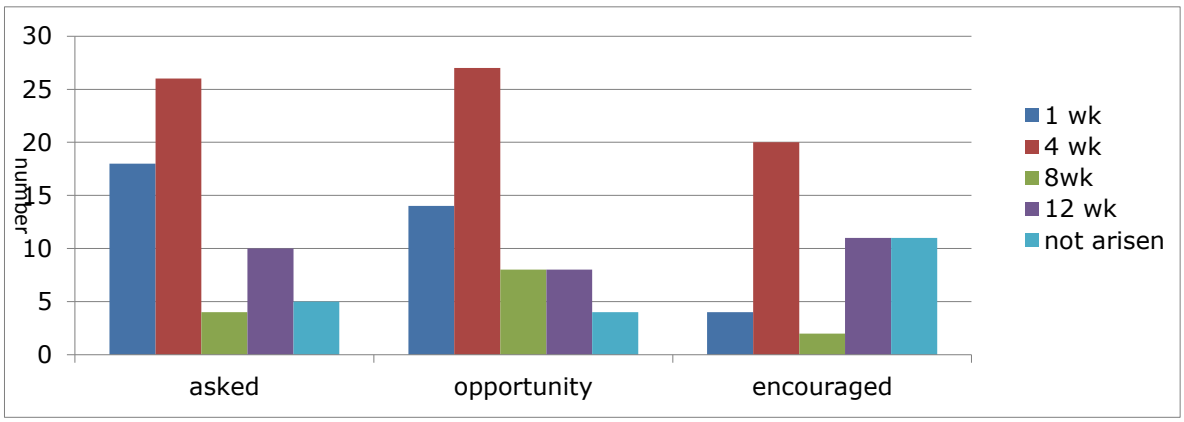
Section B: Midwives waterbirth self-efficacy

Overall Midwives' waterbirth self-efficacy scores were high, with the majority of respondents scoring five or above for each item in this section (Likert scale 1-7). Lower scores (3 or less) were found in relation to facilitating the third stage of labour in water (54%) and use of the portable birthing pools (47%). This suggests that midwives had lower self-efficacy in these aspects of care but without statistical analysis it is difficult to draw any firm conclusions at this time.

Section C: Social support for waterbirth practice

Items 31, 32, 33 aimed to identify opportunities for waterbirth practice in the previous week, 4 weeks, 8 weeks, 12 weeks or if the situation hadn't arisen. The results suggest that midwives had frequent prompts and opportunities (every 1-4 weeks) to engage in waterbirth practice (see Figure 7).

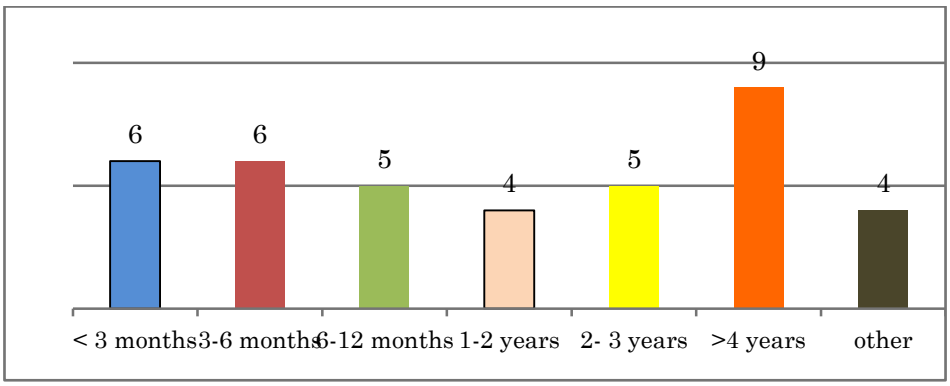
Figure 7: Social support for waterbirth practice: Q31 (asked), Q32 (opportunity) & Q33 (encouraged)



Section D: Midwives' experience and length of time on labour ward

Labour ward midwives who completed a questionnaire had been qualified for 5- 15 years (Figure 8). There appeared to be a 'core' team of midwives worked on labour ward. Some midwives commented, on the questionnaires, that they worked across all of the maternity wards.

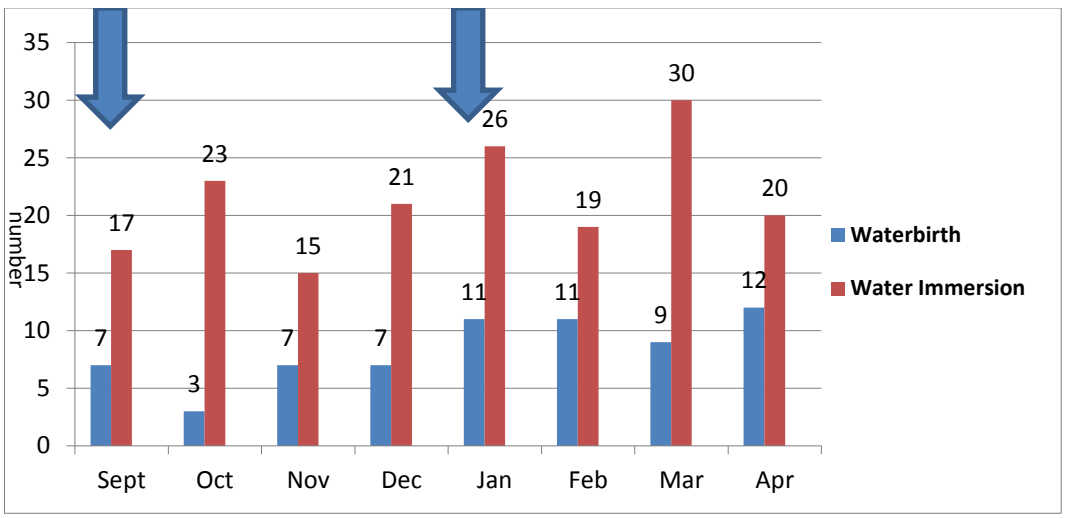
Figure 8: Length of time midwives had been working on labour ward



8.2.3. Maternity unit data

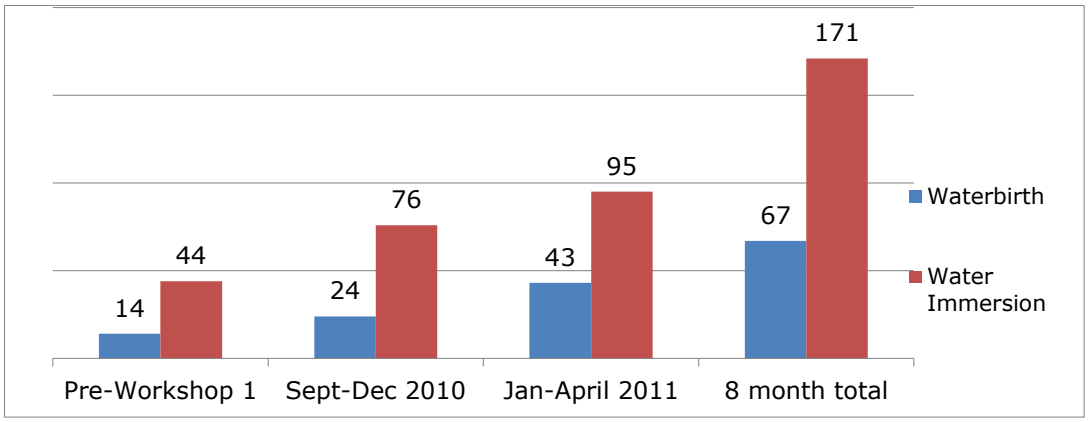
Since the second workshop (indicated by the second arrow) waterbirth rates had increased from an average of six to eleven per month. Water immersion rates increased from an average of nineteen to twenty four during the same period (Figure 9). To place these findings in context a total of 1,628 women had a normal vaginal delivery (NVD) between September 2010 and April 2011. Of these births 10.5% of women used water immersion and 4.1% of these gave birth in water.

Figure 9: Monthly water immersion & waterbirth rates (Sept 2010-April 2011)



In the four months prior to the first workshop the numbers of waterbirths (14) and episodes of water immersion (44) appear to be lower than current rates (Figure 10). Since September 2010, 238 (14%) of women who achieved a normal vaginal delivery used water during their labours. Of these 67 (28%) of women gave birth in water.

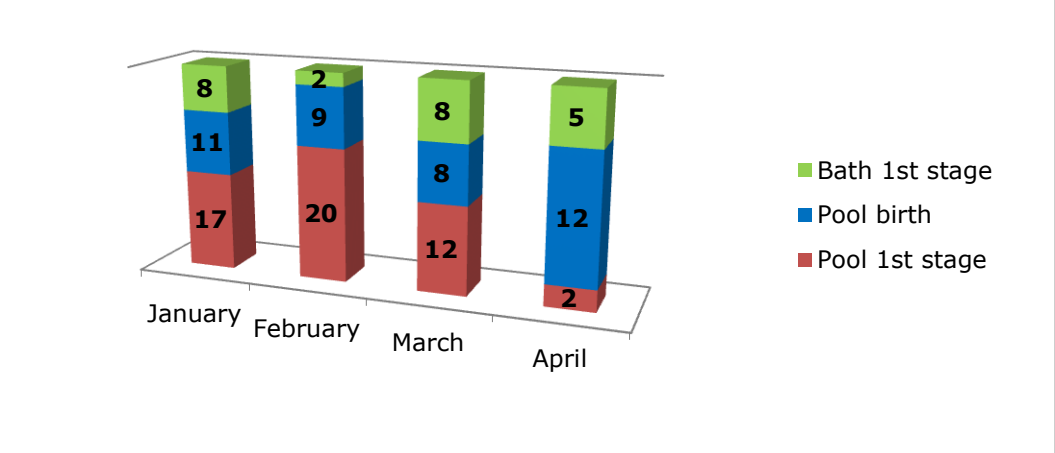
Figure 10: Quarterly water immersion & waterbirth rates



The numbers of midwives identified as undertaking a waterbirth between January and April 2011, increased from twenty-two to thirty-four. Of these, fifteen midwives facilitated a waterbirth on one occasion, six twice, three, three times and one four times.

Figure 11 (over the page) shows the number of times per month women used baths and pools for water immersion. It appears that labouring women were more likely to use a birthing pool during the first stage of labour.

Figure 11: Number of episodes of water immersion by bath/ pool use (January–April 2011)



8.3. Reflection and Evaluation

My role during the workshop was to present the findings from the third research phase and to encourage those present to find ways to improve other midwives' use of birthing pools. During the second workshop I found attendees were more enthusiastic about the research and keen to move change forward. I felt that the waterbirth coordinator from the comparable unit, the midwives and myself worked collaboratively to find solutions to improve use of birthing pools on the ward. Setting a target by the coordinators galvanised attendees into action, it gave them a sense of purpose and focus. Gollwitzer (1993) calls these types of goals 'implementation intentions'. Implementation intentions or clinical targets are a good way of closing the gap between intention and acting out the behaviour (Hardeman et al, 2002). Increases in the rate of waterbirths suggest that the coordinators may have been able to influence midwives' use of birthing pools. It appears that changes in the organisation of care may have led to improved attitudes to waterbirth practice and

access to birthing pools; a view supported by the rise in the number of waterbirth practitioners.

I felt that the waterbirth coordinator and myself worked well together and the format of the second workshop allowed more time for group discussion and debate about how the barriers to waterbirth practice could be addressed. Changes in the frequency of water immersion and waterbirths since the second workshop suggest that our facilitation skills and autonomous intervention style supported critical companionship (Titchen, 2000) (see chapter five of this thesis).
Given some of the problems encountered by other researchers when attempting to introduce practice change in midwifery settings (see chapter three of this thesis) I felt satisfied with the progress made to date and apparent midwives' commitment to the project.

The findings from this research phase will form the basis of the third and final problem-solving workshop. The third workshop marks the beginning of the fourth research phase.

Chapter Nine: Research phase four

The fourth and final research phase began in May 2011 with the third workshop. The labour ward coordinators, consultant midwife and the two band 6 midwives responsible for providing normality training were invited to take part. Six coordinators and the labour ward manager attended the final workshop (n=7).

9.1. Workshop three

The workshop began with a presentation of the findings from research phase three. The coordinators were visibly pleased with the increases in both the waterbirth and water immersion rates. The group said they were confident about reaching the target of 100 waterbirths by the end of August 2011. One coordinator said she felt the group had been able to change other midwives' clinical practice behaviours through better recording and dissemination of waterbirth practice, increased availability and promotion of birthing pools. The group also felt that support from midwifery managers, the consultant midwife, the water birth champion and normality trainer had played an important part in leading organisational change.

The researcher pointed out that only one of the midwives interviewed knew about the target of one hundred waterbirths by the end of August. The coordinators explained that putting this information on 'effective handover'(as suggested in the last workshop) had not been achieved. All of the coordinators suggested that a notice board dedicated to waterbirth practice would be the best way of keeping midwives

informed. The suggestion (from the interviews and questionnaires) that midwives were unsure about facilitating the third stage of labour in water was felt to be due to an overall lack of confidence in physiological management. The waterbirth coordinator from outside the organisation offered to facilitate skills workshops on the facilitation of the third stage of labour.

Agreed solutions:

To continue to use the ink-stamp to record water immersion method (bath or pool) and waterbirth in the birth register. Action: Coordinators to initiate

To improve awareness of waterbirth practice it was felt that a designated notice board would be helpful. Action: Researcher to purchase

To reach 100 waterbirths by the end of August 2011 Action: Coordinators to initiate

To continue to collect data on waterbirth, water immersion and the numbers of individual waterbirth practitioners (May- August 2011). Action: Researcher to initiate

To arrange a series of third stage workshops led by the waterbirth coordinator from outside the organisation Action: Labour ward manager to initiate

9.1.1. Data collection, sample and analysis

At the end of the workshop the group was asked to agree the data collection methods and sample for the final research phase. The coordinators felt quite strongly that Band 8 midwives should be interviewed. The group felt that speaking to senior midwifery managers (Band 8) would provide them with an opportunity to evaluate the study. The group also felt that data collection using the questionnaires should now cease given that the majority of midwives working on labour ward had completed one. Data from the three groups of questionnaires collected previously will be analysed using statistical tests (see chapter ten of this thesis). It was also agreed that the numbers of waterbirths, episodes of water immersion and practitioner's names (May- August 2011) would continue to be collected.

Interviews

The aim during this phase was to collect qualitative data from Band 8 midwives to evaluate the study and obtain their ideas on improving the waterbirth service further. Four Band 8 midwives were invited by letter to take part in interviews during August/September. A new interview guide was developed to focus the interviews (Table 9).

Maternity unit data

The frequency of water immersion, waterbirth and the numbers of individual waterbirth practitioners to be collected four months prior to the end of the study (May- August 2011).

Table 9: Interview guide for research phase four

Tell me about midwives' waterbirth practice before the workshops in September 2010?
Is there a difference between the ways labour ward midwives practice now with how they practiced before?
What has led to the changes in labour ward midwives use of water during labour and birth?
What institutional changes have occurred if any as a result of the study?
Do you think the study achieved what it set out to do?
Do you have any plans to increase the waterbirth rates further?
How would you like key findings of the study to be disseminated?

Data analysis

As in previous phases, identified barriers to waterbirth practice were placed on pieces of card. After the topics in the interview guide had been explored, midwives were asked to discuss each barrier in turn and to say if it was or was not, a barrier to waterbirth practice. The analysis of questionnaire and qualitative data from this research phase is presented in chapter ten of this thesis.

9.2. Findings

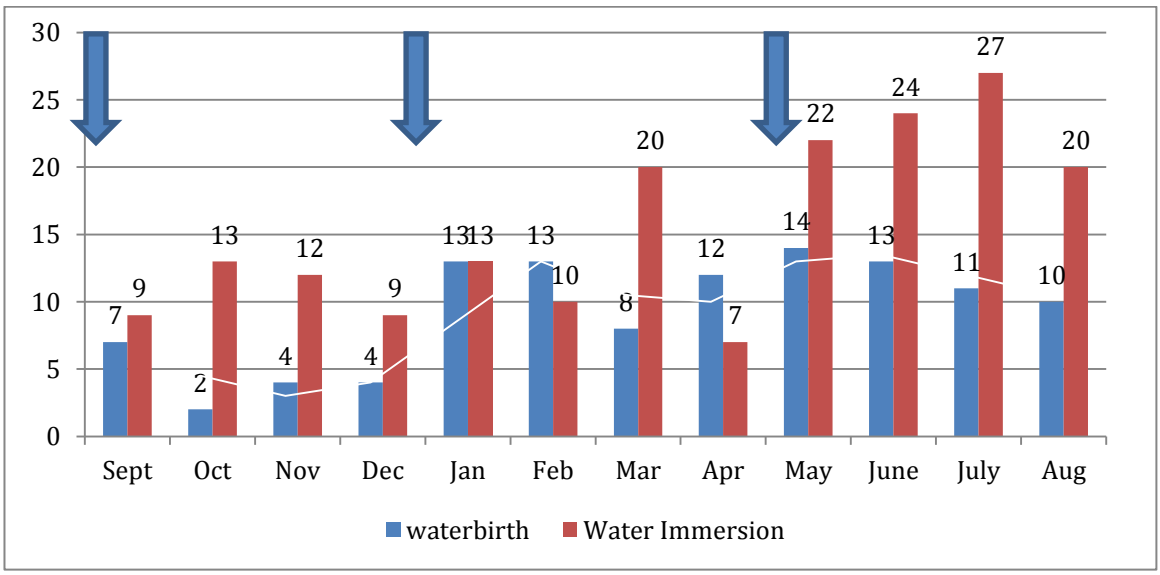
9.2.1. Interviews

Three out of the four Band 8 midwives agreed to take part in the one-to-one interviews. The interviews took place in a room away from the clinical area and lasted between 40 and 60 minutes. The findings from these interviews are presented in chapter ten of this thesis.

9.2.2. Maternity unit data

In the twelve months since the first workshop in September 2010 (indicated by the first blue arrow in Figure 12) waterbirth rates increased from four to twelve per month. Water immersion rates increased from ten to twenty four per month over the same period.

Figure 12: Monthly water immersion & waterbirth rates (Sept 2010-August 2011)



Of the 383 women who used a birthing pool since September 2010, 268 used the pool of these 115 (43%) gave birth in water (Figure 13).

Figure 13: Quarterly water immersion & waterbirth rates

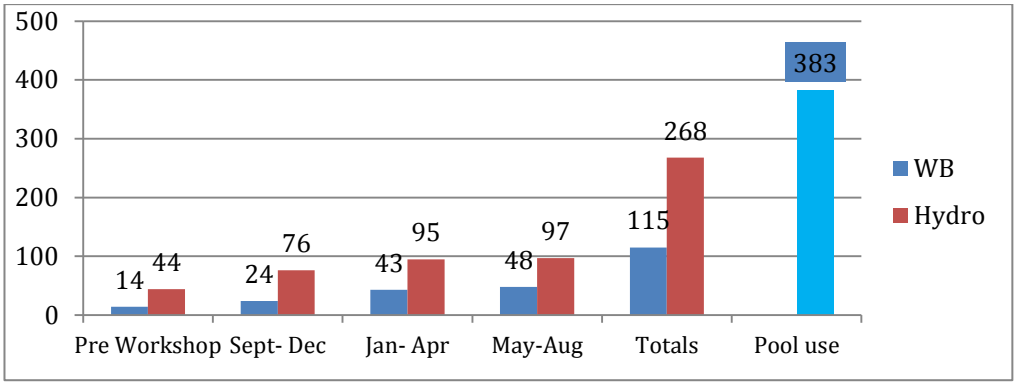
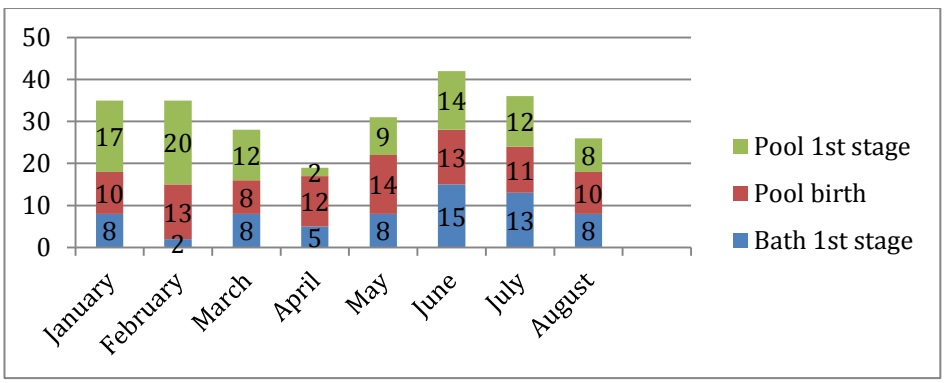


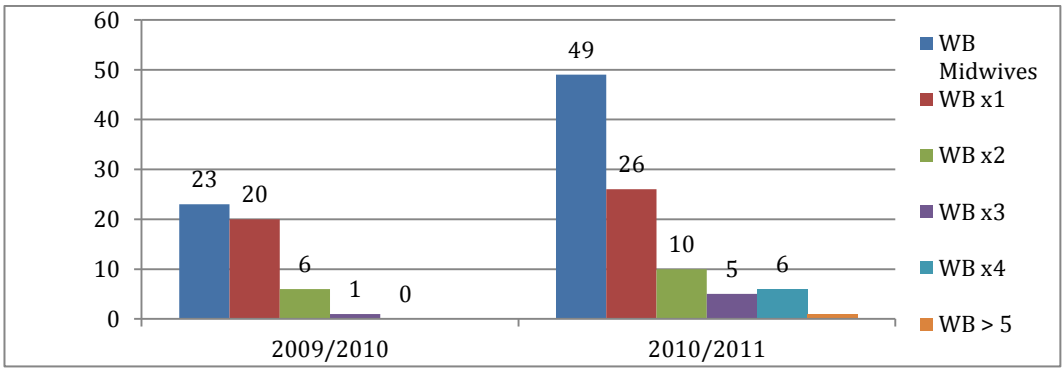
Figure 14 shows the number of times per month the birthing pool and/or bath were used during labour and birth. This data supports identified increases in both water immersion and waterbirth rates reported earlier on in this chapter.

Figure 14: The types of water immersion & pool births (Jan- Aug).



The numbers of waterbirth practitioners between September 2010 and August 2011 was twice those recorded in the previous year (Figure 15). The number of repeat episodes of waterbirth also increased with eleven midwives conducting three or more waterbirths in the twelve-month period. One midwife conducted more than five in the same period.

Figure 15: The numbers of waterbirth practitioners & frequency of waterbirth



9.3. Reflection and Evaluation

The increased time spent on labour ward led to a closer professional relationship with the coordinators and labour ward manager. I felt welcome on labour ward and my opinion on waterbirth practice was sought more often. For example one of the labour ward coordinators' asked if I was pleased with the increases in waterbirth rates. I replied that I hadn't been able to sleep the night the target had been reached; she laughed and commented 'You need to get out more'. Despite this humorous remark I could see she was as pleased as I was with the change midwives had achieved.

The labour ward matron was supportive of the research but at times appeared to resent not being involved in the decision-making process. For example, the coordinators decided that a separate waterbirth noticeboard would improve dissemination of water immersion rates and highlight progress on achieving the target. Upon discovering the new board the matron blocked its use. When I spoke to her about the reasons behind this, it became obvious that had she felt excluded from the decision making process. In hindsight it may have been better to provide her with feedback after each of the workshops but I was concerned that this might undermine the groups' decisions. I now understand why coordinating midwives wished me to interview midwifery managers in the final research phase.

A number of indicators in the data suggest that a change in the availability of the birthing pools and midwives' waterbirth practices appear to have taken place namely: increases in the water immersion and waterbirth rates, the number of midwives providing water immersion/birth care and pool since the start of the study. It appears that the majority of midwives had the necessary expertise to offer this type of care and were able to access the birthing pools. That is they had the capability to change (see chapter three of this thesis). Changes in the barriers to waterbirth and increased levels of confidence and awareness of waterbirth practice on the unit may have led to an increase in use of birthing pools on the unit. Improved recording in the birth register and dissemination appears to have raised awareness of birthing pool usage, may have contributed to midwives ability to achieve the target of 100 waterbirths.

My skills as a facilitator and academic enabled me to control group discussions and ensure that objectives were set at the end of each workshop. The problem solving workshops with coordinating midwives may have contributed to improvements in support for waterbirth practice. The role of the researcher and waterbirth coordinator from a comparable unit was to facilitate discussion and to act as change agents. The role of the waterbirth champion was to provide support, encouragement and leadership in the clinical area (opinion leader) (see chapter three of this thesis). The group said that she had been central to supporting more midwives to use the pool through role modelling and by acting as a second midwife for less confident practitioners.

The workshops aimed to raise coordinators' awareness of waterbirth practice on labour ward (problem posing) and find opportunities (problem solving) to improve the delivery of the waterbirth service. It appears that the coordinators and waterbirth coordinator increased support for waterbirth practice on the unit. It appears that the workshops enabled coordinators to work together to make changes to the organisational culture of midwifery practice on there ward. Workshops every four months enabled coordinators to recognise change, and increased awareness of their role to encourage and support normal birth midwifery practice. The subsequent change in the waterbirth and immersion rates occurred because of increased opportunities and encouragement to use the pools from other midwives (see Figure 7).

All participants felt that the introduction of normality training, funding for waterbirth conferences and purchasing of three portable birthing pools had led to change in the

organisational culture of midwifery practice. Normality training did take place during the time of the workshops but given that the session focused on how to evacuate women from a birthing pool in an emergency. Consequently, it is difficult to see that this activity encouraged less confident midwives to promote the use of birthing pools. The Band 8 midwives interviewed during phase four stated that the research had played an important part in improving both water immersion and waterbirth rates.

To fully understand the change process the data from questionnaire and interviews collected over the four research phases will be analysed using appropriate methods (see chapter five of this thesis). The findings of this analysis are presented in the following chapter

Chapter Ten: Findings

This chapter will focus on the on the struggles midwives encountered in promoting the midwifery model of care on labour ward. The results of the questionnaire analysis will be reported before midwives' social interactions and the discursive strategies used to facilitate birthing pool use are described and labour ward discourses identified. The chapter will conclude with a discussion of how the midwifery discourses were constructed.

10.1. Questionnaire

One hundred and sixty eight questionnaires were distributed to midwives and 96 completed questionnaires were returned (57%) (Table 10). SPSS (version19) was used to support the analysis of numerical data. For the appropriate statistical test to be identified it was necessary to ascertain if the data are normally distributed. That is, does the numerical data, when plotted, follow a Gausian bell shaped curve (Scott and Mazhindu, 2005). Failure to undertake normality testing can result in the incorrect statistical tests being used and predictions of significance being incorrectly attributed (Pallant, 2005).

Pre-questionnaire testing (see chapter seven of this thesis) indicated that the subsections could be combined to form scales that were consistent with current understanding of waterbirth practice.

Table 10: Questionnaire sample by group

Research Phase	Date	Group	Number of Questionnaires Distributed	Number of Questionnaires Returned
Two Pre-workshop 1	July 2010	**Group 1** All labour ward midwives (Bands 5/6,7,8)	62	29
Two	Nov/ Dec 2010	**Group 2** Labour ward midwives (Bands 5/6)	53	25
Three	Mar/Apr 2011	**Group 3** Labour ward midwives (Bands 5/6)	53	42
Total				**96**

To ascertain if parametric or non-parametric testing was appropriate, the item scores for sections A, B, and C were summated to give three new variables. These were named Total Personal Knowledge (Section A), Total Waterbirth Self-efficacy (Section B) and Total Social Support (Section C). Tests for normality on the distribution of scale scores (Kolmogorov–Smirnov 40.05, Histograms and Q–Q plots) indicated that the questionnaire data was not significantly different from a normal distribution curve (Pallant, 2005) and was therefore suitable for parametric testing.

One-way ANOVA with post-hoc Tukey tests were chosen as these allow for variance between three or more groups (Scott and Mazhindu, 2005). The aim of the analysis was to discover if the section scores for Total Personal Knowledge, Total Waterbirth Self-efficacy and Total Social Support differed significantly between Group 1, Group 2 and Group 3 midwives.

10.1.1. Characteristics of the sample and waterbirth practice

Midwives had been educated at Certificate level (10%), Diploma level (13%), Degree (68%) and Masters level (3%). Thirty three percent of midwives had been qualified for between six and twenty years. Midwives had been working on the unit for five years (6%), ten years (26%) and eleven to twenty years (35%).
Group 1 midwives had been qualified for longer (M = 4.68 CI [3.70, 5.662]) than those in Group 2 (M = 4.48 CI [3.7, 5.1]) and 3 (M = 4.59 CI [4.0, 5.1]).

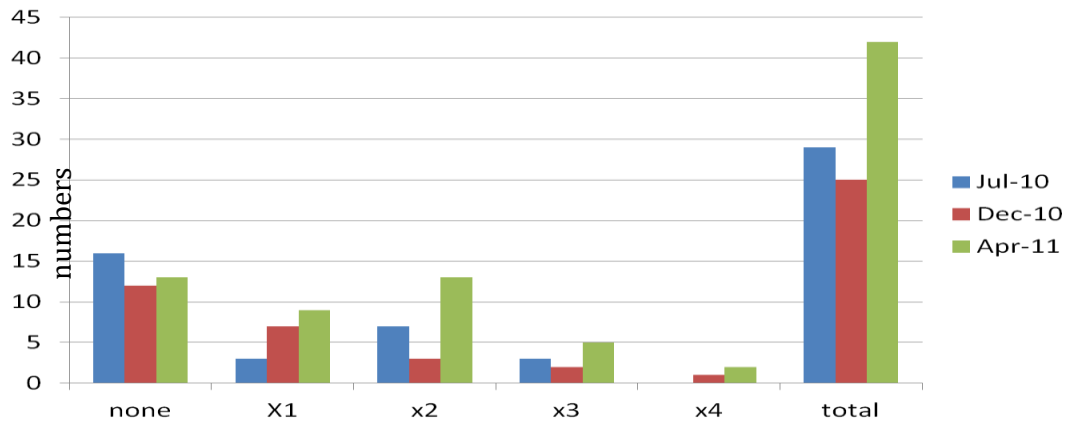
The average length of time Groups 2, and 3 midwives spent on labour ward was six months. Group 1 midwives' spent an average of twelve months on labour ward. However, these differences were not found to be statistically significant (p=>0.01) and may be explained by the presence of Band 7 and 8 midwives in Group 1, who were more likely to be qualified for longer and permanently based on labour ward. Unfortunately it is not possible to identify the number of Band 7 and 8 midwives in Group 1 because the questionnaires did not ask participants to indicate their clinical grade.
Three quarters (76%) of respondents had taken part in NHS waterbirth training or attended waterbirth conferences.

Fifty-five per-cent of Group 1 midwives stated that they had facilitated a waterbirth in the previous three months, compared with eighty five percent in Group 3. Increases in water immersion rates increased from sixty six percent Group 1 to eighty per cent in Group 3.

To discover if the changes in the frequency of water immersion and waterbirth were statistically significant a Chi Squared test was performed. The Chi squared test revealed that changes in the frequency of water immersion between all groups was not significant. However, increases in the use of waterbirth between Groups 1 and 3 midwives were found to be statistically significant ($x^{2 =} 4.369$ $P< 0.05$, $df = 1$).

Increases in the number of repeat episodes of waterbirth between Group 1 (July 2010) and Group 3 (April 2011) (Figure 16) provide further evidence of change in midwives' use of birthing pools.

Figure 16: The frequency of waterbirth between July 2010 and April 2011



10.1.2. Mean scale scores for sections A, B and C

To aid interpretation the mean scales scores by group are presented in Table 11 on the following page.

Table 11: Mean group scale scores for sections A, B, C

	Group 1: Mean Score	**Group 2: Mean Score**	**Group 3: Mean Score**
Section A Total Personal Knowledge Maximum score =56	45.65	41.81	41.71
Section B Total Waterbirth Self-efficacy Maximum score =140	113.72	113.79	114.05
Section C Total Social Support Maximum score =15	8.00	9.26	10.55

Section A: Midwives' personal knowledge (see table 8, chapter seven of this thesis)

Midwives' personal knowledge of waterbirth practice differed significantly between groups (ANOVA $F_{2, 85} = 3.67$, $P < 0.05$). Tukey post-hoc comparisons identified, unexpectedly, that Group 1 midwives gave significantly higher scores ($\overline{X} = 45.6$, 95% CI [43.0, 48.2]) than Group 3 midwives ($\overline{X} = 41.7$, 95% CI [40.0, 43.3]) $P < 0.05$. Comparisons with Group 2 midwives ($\overline{X} = 41.8$, 95% CI [38.5, 45.0]) were not significantly different, p=>0.05.

Higher personal knowledge scores may indicate that Band 7 midwives possessed sufficient understanding of waterbirth practice to encourage and support others in its use.

Section B: Midwives' waterbirth self-efficacy (see table 8, chapter seven of this thesis)

The total self-efficacy scores ranged from 111 to 118 (*M*= 115) out of 140, indicating that labour ward midwives had relatively high waterbirth self-efficacy (Table 15). The highest self-efficacy scores (scale 1-7) were recorded for: item 15 (using the pool as a method for non-pharmacological analgesia) (*M = 6.10*, 95% CI [5.90, 6.30]), item 23 (how to monitor the foetal heart to determine fetal well being) (*M = 6.67*,95% CI [6.56, 6.78]), Item 24 (how to monitor maternal wellbeing and maintain hydration) (*M* = 6.61,95% CI [6.49, 6.72]) and item 25 (assisting a partner or friend to provide labour support) (*M = 7.02*, 95% CI [5.77, 8.26]). Items with the lowest self-efficacy scores were: item 14 (supporting a woman's choice to stay in the pool to deliver her placenta) (*M* = 4.71, 95% CI [4.32, 5.10]), item 30 (facilitating the third stage of labour in water) (*M* = 4.67, 95% CI [4.27, 5.07]) and, item 21 (filling and using a portable pool) (*M* = 4.26, 95% CI [3.84, 4.68]).

Surprisingly, midwives waterbirth self-efficacy was not found to differ significantly between groups, ($F_{2, 88} = 3.15$, $P > 0.05$).

Section C: Social support for waterbirth practice (see table 8, chapter seven of this thesis)

The scores for social support (section C) differed significantly between the groups of midwives [*F* (2, 75) = 4.011, *P* = .022]. Tukey post-hoc comparisons identified that midwives in Group 1 gave significantly lower scores ($\overline{X}$*= 8.0, 95%* CI [6.4, 9.5]) than

those in Group 3 ($\overline{X}$ = 10.5, 95% CI [9.4, 11.6] *P* = .016. Comparisons with Group 2 midwives ($\overline{X}$= 9.2, 95% CI [7.9, 10.6) were not significantly different, *P*=>0.05 (see Table 12).

Table 12: Social Support One-way ANOVA

Item		Sum of Squares	Df	Mean Square	F	Sig
31	Between Groups	17.466	2	8.733	5.341	0.006
	Within Groups	145.523	89	1.635		
	Total	162.989	91			
32	Between Groups	12.212	2	6.106	3.288	.042
	Within Groups	161.577	87	1.857		
	Total	173.789	89			
33	Between Groups	14.976	2	7.488	3.956	0.023
	Within Groups	143.860	76			
	Total	158.835	78			

Statistically significant changes in the levels of social support and frequency of waterbirths suggest that change in the organisational culture of labour ward midwifery occurred. The results of the questionnaire analysis also suggest that midwives had a high level of self-efficacy in their abilities to provide care in water during the first and second stages of labour. Lower self-efficacy related to portable pool use and facilitation of the third stage of labour in water. The findings from the questionnaire analysis are discussed in chapter eleven of this thesis.

10.2. Foucauldian discourse analysis

Foucauldian discourse analysis was chosen as it provides a lens by which everyday assumptions and accepted ways of thinking about a particular social practice can be revealed and understood (see chapter five of this thesis).

Wilson's (2001) method for conducting Foucauldian discourse analysis was chosen as the most appropriate for this study. The discourse analysis method is composed of three distinct stages: microanalysis of social interaction, discursive strategies and identification of discourse types. For this study, the final stage requires that discourse types be examined within critical realist dimensions defined for this study, namely: political strategies (real level), institutional tactics (actual level) and the body (empirical level) (see chapters four and five of this thesis).

Interview and focus group samples

Seventeen interviews and four focus groups took place over four research phases. Prior to analysis the transcripts from all of the interviews and focus groups were combined to form one text document (see chapter five of this thesis). The interview and focus group samples by research phase are summarised in Table 13.

Table 13: Interview and focus group samples by research phase

	Phase one	**Phase two**	**Phase three**	**Phase four**
Interviews	5 Hospital midwives (Bands 5/6, 7, 8)	6 Labour ward midwives (Bands 5/6)	3 Labour ward midwives (Bands 5/6)	3 Midwifery managers (Bands 8)
Focus groups	Three Focus Groups: 11 hospital midwives (Bands 5/6)	None	One Focus Group: 3 Labour ward midwives (Bands 5/6)	None
Numbers of participants interviewed	16	6	6	3

10.2.1. Microanalysis of midwives speech acts

The method described in chapter five of this thesis was used to identify word frequency, auxiliary verbs, pronouns and metaphors in the text document. Key words, auxiliary verbs and pronouns have been highlighted in the text examples to provide insight and transparency of analytical procedures (see chapter five of this thesis). The most frequently used auxiliary verbs were *be [ing], have [ing), do[ing], don't*. The frequency of auxiliary verbs gives an indication of how obligations were imposed on midwives (subject positions). The frequency of words can also assist with the identification of implicit power relations between midwives and coordinators, midwives and doctors, and midwives and labouring women.

> *"Some midwives actually **don't** enjoy **be**ing with women that much I **think** that is really sad but true…. **You** are so **busy** because **you're** often multi-tasking and so lose **the** ability to just **be** with a woman and sit quietly".*
> (Midwife, Band 6)

*"I **do** get allocated a lot [of high risk women] but **the** coordinators say 'oohhh I **know you** like a challenge"*. (Midwife, Band 6)

*"I **think** they feel they want to **be doing** something, more than they are with waterbirth that's **the** culture I suppose, they want to **be doing** something because other times they are **doing** stuff all of **the** time"*. (Midwife, Band 8)

Other auxiliary verbs found frequently in midwives' speech were, *can, can't, not, should* and *no*, these words provide additional information about midwives' own values and belief systems. The identification of auxiliary verbs also provided insight into implicit power relationships and labour ward midwives' ideological stance (Fairclough, 1989).

"To a certain extent it's [waterbirth] *a bit boring actually…***you**'re **not doing** anything *and like I said I'm **not** very good at that, just sitting and **not doing** anything".* (Midwife, Band 6)

*"There are practical things to **do** with cleanliness* [when using the birthing pools]*….things like **you can't** keep **your** hands dry with any of the gloves…..for some people that is just **not** acceptable".* (Midwife, Band 6)

*"**No** it's **not**, **no** it's **not**, it's **no** more difficult [*using the birthing pool] *than a normal low risk labour because **you** are still listening in every 15 minutes, its probably more messy because **you do** get wet, **you** get **your** sleeve all mucky and stuff ".* (Midwife, Band 6)

*" I **did** look after a woman in the pool, she was moving from one side of the pool to **the** other. I could **not** keep her in one place, I did **not know** which side I was going to deliver **the** baby ...they* [waterbirths] *are a bit awkward if **you** haven't got **the** space, maybe **the** pool in **the** middle of **the** room, **the** inflatable one [pool] is much better".* (Midwife, Band 6)

The pronouns most frequently used by midwives were *we, you and the.* Use of *we* signals that an individual has authority, albeit implicit, to speak, or make claims on the behalf of others. Frequent use of *you* implies a relationship of solidarity and implies that an agreed view of labour ward midwifery practice is being described. The examples given below demonstrate how use of *you and we* can also help uncover the use of disciplinary power (see chapter four of this thesis). *The,* indicates the current social context or events and is therefore indicates the definitive objects within the text.

"***We wouldn't be** told if somebody was in **the** pool but they [midwife] usually come and write it on **the** board…if **you** are busy **you** are **not** concentrating on what other people are **doing**, **you** might **know** but **the** coordinator would **know** if someone was in **the** pool".* (Midwife, Band 6)

" ***The** emphasis isn't on waterbirth, **the** emphasis…is on reducing caesarean section rates, so that waterbirth should feature very highly but **the** emphasis is on reducing **the** caesarean, in my view this is very much an obstetric led unit and yes **we know we should have** a lower caesarean section rate".* (Midwife, Band 8)

"They [the coordinators] ***do*** *try and save* ***the*** *plumbed in pool,* ***we*** *say* ***we*** *will try. But* ***we can't*** *guarantee it but I* ***do*** *say* ***we have*** *got portable ones and they in theory fit in any of* ***the*** *other rooms,* ***we do*** *move* ***the*** *beds. I had one in room 5 and it was fine, a bit squashed but* ***you*** *just move* ***the*** *bed…****no*** *that's fine I've* ***done*** *that".* (Midwife, Band 6)

Other verbs, which appeared frequently in the text, were *think[ing]* and *know[ing]*. The former signals a degree of consciousness, awareness of what is being discussed and the latter known facts about midwifery practice (rules or obligations); understood and accepted ways of thinking and doing labour ward midwifery. For example reporting woman's labour progress to other midwives and doctors is an expected part of labour ward midwife's role.

" There are certain midwives ***you think*** *of when* ***you think,*** *oh they are normality [pauses] rather than oh they are high risk and then everyone else is sort of obstetric led, that's my opinion".* (Midwife, Band 6)

"Monitoring is sometimes difficult, dependent on ***the*** *woman's size,* ***the*** *pool shape. I* ***know*** *that shouldn't change anything. Women should still* ***be*** *able to get in* ***the*** *water, but I* ***think*** *it is slightly more restricting than other ways [the bed]".* (Midwife, Band 7)

"..if she (VBAC) is still in ***the*** *pool they (doctors) might ask if she is progressing…..they will want* ***to know*** *what is happening even more then wouldn't they? They would* ***be*** *curious about what's going on".* (Midwife, Band 6)

"They took a photo of ***the*** *room as to how* ***the*** *room* ***should be*** *set up. So* ***we know*** *where* ***the*** *pool goes and where* ***the*** *bed goes and* ***the*** *resuscitaire is outside of* ***the*** *room. So, yeah all that* [problems with the portable pools] *has changed now…"* (Midwife, Band 6)

Foucault argues that the use of metaphor represents an experience in terms of another discourse (Crampton and Elden, 2007). Thus, the identification of metaphor allows the social reality of labour ward midwives' lived experiences to be uncovered. Midwives perceived that they had to *battle*, *fight* or *struggle* against institutional practises to promote normal childbirth. Some participants said they didn't have time for normality or one-to-one care. Coordinators were in charge of managing the workload and so perceived as *"fire fighting a lot of the time"* (Midwife, Band 6).

> *"…she [woman requesting a VBAC in water] had to sort of* ***fight you know*** *to get that birth that she really wanted, she missed out* ***the*** *first time* ". (Midwife, Band 6)

> *"….high risk is still* ***the*** *priority. To get back to normality where it is midwifery led I* ***think*** *it is always going to* ***be*** *a* ***battle*** *now, it is always going* ***to be*** *a struggle to make people, make doctors realise [the value of water immersion]*". (Midwife, Band 6)

> *"it's got to* ***be*** *a four pronged* ***attack*** *[to promote normal birth]… I get the impression that* ***the*** *midwives here are terrified of* ***doing*** *anything wrong because they are going to* ***be shot down".*** *(*Midwife, Band 8*).*

The quote below gives some indication of potential life and death situations that occurred on labour ward, and midwives' coping mechanisms. One midwife commented (following a focus group) that not all midwives could work on labour ward because you had to be '*tough*' and '*strong*'; attributes which could equally be applied to combat soldiers.

"…she decided she wanted a physiological [third stage] and I was ***thinking*** *oh how* ***do*** *I* ***do*** *that in the pool,* ***do*** *I* ***do*** *it on the bed?...****we*** *just left her….it was so funny, it was like* ***the*** *chainsaw massacre [the water turned red][she laughs]".* (Midwife, Band 6)

The use of military metaphors in the quotes below implies that waterbirth practice was viewed as an alternative, to standard types of care (see chapter two of this thesis).

" ***you don't*** *feel that someone is banging* ***the*** *drum* ***do you know*** *what I mean?"* (Midwife, Band 6)

" **w*****e don't*** *feel it [waterbirth] is supported here, there is very little presence of it".* (Midwife, Band 6)

Both of the quotes below imply that the organisation of midwifery care focused on processing individuals through the ward as quickly and efficiently as possible. These findings appear to suggest that waterbirth practice was not promoted by the organisation because it interfered with the processing function of labour ward culture.

M15: " it's [waterbirth] ***not*** *a priority really, I* ***think*** *it [the priority] is to get people smoothly through* ***the*** *system". (Focus group Band 6 Midwives).*

"I suppose if ***you*** *had someone in* ***the*** *pool and they* ***didn't*** *have anyone with them…that would be considered quite a tie because* ***you*** *would having to stay there* ***the*** *whole time".* (Midwife, Band 6)

The quote below represents human beings as unthinking forces with limited control over their actions. The use of words such as *spreads* suggests an uncontrollable organism that has a life of its own. These types of phrases are most often associated with disease metaphors (Crampton and Elden, 2007).

> *"If somebody has a waterbirth and has a third degree tear in **the** water **you** hear more about that, than **you do** about someone who had a third degree with forceps. And that's because **the** midwife beats herself up and so talks about it, and so word **spreads** and then everybody gets **the** heebie-jeebies" (*Midwife, Band 8)

Microanalysis of midwives' social interactions revealed a clear set of institutional rules and accepted ways of practising labour ward midwifery. The aim of labour ward midwifery was to manage life-threatening situations and so caring for women with normal births was not a priority. The labour ward coordinators played a key role in regulating midwifery practice and ensuring that childbearing women were processed and cared for on the assembly line model of care (see chapter two of this thesis). Waterbirth practice required midwives to sit and stay with women in labour and so was viewed as time consuming. Thus, the midwifery model of care had the potential to disrupt the assembly line model of birth, introduced uncertainty into midwifery routines and challenged the accepted view of normal birth care. This may be why access to the birthing pools was carefully regulated and controlled by the coordinating midwives.

10.2.2. Midwives' discursive strategies

Discursive strategies are the ways in which discourses are given meaning and power and knowledge constructed through common sense assumptions about the midwifery culture. This stage aims to discover discursive strategies from midwives' descriptions of working on labour ward and views on the waterbirth service they provided. Analysis of texts (see chapter five of this thesis) revealed the following discursive strategies were used to regulate and control the organisational midwifery culture.

Birth is not normal

The following quotes illustrate how midwives' day-to-day experiences of caring for women with high-risk labours meant that they were highly conscious of labour complications. The quotes below suggest that the institution expected midwives to be alert to potential complications even when labour was progressing normally. This constant awareness appears to have led some midwives to view the labouring body as a faulty machine in need of surveillance and regulation. Midwives' references to speed and efficiency give credence to the view that care was organised around the assembly line model of birth (see chapter two of this thesis). Fear of waterbirth practice (final quote) is easier to understand when viewed from a biomedical model of care (see chapter two of this thesis) where midwives were expected to manage and control the labouring body. Birthing pools created a physical barrier between labouring bodies and midwives, this made it difficult to accurately monitor and

control labour progress with technology. Consequently birthing pool use had the effect of shifting control from the midwife to the labouring woman.

> " ***We*** *quite often* ***have*** *to deal with emergencies. That probably colours* ***your*** *practice quite a lot and so* ***you*** *want to keep a woman, as you say in a position where* ***you can*** *access her veins, give her oxygen and where necessary get her baby quickly and* ***you know****, that does seem to dominate* ***the*** *culture really…even neonatal resuscitation is easier if the woman is supine on* ***the*** *bed.* ***You*** *are closer to the resuscitator and* ***you don't have*** *to fumble around [like in water] with cutting* ***the*** *cord".* (Midwife, Band 6)

> *"If* ***you*** *are busy I* ***think*** *it is easier to stick with what* ***you know, you know*** *it is quite scary* ***having*** *to try something new when* ***you*** *are busy and so some people who are anti it [waterbirth] …they are more competent in lithotomy and supine positions".* (Midwife, Band 6)

The quotes below suggest that labour ward midwives' every-day experiences focused on the delivery of care to women with complications. Moving women out of the birthing pool and onto a bed removed the physical barrier and put midwives back in charge of the labouring body, invoking a biomedical model of birth (see chapter two of this thesis). The final quote highlights the difficulties midwives faced with promoting normal childbirth within a biomedical model of care where all labours are viewed as potentially pathological despite evidence that birth in water can reduce the risk of complications.

> *"I think the perception is that* ***you have*** *to* ***be*** *in there more in case she comes a cropper [laughter] …I mean, I was* ***thinking*** *earlier* ***we*** *had someone on all fours this morning who had her baby and* ***the*** *shoulders were quite tight she* ***didn't have*** *a shoulder dystocia but I* ***think*** *if she had been in* ***the*** *water* ***we*** *would* ***not have*** *got her out".* (Midwife, Band 6)

*"I t**hink** the trouble is if **you're** on a midwifery led unit **you** will be **thinking** normal, waterbirth. Get her on **the** floor, get **you know**, get her in **the** pool. Whereas when **you're** in a consultant unit **the** pressure is **you** come into a room **you've** got a CTG, **you've** got a drip stand, **you know**, it is so **not** normal* ". (Midwife, Band 6)

Practitioners expected to follow a 'medical model of midwifery'

The phase *a 'medical model of midwifery'* in the quote below, is not one found in the midwifery literature. Its use may represent a shift in the midwives' thinking about their role and signal an acceptance by some, of a biomedical ideology. A view supported by the assertion that normal birth skills were '*alien'* to midwives and that many were '*obstetric nurses'*.

*"They're practising a medical model of midwifery, that's what they're **doing**, so actually normal midwifery to a lot of them is alien. Which is such a sad thing to say, such a sad thing to say,...there's so many midwives practicing **the** medical model of midwifery, they're **not** practicing any normality, they are like obstetric nurses". (Midwife, Band 8)*

*"Some midwives **the** kind of obstetric nurse bit, they enjoy it, **you know?** Cannulation, **the** high-risk stuff, a bit like ITU nurses enjoy that really. There are those midwives who like to **be** with **the** woman and facilitate all **the** natural, normal stuff. So, I **think** there are two breeds of midwives really". (Midwife, Band 8)*

The first quote on the following page provides an example of how authority figures valued midwives who could provide biomedical care. Praise for high-risk care was valued by the organisation because the knowledge and skills required fitted with a

biomedical discourse. The second quote indicates that praise for normal birth care was not always forthcoming within a labour ward context. The implication being that midwives were expected to be skilled in normal birth care, something every midwife 'could do' and so therefore was not worthy of praise by authority figures.

> *"A lot of* ***the*** *time and it is a lot of* ***the*** *time,* ***we do*** *get allocated quite a lot of* ***the*** *high risk ladies……which is a shame really,* ***you know*** *and it would* ***be*** *nice…. to* ***have the*** *high risk [women] in* ***the*** *pool".* (Midwife, Band 6)

> *"The VBACS [vaginal birth after caesarean section] rarely get a mention* ***do you know*** *what I mean? It's like a bit sort of focus* ***the*** *collection of maternity figures on obstetrics….they maybe, its slightly skewed.* ***You wouldn't have*** *a pat on* ***the*** *back for* ***having, you know****, got Mrs whatever through a normal birth".* (Midwife, Band 6)

The value placed on scientific knowledge meant that data on caesarean sections, severe perineal trauma, and induction of labour and infection rates were collected and disseminated through medical audit. The only reference to normal birth care, prior to the first workshop, was Vaginal Birth After Caesarean Section (VBAC). The following quotes (over the page) highlight that the midwifery manager's aspirations, was to reduce the caesarean section rate. However, she did not appear to make the connection between reducing the caesarean section rate and increasing opportunities for midwives to practice waterbirth. The suggestion (in the final quote) that midwives had chosen to be high-risk midwives is an interesting one given that the unit did not have a midwife led unit. This meant that individuals who lived locally had little choice but to work on labour ward. The quote also supports the argument

that the main focus of midwifery care on labour ward was the care of high risk or medical cases.

> *"I **think** midwives **have** chosen to work on a delivery suite as opposed to a birth centre so they are geared up to high risk, they are high risk midwives".* (Midwife, Band 8).

> *"..our [Caesarean Section] rates were 27/28%, in 2008/2009. This financial year **we** were told it was 25.23% …There is a lot to **do** and there is some real aspiration from urm.. from myself and our medical lead to reduce **the** caesarean section rate but it is difficult"*. (Midwife, Band 8)

The following quote highlights some of the perceived benefits for midwives who embraced technology (in this case epidural anaesthesia). The quote highlights how epidural anaesthesia enabled the midwife to concentrate on managing the labouring body without having to invest energy in emotional support. The paradox in saying '*I quite like epidurals…that's a bad thing to say isn't it' s*uggests that there is dissonance between her subject position (biomedically orientated midwife) and her professional identity (expert in normal care) (see chapter four of this thesis). Delivering care within the midwifery model was perceived as demanding and as such to be avoided- as the midwife says *'it's a long shift for me [without an epidural*]'. This also indicates a degree of 'burn out' amongst labour ward midwives due to the stressful working environment. The epidural protected the midwife from emotional aspects of care and burnout; it allowed her time to monitor labour progress in a controlled care environment.

"I quite like epidurals…that's a bad thing to say isn't it….. They are so comfortable [with an epidural] ***we can*** *chat and I* ***can do*** *the monitoring and I am in control. They [women] are* ***not*** *rolling about the place….I* ***don't*** *like all the huffing and puffing and* ***the*** *fuss it's a long shift for me [without an epidural]. The experience is* ***not*** *as stressful for* ***the*** *woman who is crying with her pain. They are really struggling with each contraction and* ***you can*** *see it on their faces* ". (Midwife, Band 6)

Labour pain was viewed as distressing for both labouring woman and midwives alike and as such needed to be controlled using pharmacological analgesia. Women's pain management choices appeared to be limited to a hierarchical menu with pharmacological analgesia or anaesthesia at the top and water immersion at the bottom. Midwives who promoted this 'menu' were endorsing the biomedical philosophy of labour pain as something that was essentially bad, something that needed to be removed. As such midwives were working within the 'take pain away' (Leap, 2004) paradigm associated with the biomedical model of care (see chapter two of this thesis)

"They all ***know*** *about epidurals* ***don't*** *they? They will all* ***know*** *about pethidine,* ***the*** *in's and out's. They come in and* ***you*** *talk about pain relief. As a midwife* ***you*** *include it [water immersion] right at* ***the*** *bottom of* ***your*** *list because here midwives say this is what* ***you can have*** *for pain relief,* ***your*** *menu if* ***you*** *like".* (Midwife, Band 6)

Midwives loyal to the assembly line model of care

Working within the midwifery model of care was viewed as labour intensive and therefore more likely to interfere with the smooth running of labour ward. The quote below suggests that staying in the poolroom for long periods of time was not tolerated because it meant that the midwife concerned was not helping the team. Hence, caring for women in birthing pools was viewed as more time consuming because it was associated with one-to-one care in labour. These assumptions are supported the midwives use of the word *luxury* when talking about waterbirth practice.

> Midwife 3*: "I **think** when **you've** got somebody in **the** pool, **you've** got **the** luxury of staying in **the** room with them, which **you wouldn't** necessarily...**you know**, if they're on **the** monitor, **you have** to stay in **the** room,...if they weren't in **the** pool **you'd be doing** other things as well, but generally, when **you've** got somebody in **the** pool, you stay in there".*
> Interviewer: Is that a problem?
> Midwife 3*:"Staying in there? **No.** It's **not** a problem for **the** midwife, but it might **be** for **the** ward".* (Focus group Band 6 midwives)

The perception that waterbirth practice was more time consuming than standard types of care may explain why some of the labour ward coordinators blocked' use of the poolroom. The reaction by the focus group participants in the quote on the following page, to the disclosure that a coordinator had prevented access to the pool room by writing a '*bogus*' name on the progress board. The group's reaction to this example suggests that this way of preventing use of the plumbed in birthing pool was unusual.

*Midwife 5: "There are a few midwifery managers [coordinators] on here that – **you know – you** say waterbirth and they take a deep breath and go 'Ohhh **No**!"*

*Midwife 6: "Yeh, I **think** they [women] are often persuaded for various reasons or it's **not** even offered – yes".*

*Midwife 7: "Or a bogus person gets written up on **the** poolroom on **the** board **don't** they"*

*Midwife 6: "Have **you** seen that? Really"*

*Midwife 8: "Have **you** seen it happen?"*

Midwife 7: "I've seen it once"

Midwife 5: "Really?"

Midwives. "Ohoo!" (general surprise). (Focus group Band 6 midwives)

The following quotes imply that midwives valued advice and support from coordinators and held them in high regard. Coordinating midwives (Bands 7) were in a position of authority within the labour ward culture. Their hierarchical position allowed them to exert power over less powerful individuals (midwives and women). The majority of participants agreed that coordinators had the authority to override requests for use of the birthing pool. The quotes below provide insight into the reasons why coordinators might have acted in this way.

Midwife 7*: "if **the** ward's busy they **know** that if that midwife goes in that room [poolroom] they've lost her .....she **doesn't** come out again, so that's taken a member of staff away whereas if **we've** got somebody on a bed with an epidural and a CTG (foetal monitor) **you can** come out occasionally and admit somebody else"* (Focus group Band 6 midwives)

Midwife 4*: "if **you've** got somebody that wants to go in **the** pool, sometimes **you** might get a little bit of negative input from **the** Band 7 (coordinator) because they are**n't** that – **you know** keen– delivery (labour ward) is sometimes really busy and there's lots of people expected to come in – quite often they (coordinator) say **'No, no!"***
*Midwife 5: "**The** problem is **you've** got so many patients coming in that [woman] needs to **be** seen to and then if y**ou've** got twins that need to go theatre and **you've** got to **have** somebody to scrub, two midwives to take **the** baby and one to go with **the** mother ……and then if y**ou've** got somebody in **the** pool at **the** same time, I mean,– I would**n't** like to be **the** G grade [coordinator] trying to organise that, and manage that".*
(Focus group Band 6 midwives)

*"The majority of midwives and coordinators' **don't** like waterbirths and so it has a knock on effect on other midwives. I **think** it has an impact on how **you** feel because if **the** senior midwives are saying they 'don't like waterbirths' **you think** why is that? Is it because there are more problems with waterbirths? It does have an impact".* (Midwife, Band 6)

Denying women's choice in the first quote, about not supporting a woman's request to deliver her placenta in water, was supported due to a perceived loyalty/obedience [*my Band 7*] to the coordinator and acceptance of a prescribed standard of care (the third stage of labour should take place on dry land). The quote also implies that the coordinator, not the midwife, is responsible for the care provided. The final quote provides another example of how those in a position of authority (in this case a Band 8 midwife) controlled adherence to prescribed standard of care by denying a woman's' access to the pool because she had a plaster case, this was perceived by the matron as, an unreasonable request.

"...I had a lady who wanted [a physiological third stage in water] and I ***think*** *[name of coordinator] was on… she will support* ***you*** *but she isn't a great advocate for it…she said I'd like* ***you*** *to take her out of t****he*** *pool, that's fine [by me],* ***you know*** *at t****he*** *end of* ***the*** *day if it all goes pear shaped she is my Band 7 [coordinator]".*(Midwife, Band 6).

"Yesterday, ***we*** *had a woman who had got a broken leg and she was absolutely devastated [she had been planning a pool birth] she said she had a cast that was waterproof put on so I* ***can*** *get in the pool and I said* ***no you can't*** *". (*Midwife, Band 8).

Midwives were expected to record labouring women's progress on a white board, even when labour was perceived as normal. Midwives were expected to update the board regularly with information about each woman's labour (for example clinical observations and interventions such as ARM). The information provided enabled the coordinators to monitor individual midwives' clinical practice and to oversee productivity. The first quote suggests that the timing of vaginal examinations was highly regulated by the organisational culture.

"….they ***can*** *see her dilatation and* ***the*** *time and when* ***the*** *next VE is due [on the board] . I* ***don't*** *like* ***the*** *times of exams [vaginal] …****having*** *to examine somebody on a timer, I* ***would*** *like to* ***be*** *able to examine them when I want".* (Midwife, Band 6)

"They [the coordinator] would be curious about what's going on... when they are looking at ***the*** *board* ***the*** *Band 7 [coordinator] is going through each one [labouring woman] in turn…"* (Midwife, Band 6)

The clinical details of women who laboured in birthing pools were also recorded on the board. The following quotes illustrate how use of '*the board'* enabled coordinators to act as 'embroiders of the gaze' (see chapter four of this thesis).

> "*..if somebody is in t**he** pool and they [coordinators] usually come and write it on **the** board if **you have** got somebody in the pool".*(Midwife, Band 6)

> *M14: ".it depends on whether **the** Band 7s are **doing the** ward round they usually say ah well they pose no risk [waterbirths], so they [doctors] **don't** come in at all, they might sort of glance at **the** board and see the progress but they **don't** come in [laughs]"* (Midwife, Band 6, Focus Group)

The first quote below implies that midwives were under an obligation to have a second midwife present even when birth was normal, this was in effect another surveillance tool (see chapter four of this thesis). The second quote suggests that the second midwife was also involved in making judgements about other midwives' waterbirth competence. This highlights the tension between midwives' role as an autonomous professional and contractual obligations to conform to institutionally prescribed rules (see chapter two of this thesis). This also implied that some midwives found the presence of a second midwife at normal births unnecessary and/or undermining.

*"I **have** deferred to them [second midwife] and subsequently thought that **you know** I **should have** trusted in my instincts really **you know** I **think** [pauses] that is **the** whole problem with a second midwife at **the** birth really, it depends who **you** get someone **can** quite easily take over….but **we have** been told **we have** to **have** a second midwife in the unit".* (Midwife, Band 6).

*" When **you** call **the** second midwife and they come into **the** room…they **think** right they [midwife] are **doing** a waterbirth so **you must be** confident and competent in doing it [laughs]".* (Midwife, Band 5)

Midwives who actively promote waterbirth are different

The quotes below suggest that individuals who used midwifery knowledge and skills (a normality midwife) were perceived as different to the majority of practitioners. It appears that normality midwives were more likely to use midwifery knowledge and skills to support physiology and to promote the use of the birthing pools for labour and birth. The final two quotes show how caring for women in birthing pools influenced the way midwives behaved; they were more likely to sit and to be with woman in a humanistic way (see chapter two of this thesis). The final quote (over the page) is an example of how the pools enabled women to move more freely and how this created difficulties for some midwives.

*" There are certain midwives **you think** of when **you think** oh they are normality [midwives] rather than oh they are high risk and then everyone else is sort of obstetric led, that's my opinion….I regard them [low risk midwives] as a bit different, they've really trained with t**he** normality.* *(*Midwife, Band 6)

"She wanted a waterbirth, so I took over her care and it was all.. it was lovely actually, all very relaxed and ***you know*** *I just sat there listening with the music playing in the background and it was really nice".*
(Midwife, Band 6)

" I like being with ***the*** *women…I make a little nest on one side of* ***the*** *big pool* [plumbed in birthing pool] *so I* ***can*** *listen in [to the foetal heart] and chat. .I really like it and* ***the*** *women really likes it as well".* (Midwife, Band 6)

Doctors only appeared to be involved when women with risk factors, chose to use the birthing pool. The quotes below show how the presence of doctors outside the birthing room undermined the midwife's faith in normal childbirth. The apparent increase in third degree tears in water (second quote) led to midwifery managers agreeing to collect detailed information on midwives management of the second stage of labour, despite evidence that perineal trauma occurs less frequently in water (Dahlen et al, 20012). It was felt that this action would *'quieten the voices'* of midwives and doctors not in favour of waterbirth practice.

" I ***think*** *she [woman trying for VBAC] wasn't* ***being*** *monitored and she was in* ***the*** *pool for some reason they [doctors] were getting a bit sort of twitchy…they just sort of were hovering outside the door.. I* ***wasn't*** *' concerned at any time. She was fine…. I* ***think*** *having doctors outside* ***the*** *room* ***did*** *actually make me a bit more, a bit more twitchy because I thought why are they there, why are they hovering?"* (Midwife, Band 6).

" ***We did*** *the audit,* ***the*** *third degree tear audit... as showing that there is more likelihood of third degree tears in waterbirth in this very small audit that has been* ***done l****ocally… they [doctors]* ***have*** *jumped on that saying that* ***we should be*** *telling* ***the*** *women that there is more likelihood of them having*

*a third degree tear. So hopefully **we can** quieten those voices down a little bit* (Midwife, Band 8).

Use of birthing pools is time-consuming and difficult

Some midwives avoided pool use because they were concerned about how to manage obstetric emergencies in water.

*" If there is a problem I **think** it would **be** hard to attend to an emergency in **the** pool....it **can be** very traumatic for t**he** woman and midwives who **have been** looking after her; so, **you know**: PPH's, collapses, I've seen stillbirths, I've seen all sorts of horrendous things in t**he** water". (Midwife, Band 7)*

The quotes below provide examples of how midwives avoided waterbirth practice. Some practitioners used professional rules (NMC, 2008; 2012) to protect themselves from engaging in waterbirth practice. Other midwives avoided waterbirth practice by not discussing use of the pool with women on admission to the labour ward. Concerns over competence in relation to waterbirth care, which is essentially a non-doing skill, and the use of the NMC rules as a rationale for none attendance at waterbirths is highly paradoxical because on the one hand midwives are claiming to belong to professional body, whilst avoiding a key professional responsibility to support normal birth.

*".if **you don't** feel confident and competent in **doing** it then **you shouldn't be doing** it [waterbirth] it is one of **your** rules [NMC] isn't it? If **you** are **not** confident then….but then **having** said that it is just normal birth care…Because it is **not** like **you** are saying I **don't do** suturing or **I don't do** this…it is actually just a normal birth skill isn't really? ".* (Midwife, Band 6)

Interviewer "So is waterbirth promoted?"
*M16: "I would**n't** say as well as it could **be"***
*M15: "**No** probably **not** really **no**- it depends on who's on duty and maybe **not** all midwives like waterbirths or look after someone who wants to labour in water so".*
*M16:."I **wouldn't** say they are given **the** choice"*
*M14: "Probably **not no".***
*M16: "**No** I **wouldn't** say that"* (Focus group Band 6 midwives)

Caring for women in water was difficult because of the additional time taken to fill and empty the pools and managing maternal collapse or shoulder dystocia in the pool. The implication was that childbirth complications were always extreme and compromised a woman's ability to move or get out of the pool unaided.

The quotes below and on the following page, imply that caring for women in birthing pools was both physically and psychologically uncomfortable for some midwives. The quotes imply that bed/land birth was more comfortable for midwives because they had direct access to the labouring body. Midwives would protect themselves from waterbirth practice by citing problems with the pool, coping with emergencies and the extra time taken to fill and empty the pool. These strategies helped midwives protect themselves from the physical and psychological discomforts associated with caring for labouring women in birthing pools.

*"They [midwives] say 'god that [the pool] is going to **be** an hour now getting **the** pool blown up and if **you** are looking after someone else it is difficult*". (Midwife, Band 6)

*Midwife 6. "**The** woman is **not** likely to collapse from that though".*
*Midwife 4. "She **isn't** likely to collapse but she might find it extremely difficult to get out if **the** head was out".*
*Midwife 7. "I suppose, I mean, again, it could **be**, **you know**, one of **the** really unusual things like if she was suddenly struck down with a PE or **you know**, she had a massive, massive haemorrhage"* (Focus group Band 6 midwives)

*"It is **the** whole aspect of getting them out of t**he** pool, it is a fact that **you** are out of **your** comfort zone isn't it? As I said **we** like women on their back, on **the** bed, if anything goes wrong, legs up in lithotomy, everything is here, **you know** …it is **the c**omfort of being in a consultant led unit'.* (Midwife, Band 6)

Citing problems with pool use was a successful self-protection strategy as it resulted in midwives being allowed to opt out of waterbirth practice by the organisation. What is interesting is that the quotes below suggest that this kind of behaviour went unchallenged by coordinating midwives. This may have been because waterbirth practice was viewed as a non-essential skill when compared to the technical skills associated with continuous foetal monitoring or caring for women with an epidural.

" ***The** coordinator says **we have** a woman. Who would like her she is in **the** poolroom, who would like her? Generally it will go very quiet…and then **you** get **the** same midwives over and over again who say ok I'll take her".*
(Midwife, Band 6)

*" The people in charge (managers) **don't** challenge it, it is **not** challenged because I **think** they say that too….it is definitely coming [from them] not t**he** junior midwives, it's **the** senior midwives…junior midwives more regularly and more frequently **do** waterbirth. As a rule I would say it is more likely for junior midwives agree to agree and to **be** happy to **do** waterbirth".*
(Midwife, Band 6)

As the use of portable birthing pools increased (see chapters six to nine of this thesis) the practice of waterbirth became more visible on the labour ward and managers became aware of some of the difficulties faced by midwives. The following quotes describe some of the steps taken by the midwifery managers (Bands 8) to improve midwives' psychological and physical comfort during pool use. Waterbirth practitioners were allowed to wear theatre clothes when caring for labouring women in a birthing pool and were given a *'fools guide'* to support use of the portable pools.

> " *if **you** find out **you** are having a waterbirth **you** put your scrubs on obviously **you** are going to get wet, its easier and better for **you** to change. Ok, and I **can't** see [the perineum], oh well use a mirror. It is **thinking** all of the little things though isn't it really?"* (Midwife, band 8)

> *" it would **be** nice to **think** that every midwife **should be** able to care for a woman in the pool **shouldn't** they? It is low risk care that is what it is all about, normality, but I still **think** there are some that **don't** feel comfortable. They like **to be... you know** high risk, CTG on and that sort of thing, they feel more comfortable because they are actually **doing** something".*
> (Midwife, band 6)

> *"Photographic fools guide to filling the pool and emptying it. So all these little things **have** helped in supporting staff confidence in wanting to use them [portable pools*]". (Midwife, band 8)

<u>Women don't want waterbirth</u>

Midwives did not appear to routinely promote the use of a birthing pool to women on admission to labour ward. There was a sense, that women, not midwives drove the

waterbirth service. This had the effect of shifting responsibility for the low number of waterbirths (at the beginning of the study) from midwives to labouring women. Despite increases in midwives use of birthing pools over the course of the study the view that women's choice was central to the promotion of the waterbirth service persisted.

> Midwife 3*: "**You don't** get many people asking for them, I* **don't think**...*It [waterbirth] only happens if **the** midwife suggests it...or they've had a previous waterbirth".*
> Midwife 1*: "Yes. **Not** many people come in and say, is **the** pool free, like they used to...in **the** past they used to ring up and say, I'm coming in, is **the** pool free? I **don't think** they **do** that anymore ...it's **not the** same".*
> Midwife 4*: "But then it's a different generation, perhaps, coming through no.. .it seemed to **be** all **the** fashion years ago".*
> (Focus group Band 6 midwives)

> *" I **think we** have surpassed good now **we** are on excellent [current waterbirth rate] but it is about woman's choice so the rate is the number of women who want it get it [waterbirth] and we don't know what that will be [in the future]".* (Midwife, Band 8)

At the beginning of the study it was accepted that the waterbirth service was provided on an ad hoc basis. Midwifery managers purchased three portable birthing pools to improve access and support the promotion of water immersion and waterbirth (see chapter five of this thesis). The second quote (on the following page) provides another example of how some midwives resisted using the portable birthing pools when they were first introduced.

Midwife 3: "When I worked in DAU (Day Assessment Unit….., I had a lady come in, and she was coming for something else, and she said, well, I'd like to ***have*** *a waterbirth, how* ***do*** *I book it? And I said, well, I'm terribly sorry, but it's pot-luck".* (Focus group band 6 midwives)

"Well they ***have*** *got another pool, an inflatable pool. However, I* ***don't think*** *it's been used yet. The consultant midwife keeps putting it in a room, t****he*** *girls keep chucking it out….they feel they need* ***the*** *room for another reason…It takes a lot of room up. It usually lives in* ***the*** *corridor at* ***the*** *moment" (Midwife, Band 8)*

10.2.3. Constructing the midwifery discourses

The first two stages of analysis were used to construct dominant and subjugated midwifery labour ward discourses (see Figure 17, page 206). Discourse analysis revealed that labour ward midwifery practice focused on potential pathology and the completion of task based care. Reliance on a biomedical philosophy of care led midwives to use technology to monitor labouring bodies, adhere to the assembly line model of birth and occupy the subject position of a biomedically orientated practitioner.

However, it was also clear that labour ward midwives also occupied '*normality'* and hybrid subject positions. For the purpose of this study this discourse is named 'the biomedical midwifery discourse' in accordance with Walsh's descriptions of the biomedical model (2012) (see chapter two of this thesis). The presence of a dominant biomedical midwifery discourse met the needs of the institution and gave midwives a clear identify and status and that helped them feel part of the labour ward. Being

loyal to the coordinator and other members of the team enabled midwives to cope with the workload and the unpredictable and often hostile labour ward environment.

A subjugated discourse was associated with one-to-one care and the delivery of the midwifery model of care. For the purpose of this study this discourse was named 'being with woman' to reflect Walsh (2012) and Davis-Floyds' (2011) descriptions of the midwifery and humanistic models of care (see chapter two of this thesis). As the number of waterbirth practitioners increased the subjugated 'being with woman' discourse began to be recognised by the organisation. The 'being with woman' midwifery discourse enabled waterbirth midwives to be physically and emotionally present and provide individualised care. Thus, the 'being with woman' discourse gave midwives the power to act differently to institutional norms of biomedicine and birth. The presence of a smaller group of 'normality' midwives' and resistance to waterbirth practice by a large number of midwives suggests that normal birth care was subjugated by the biomedical midwifery discourse (see Figure 17).

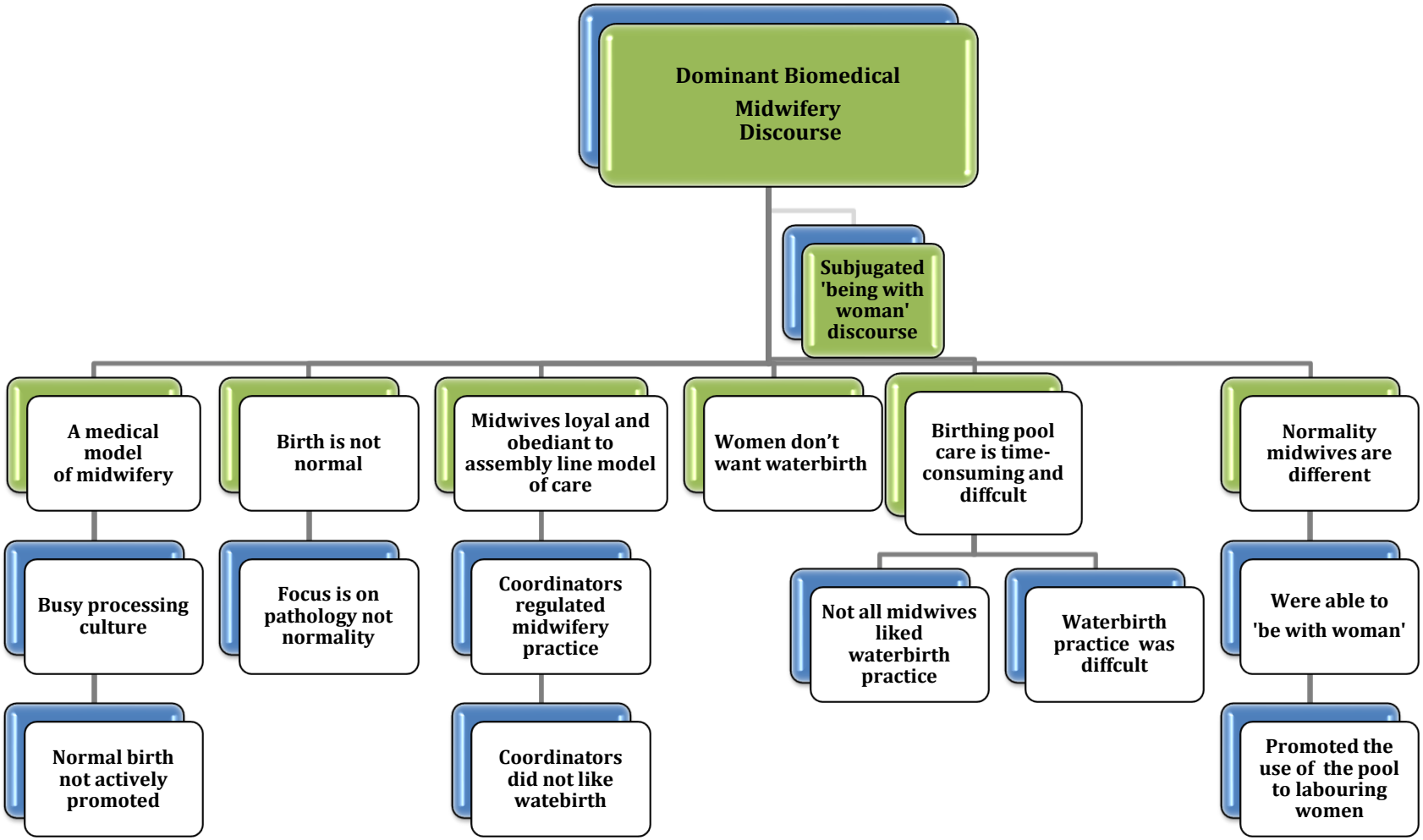
Foucauldian discourse analysis revealed discursive strategies consistent with the biomedical model of care. Midwives descriptions of working on the labour showed that the biomedical discourse dominated the organisational culture. Taken in isolation the findings of the discourse analysis suggests that change in midwives promotion of birthing pools was unlikely to happen. Alteration in the numbers of waterbirths, waterbirth practitioners and levels of social is evidence that a series of problem solving workshops based on an action research format that organisational change occurred. To increase our understanding of the factors that led to change in midwifery practice it is vital that the study findings be viewed together. In the following chapter, examining the political strategies, institutional tactics and disciplinary power the body will provide a discussion of how the dominant

biomedical midwifery discourse marginalised and supported the ‘being with woman’ discourse.

10.3. Conclusion

The results from the questionnaire and the reported data on waterbirth rates (chapters six to nine of this thesis) suggest that the action research intervention may have influenced midwives' behaviours and changed the organisational midwifery culture on the labour ward. Discourse analysis led to the identification of a dominant biomedical discourse and subjugated ‘being with woman’ midwifery discourses. Despite the presence of a dominant biomedical midwifery discourse, the analysis of quantitative data showed a statistically significant change in midwives use of birthing pools. In the following chapter the dominant ‘biomedical midwifery’ and the subjugated ‘being with woman’ discourses together with findings from the research phases and waterbirth questionnaires will be discussed in relation to the critical realist dimensions defined for this study. The generative mechanisms responsible for the midwifery discourses and organisational change are revealed.

Figure 17: Stages of discourse analysis leading to the identification of midwifery discourses



Chapter Eleven: Discussion

This chapter will synthesise the findings from the research phases and data analysis within a critical realist framework in order to understand the mechanisms responsible for the midwifery discourses and organisational change. The discussion is structured using the critical realist dimensions defined for this study: political strategies (real level), institutional tactics (actual level) and the body (empirical level). Attention is paid to the literature surrounding the politics of maternity care, disciplinary power, birth territory and the labour ward culture. Finally, my reflexive position within the research will be summarised, before the unique contribution, strengths and limitations of the study are considered.

Analysis of the data indicated that multiple factors led to the presence of the biomedical and 'being with' midwifery discourses, as well as changes in midwives use of birthing pools. At a real level, political strategies such as risk management and clinical governance appear to have positioned many labour ward midwives as biomedically-orientated practitioners. Conversely, political strategies that highlighted the role of the midwife as a normal birth practitioner and required maternity units to provide waterbirth services appear to have supported organisational change. Institutional tactics (actual level) led to the subjectification of midwives into biomedical, normality and hybrid groups. By harnessing existing hierarchical structures, hybrid midwives, able to serve the needs of biomedicine and care for women in birthing pools, increased in number. The increased use of birthing pools by midwives made waterbirth practice more visible within the organisation.

Organsiational change in the midwifery culture led to ‘clashes’ between the dominant biomedical and subjugated ‘being with woman discourses. To reduce 'clashes', the institution modified waterbirth practitioners dress and behaviour to fit with the quasi-technical construct of biomedicine. This final tactic led to the normalisation of waterbirth practice on the labour ward concerned. At the level of the ‘body biomedical and ‘being with woman’ midwifery care was regulated and controlled through disciplinary power (empirical level). The labour progress board was used to survey midwifery bodies and regulate the use of birthing pools.

To begin the findings of this study will be examined from a political perspective (real level to understand the mechanisms responsible for the midwifery discourses and organisational changes that occurred in relation to midwives promotion of birthing pools.

11.1. Real Level: Political strategies

Governments employ political strategies to ensure that public resources are distributed equally across society (Wolin, 2004). The UK government exercises political strategy by developing policies to regulate the work of organisations such as the NHS (Danaher et al., 2000, p 71). It is through policy that governments impose change on behalf of its citizens. People tend to accept government policy because of the perceived benefits for themselves and those close to them (Kirkham, 2010). Universal acceptance of policies such as hospital birth has led to it being acknowledged as both ‘right and just’ by the UK public (Mander and Murphy-

Lawless, 2013). So much so, that it is now accepted that UK hospital birth is universally accepted as a good use of NHS resources and the proper place for women with normal pregnancies to give birth (Davis- Floyd, 2011; Walsh, 2006).

It is clear from the study findings that the midwifery culture focused on the delivery of care designed to meet the needs of the majority of labouring women. The standardisation of patient care has been strengthened by the introduction (in the latter part of the twentieth century) of clinical governance and risk management policies (see chapter two of this thesis). Clinical governance and risk management were introduced primarily to improve the quality of care patients received (Scamell and Stewart, 2014). However, these policies also aim to limit litigation claims and rationalise NHS resources (Mander and Murphy-Lawless, 2013; Kirkham, 2010). Clinical governance and risk management policies are therefore said to have played a significant part in midwives' medicalisation of normal childbirth (Kirkham, 2010; Scamell and Stewart, 2014). The introduction of clinical governance has led to a large number of national and local clinical maternity care guidelines based on the biomedical model being introduced (see chapter two of this thesis). Institutions tend to portray clinical guidelines as protocols rather than as tools to guide clinical decision-making (Walsh et al., 2004; Scamell and Alazewski, 2012).

Midwives often comply with these institutional rules because they believe adherence will protect them from legal recourse and/or disciplinary action (O'Connell and Downe, 2009;). It appears that clinical governance and risk management policies have led to labour ward midwives being fearful of working outside biomedically prescribed practices (Stapleton, 2004).

Acceptance of the biomedical position that all births are potentially pathological rather than 'normal until proven otherwise' now permeate the twenty first century midwifery labour ward culture (Scamell and Stewart, 2014). Study participants who were unable to view birth as a normal physiological event resisted using birthing pools. One of the midwifery managers who took part in the study said that this was because normal birth care was '*alien'* to most midwives because they followed a '*medical model of midwifery'* (see chapter ten of this thesis).

Fear of what might go wrong when women laboured or gave birth in water was common amongst participants. They were particularly anxious about what to do if a woman collapsed in a birthing pool (see chapter six and ten of this thesis). However, according to Garland (2011b), maternal collapse in a birthing pool has never been recorded, although women have been known to faint. Given that women who choose to use birthing pools tend to be healthy young women without pregnancy complications, collapse due to a life-threating event such as cardiac arrest is extremely unlikely. What appears to be the real issue is some midwives' inability to see that the risk of true maternal collapse is an extremely rare event. In doing so, participants who took part in focus groups and interviews (see chapters six to nine of this thesis) failed to recognise their own uncertainty about how to manage adverse incidents in the pool. Fear of evacuating labouring women from a pool at the beginning of the study was considered a major barrier. Cluett and Burns (2009) found in their systematic review that institutional settings prevented access to water on safety grounds, despite conclusive evidence to the contrary being available.

Recognisable belief systems place limits on people's ideas and behaviours because they help define what is right and what is wrong; what is normal and what is not (deviant). Consequently, the belief systems that operate in organisations can make alternative opinions or behaviours (to those previously defined) appear absurd (Foucault, 1977). For example, at the beginning of the study it was viewed as acceptable to provide women with an ad-hoc waterbirth service and for midwives not to promote birthing pool use.

Growth in the concept of risk in British society is evident in government policy (Kirkham, 2010). The aim of risk management is to reduce risky practice by putting strategies in place to avoid 'worse case scenarios' and reduce litigation (Walsh et al., 2004, p 105). The government manages litigation claims by providing insurance cover for the NHS institutions through the Clinical Negligence Scheme for Trusts (CNST). Trusts who meet relevant risk reduction standards and have a small number of claims are eligible for a reduction in the cost of their insurance premium (Mander and Murphy-Lawless, 2013). Bryson and Deery (2011) argue that the focus on obtaining a reduced premium has led many maternity units to promote training for the management of obstetric emergencies rather than normal birth. The findings of the study revealed that when coordinating midwives blocked access to the poolroom, this behaviour was not challenged by authority figures. Acceptance of this type of behaviour legitimises the actions of authority figures (Miligram, 1974), giving them a mandate to control the actions of the less powerful (Fairclough, 1989). The presence of 'powerful situational forces' (Hollins-Martin and Bull, 2005; 2006) ensured that alternative behaviours, such as pool use, were carefully controlled by the

organisation. A good example of this was the way the concept of scarcity was employed (see chapter three of this thesis).

The use of scarcity ideology led to an acceptance that birthing pools could only be used when labour ward was quiet as coordinating midwives restricted access when workloads were high. At the start of this study, measures to limit the availability of birthing pools was viewed as both 'right' and 'just' by the majority of midwives interviewed, even though this tactic led to some women being refused the choice labouring and giving birth in water (see chapter six of this thesis). Redwood (1999), in her critical discourse analysis of waterbirth practice, describes how this type of organisational practice is symptomatic of a 'caring control' discourse. The caring control discourse is a punitive discourse, used by those in positions of power it ensured that standardised care was prioritised. The use of caring control limited access and created acceptance of an ad-hoc waterbirth service driven by maternal request.

Examination of the organisational culture on the labour ward illustrates the difficulties midwives faced in promoting birthing pools to women in their care (see chapter two of this thesis). It appears that Briggs (1972) description of NHS midwifery, as being under the control of obstetricians is consistent with the reality of the twenty first century labour ward midwifery (see chapters two of this thesis). Labour ward midwives who took part in this study described being comfortable with the delivery of biomedical care. Midwifery managers introduced mandatory 'normality' workshops to support midwives in their role as a normal birth practitioner. However, choosing to focus the waterbirth session on how to manage emergencies in the pool shows how

embedded risk management was in the culture (see chapter seven of this thesis). Biomedically orientated midwives were particularly anxious about what to do if a woman collapsed or the foetus became compromised in water. Stark and Miller (2009) found that practitioners with limited experience of providing care in birthing pools are more likely to create belief systems around the dangers rather than the benefits of waterbirth practice. One midwife who took part in the study described birthing pools as an extension of a midwifery model of care and therefore something every practitioner 'could do'. Another referred to the NMC Midwives Rules (2012) to provide a rationale for her non-attendance at waterbirths. This second example is highly paradoxical. Because the midwife was claiming to be a professional while at the same time avoiding a key responsibility of being a midwife, to provide normal birth care (see chapter ten of this thesis).

In addition, acceptance of clinical governance and risk reduction strategies appears to have strengthened the medical argument that the safest place for women to give birth is in hospital (Stevens, 2011). The underlying assumption promoted by successive governments is that technology and medicine can reduce or eliminate risk in childbirth, but which has ironically led to increased litigation claims (Deery and Bryson, 2011). Generative mechanisms that supported and inhibited organisational change will be examined next.

11.1.1. Political strategies used to increase birthing pool use

The recent guideline from the National Institute for Health and Clinical Excellence (NICE, 2015) recommends that women with normal pregnancies are encouraged to

give birth in midwife led units or at home. Acceptance of the NICE recommendations represents a major shift in political strategy and recognition that labour wards are failing to meet the needs of women with uncomplicated labours and births. This policy change has the potential to provide a large number of women with normal pregnancies a midwifery model of care outside of labour wards. Given the reality of midwifery labour ward culture, described in this thesis; it may take time before a sufficient numbers of normal birth practitioners are available to implement this policy.

However 'with woman' policies and continued portrayal of midwives as experts in normal birth care (Changing Childbirth, DH, 1993; The National Service Framework for Maternity Services and Young People, DH, 2004; Maternity Matters DH, 2007; Midwifery 2020 (Chief Nursing Officers of England, Northern Ireland, Scotland, Wales, 2010), gave managers, in this study, the power to lead change. Legitimate power often develops out of an acceptance of roles in which those lower down the hierarchy comply or conform with those in positions of authority (Raven and Harley, 1980). For example, legitimate power placed midwives under an obligation to comply with the coordinators' wish to use the birthing pools (see chapter ten of this thesis). Foucault sees power as acting on people in a non-democratic way so that powerful situational forces also influence the thoughts and actions of authority figures (Dyson and Brown, 2006). It is therefore argued; that it was the use of legitimate power signalled to midwives that the institution was supportive labour ward waterbirth practice. In addition, managers were able to lead change because of the power given to them through political strategy and the executive team who charged them with improving normal birth rates on the unit.

Government policy dictates that labour wards provide women with access to birthing pools but does not require organisations to measure or evaluate the service provided (see chapter two of this thesis). Hence, water immersion and waterbirth data is not readily available. The findings of this study show that prior to the workshops, waterbirth data was part of the unit's maternity data collection set. So the consultant midwife collected water immersion rates from the register and disseminated them to the senior management team and coordinators. This political strategy appears to have led to the majority of labour ward midwives being unaware of the waterbirth rate and, therefore, unable to measure the quality of service to challenge practice. Discursive strategies like these restrict power and the development of alternative types of knowledge (waterbirth practice) being developed.

This political strategy is why government reports on the outcomes of maternity care in England (DH, 2005; DH, 2008; Health and Social Information Centre, 2013) fail to include data on pool use in hospitals. The Health Care Commission report (2008) was the first and only government report to publish data relating to hospital birthing pool use in England (see chapter two of this thesis). The failure by government bodies to report this aspect of midwifery care implies that water immersion is so infrequent that its inclusion in clinical audit is unnecessary. However, recent research into the place of birth indicates that a significant number of labouring women use birthing pools (Birth Place in England Collaborative Group, 2011; Burns et al., 2012). The failure of successive governments to report hospital water immersion may be why this aspect of normal birth midwifery practice continues to be neglected by policy makers.

Page (2003) argues that when organisations fail to recognise normal birth practice, the midwifery model of care becomes invisible in NHS maternity units.

The findings of this study show how improved audit and dissemination of waterbirth practice can promote a midwifery philosophy of care. The setting of a target was recognition by coordinating midwives that access to birthing pools needed improving and a good example of how political strategies at a micro-level can lead to social change (chapters three and eight of this thesis). Target setting by clinicians ensures that appropriate and realistic goals are developed (Wensing et al., 2010). The target of one hundred waterbirths by the end of the study was realistic, given that three portable birthing pools had been purchased and training was in place (see chapter five of this thesis). Political strategies and resources provided by those at the top of the organisation signalled support for the midwifery model of care and waterbirth practice.

11.2. Actual Level: Institutional tactics

Institutional tactics at an actual level consisted of the subjectification of midwifery, the creation of a number of waterbirth spaces, improved clinical leadership and the normalisation of waterbirth practice on the labour ward. The ways in which each of this institutional tactics inhibited and supported the presence of the midwifery discourses and organisational change will be examined next.

11.2.1. The subjectification of midwifery

The relationships and experiences people have in a particular cultural field, position an individual within a clearly defined space and ascribe a recognisable subject position (Danaher et al., 2000). The discourses of biomedicine and 'being with woman' identified in this study influenced how midwives spoke about themselves and understood their role within the organisation. For example, midwives are perceived as individual practitioners, but also as NHS employees who are expected to follow a collective model of autonomy (see chapter two of this thesis). The requirement for labour ward midwives to provide a midwifery model of care, in a birthing space dominated by biomedicine, was exceedingly difficult. It was recognised that labour ward midwives who regularly promoted birthing pools acted and thought differently to biomedically orientated midwives. Within the midwifery culture, this group were known as the 'normality' midwives (see chapter ten of this thesis).

Hunter (2004) highlights the tendency for hospital midwives to divide themselves into ideological groups of 'them' and 'us'. Marshall et al. (2011, p 90) described two distinct types of labour ward midwives: the 'informing, enabling midwife' and the 'policy following midwife'. The informing, enabling midwife is more likely to encourage women to take control of their labours. The policy following midwife tended to exert her jurisdiction over women and restrict their choice to the biomedical model of birth (Marshall et al., 2011). However, Lane (2002) found that few midwives adhere exclusively to a biomedical or midwifery model of care. Instead, most midwives change their subject position depending on the birthing setting and the

individual needs of women (see chapter five of this thesis). Foucault (1986) argues that subjects negotiate their identity (the self) and then through sensing who they are, take up subject positions on a contingency basis. Consequently, the position subjects adopt is dependent on the particular set of circumstances they find themselves in at any one time. American anthropologist Davis-Floyd (1992) uses the word 'hybrid' to describe practitioners who adapt their knowledge and skills to different birth spaces.

In the findings of this study, it was apparent that most midwives occupied a biomedically-orientated position and a smaller group were identified as the '*normality midwives*' (see chapters six to ten of this thesis). Groups like these find themselves marginalised by the very nature of institutions that marginalise individuals who act or think differently (Foucault, 2002). However, though they were recognised as 'different', participants spoke of '*normality midwives'* with respect. This may have been because participants' that they practiced a type of midwifery similar to the 'real midwifery' described by Hunter (2004) (see chapter two of this thesis). Changes in the waterbirth service and increases in social support for pool use enabled more midwives to occupy a hybrid position. Statistically significant increases in the frequency of waterbirths between Group 1 and Group 3 (see chapter ten of this thesis) and a doubling of waterbirth practitioners by the end of this study (see chapter nine of this thesis) support this assertion.

Social support for the midwifery model together with pride in normal birth outcomes have been shown to reduce the impact of dominant medical ideologies and improve choice for childbearing women (Ontario Women's Health Council, 2000). Thus,

waterbirth practice enabled midwives to close the philosophical gap between biomedical and being with woman midwifery discourses and occupy the position of a hybrid midwife. A hybrid position met the needs of the dominant discourse and so did not adversely affect the status quo. Improved availability of birthing pools and support for waterbirth practice created a physical, emotional and chronological space (Nyman et al, 2013) for hybrid midwives to occupy the 'being with woman' midwifery discourse.

Clinical leadership was necessary for subjects to move between the dominant biomedical and subjugated 'being with woman' midwifery discourses.

11.2.2. Creating space for the midwifery model of care

Western maternity hospitals' adoption of an assembly line model of birth enables them to control the movement of people between designated spaces within specified time limits (Walsh, 2006). Labour wards across the world are designed around private (labour rooms) and public spaces (waiting rooms, central corridor) (Fahy et al., 2008). The construction of social spaces mirrors

> ' .society's dominant values, assumptions and beliefs about childbirth.'
> (Davis and Walker, 2010, p 381)

Accordingly, labour wards are not neutral spaces but products of a dominant biomedical discourse that constructs care of the labouring body as both risky and dangerous (see chapter two and three of this thesis). Labour spaces penetrate the body and appear to influence how midwives and women think about childbirth (Davis and

Walker, 2010). Social spaces such as labour wards appear to dictate the movement of the body, creating predictable physical actions and behaviours of midwives and labouring women (Lepori, 1994). Fahy and Parratt (2006) developed the theory of Birth Territory to explain the relationship between physical birthing spaces in hospitals and the delivery of the midwifery model of care. The theory of birth territory encompasses Foucault's concept of 'geography', which asserts that social spaces play an active role in the construction of discursive strategies and social relations (Crampton and Elden, 2007). The theory of birth territory

> 'explains and predicts the relationships between the environment of the individual room, issues of power and control and the way the woman experiences labour physiologically and emotional' (Fahy & Parratt, 2006, p 2).

Birth territory plays an important part in regulating the organisational culture in hospital settings and allows for the examination of socially constructed and embodied (the self) identities of pregnant women and midwives (Locke and Gibbs, 2003; Fahy and Parratt; 2006). Fahy and Parratt (2006) describe terrain as a continuum of surveillance (labour rooms where biomedical discourse operates) and sanctum rooms (spaces where 'being with woman' discourse operates). Surveillance rooms are constructed (by maternity hospitals) to monitor labour progress and meet the physical and psychological needs of midwives and doctors. Sanctum rooms try to replicate the home environment and so are similar to spaces to those created in midwife-led units (Maude and Foureur, 2007).

Midwives who took part in this study described how it was easier to perform vaginal examinations and monitor labour progress when women laboured and birthed on a bed. One midwife said she liked caring for women with an epidural because she was

'*in control'* and could do '*the monitoring'* undisturbed (see chapter ten of this thesis). These findings show how surveillance type rooms' give midwives jurisdiction (power) over labouring women and positions them as passive recipients of care.

Sanctum rooms are homely birthing environments, designed to support equal relationships between women and midwives. Thus, the space created by birthing pools enabled women to move freely and be protected from unnecessary medical intervention (Fahy et al., 2008). Davis and Walker (2010) describe how hospital practitioners modified surveillance rooms by moving the bed and promoting the use of birthing balls and mats to women in labour. Lepori et al. (2008) argue that subtle lighting, hot packs, water immersion and a philosophy of midwifery care can create sanctum like spaces in hospital settings. However, et al. (2010) found that these kinds of modifications failed to stop Australian obstetricians 'barging' into birthing rooms and trying to take control of the care of women in normal labour. This may explain why the promotion of the midwifery model of care tends to be more successful in sanctum type facilities situated away from labour wards (Turnbull et al, 1995; Deery and Hughes, 2004; Bick et al, 2009) (see chapter three of this thesis).

The space created when a portable birthing pool was situated in a surveillance room created a space recognisably different from the labour spaces occupied by biomedicine. So much so, that midwives said that doctors rarely entered rooms where birthing pools were in use (see chapter ten of this thesis). This effect is similar to Walsh's (2006) comment that midwives working in a stand-alone birthing unit found that the space protected them from the biomedical discourse. It is evident from the study findings that placing birthing pools in surveillance rooms created a unique

birthing space that reduced intervention and enabled midwives to occupy the 'being with woman' discourse. In water, birthing is said to allow women to be fully embodied because it gives the power to control her labour and birth (Lupton and Scmidth, 2013). The presence of a birthing pool creates a physical barrier between the surveillance room and the inner space of the birthing pool. Midwives described how the shape and size of both the plumbed in and portable birthing pools restricted access to women's bodies during labour and birth. For women, water immersion enabled them to move more freely (see chapter ten of thesis).

Garland (2011b) advises midwives to avoid disturbing the delicate hormonal dance of labour (Buckley, 2004). The findings of this study suggest that biomedically orientated midwives found it difficult to sit quietly and *'do nothing'*. Hybrid midwives described '*sitting*', '*kneeling*' and '*chatting with women'* during labour and birth. One midwife said she '*built a nest'* next to the pool. These findings suggest that birthing pools created a natural birthing space where they could practice knowledge and skills associated with 'being with woman discourse' (see chapter two of this thesis).

The birthing pool formed a physical and philosophical barrier between the biomedical and 'being with' midwifery discourses. The boundary generated by the pool was the point at which the 'being with woman' and biomedical midwifery discourses met created a new birthing terrain that I have named the Citadel. The Citadel is a birthing terrain significantly different to the sanctum and surveillance rooms described by Fahy and Parratt (2006). Consequently, this study adds to the theory of birth territory and offers a new way of supporting the delivery of the midwifery model of care in medicalised environments.

The creation of Citadel birthing spaces increased opportunities for midwives to occupy the 'being with woman' discourse and improved birth choices for women in normal labour.

11.2.3. Leadership for birthing pool use

Given that midwives possessed good levels of waterbirth knowledge and self-efficacy, it is surprising that it required a research intervention to generate improvements in midwives use of birthing pools. The action research format appears to have acted as a stimulus to change the organisation of midwifery practice on the labour ward. Coordinating midwives were able to lead change because of the power given to them by the executive team to take the lead (see chapter seven of this thesis).

A key finding was the significant change in midwives' perceived levels of social support for waterbirth practice, achieved through a prolonged educational engagement with coordinating midwives. Thus, coordinating midwives were not just permission givers or recipients of education, but actively took part in educating others and promoting waterbirth practice. Self-efficacy recognises the importance of the environment on individual and group behaviours, and that people learn through observing the attitudes, behaviours of their peer group (see chapter three of this thesis). Woodward (2011) found that labour ward midwives did not undertake waterbirth practice on a regular basis because they felt unsupported by their managers. A good example is the waterbirth clinical guideline, which at the beginning of the study required midwives to stay in with labouring women once they entered the

pool (see chapter six of this thesis). Changes made to the waterbirth guideline, prior to the second research phase, enabled midwives to leave labouring women and contribute to managing the workload (see chapter five of this thesis). This changed helped midwives balance the needs of the institution with the requirement to provide women with a range of birth choices. Bick et al., (2009), Davies et al., (2001) and Nyman et al., (2013) all found that clinical guidelines and care pathways supported practitioners to adapt to new ways of working (see chapter three of this thesis). Ashford et al., (1999) highlight that the introduction of clinical guidelines supports an individual practitioner to change the way they work especially when these are introduced and led by opinion leaders. The findings from this study highlights that institutional tactics such as leadership and resources, may at times be more important than internal factors such as personal waterbirth knowledge and self-efficacy (see chapter ten of this thesis).

The questionnaire findings revealed significantly higher levels of personal waterbirth knowledge in Group 1 midwives. This group was the only group to contain coordinating midwife. Higher personal knowledge scores for this group suggests that coordinating midwives possessed sufficient understanding of waterbirth practice to encourage and support others in its use. Unexpectedly, the mean self-efficacy scores of labour ward midwives were relatively stable, and there was little or no variation between the three groups of midwives. The results of the questionnaire analysis indicate that prior to the start of the workshops midwives had high levels of waterbirth self-efficacy (see chapter ten of this thesis). This result is at odds with the basis of many development engagements that recognise self-efficacy as the most significant barrier to the development and adoption of new behaviours (Bandura,

1997). One explanation might be that the skills necessary for the facilitation of waterbirth are similar to those used by midwives in normal birth care (Cluett et al., 2004). It is maintained that consistently high levels of waterbirth self-efficacy amongst participants were due in part to 'mastery experiences' of normal birth care on land (see chapter three of this thesis). That is, the successful performance of an action attributable to a persons' efforts and abilities leads to increased levels of self-efficacy (Bandura 1997). Improvements in the leadership for waterbirth practice may also explain why the levels of self-efficacy did not reduce but remained constant throughout (see chapter seven, eight and ten of this thesis).

Three papers identified in the literature review focused on improving the delivery of the midwifery model of care on labour wards (Nyman et al, 2013; Walton et al; 2005; Davies et al., 2002). Both Walton et al., (1995) and Davies et al., (2001) identified a lack of support from senior managers for failing to change the organisational midwifery culture. Morrison and Phelps (1999) state that managers can positively influence the change process by being openly supportive of the proposed behaviour if they are confident that members of the organisation can perform the activity. Grol et al., (2003) argue that support from senior managers is more likely to lead to change and for new practices to become integrated into existing routines.

Changes in leadership for waterbirth practice (see chapters five to nine of this thesis) increased levels of social support and gave clinical midwives permission to occupy the 'being with woman' midwifery discourse. Support by managers and role modelling by coordinating midwives led to birthing pools being an accepted part of

labour ward midwives' working lives. This change was possible because the midwives adhered to requests made by coordinating midwives whose role it was to manage the workload and regulate the practice of less powerful midwives through disciplinary power.

11.2.4. Normalisation of waterbirth practice

Waterbirth practice went against the timetabling and normal disciplinary controls imposed on the docile midwifery body. Prior to the second research phase, a caring control discourse (Redwood, 1999) led to waterbirth practice being constructed as a time-consuming and potentially dangerous activity (see chapter six and ten of this thesis). The main reason for restricting waterbirth practice appears to be that pool use was associated with one-to-one care and emotional labour. Emotional labour is the ability to establish and sustain meaningful relationships in a connected and meaningful way (Hochschild, 1983). Nyman et al (2013, p575) found that labour ward midwives who were able to 'glance beyond routines' were less affected by institutional drivers of productivity, and more able to provide women with care based on a humanistic approach (see chapter two of this thesis). Waterbirth practice appears to have helped some midwives to 'to be with woman' in a meaningful and emotional sense (see chapter two of this thesis).

Improved use of birthing pools increased the visibility of the midwifery model of care within the organisation. Twelve months after the second research phase began midwives and managers who took part in interviewers and focus groups stated that

birthing pools were in daily use (see chapters eight and nine of this thesis). Foucault views the control of space as key to the exercise of power and domination, can either empower or disempower individuals (Crampton and Elden, 2007). The findings from this study suggest that changes in the physical space empowered individuals and normalised the use of birthing pools the labour ward. Dreyfus and Rainbow (1982) describe normalisation as a number of different institutional tactics that are used (with little effort) to control the thoughts and actions of less powerful subjects. Thus, normalisation is the process by which discourses can communicate accepted norms of behaviour. Therefore social norms

> 'establish the measure by which all are judged and deemed to conform or not'. (Carabine, 2001, p 278)

Foucault (1977) argues that adherence to socially constructed norms affect the way bodies behave, think and move. For example, at the beginning of the study it was accepted that only a small number of midwives offered labouring women the choice of using a birthing pool (see chapter six of this thesis). However, by the end of the study changes in the use of disciplinary power led coordinators to support other midwives use of birthing pools (see chapter ten of this thesis). Thus, normalisation is not about making simple judgements of what is right or wrong or good or bad but a reflection of how power within a given discourse operates (Dreyfus and Rainbow, 1982). Improved leadership for waterbirth practice appears to have changed the accepted norms of labour ward midwifery practice in favour of waterbirth practice (see chapters six to ten of this thesis).

Hence, support from midwifery managers and modelling by opinion leaders led to the practice of waterbirth being normalised; that is, the practice became accepted within the culture as part of labour ward midwives' everyday working lives.

11.3. Empirical Level: Disciplining midwifery bodies

11.3.1. The shaping of biomedically orientated 'bodies'

Walsh (2006, p1331) describes labour wards as fed by a 'processing mentality' is similar to industrialised models of production; the assembly line model of birth (see chapter two of this thesis). Institutional tactics such as shift work mean that hospital midwives are expected to complete task based care within a set amount of time (Stevens, 2011). Disciplinary power is a coercive form of power, designed to regulate the disciplines by targeting the body to ensure individual practitioners' actions are consistent with the dominant discourse (Foucault, 1977). It is clear from the findings of this study that the biomedical midwifery discourse required docile bodies (see chapter four of this thesis). A docile body is one that has been trained and made responsive to particular needs; this makes it more efficient and productive than an autonomous body. The docile body:

> 'makes possible the correct use of time, nothing must remain idle or useless: everything must be called upon to form the support of the act required'(Foucault, 1977, p 152).

The bureaucratic nature of organisations can make it difficult for workers in the time allocated to achieve a way of working that is true to their personal values and beliefs (Lipsky, 1980). One midwife who participated in research interviews objected to the way coordinators made her perform vaginal examinations at prescribed times (see chapter ten of this thesis). However, some midwives prefer to follow organisational policies rather than make shared decisions with women (O'Connell and Downe, 2009; Porter et al, 2007). A common theme in the findings was the requirement for midwives to take an active part in labour care or provide task based care (Fahy, 1998).

Fahy (1998) describes 'doing midwifery' as the completion of task-based routines and practices designed to improve efficiency and productivity. The biomedical midwifery discourse employed task based care to exercise and timetable midwifery bodies (see chapter ten of this thesis). 'Doing midwifery' provided practitioners with a framework with which to negotiate the hostile labour ward environment (see chapter ten of this thesis). Hence, the use of timetabling on labour ward was an effective way of managing the movements of midwifery bodies and ensuring they were willing participants in the delivery of biomedical midwifery care. Timetabling (see chapter four of this thesis) of the midwifery body led practitioners to revise their own construction of midwifery practice and to reconcile their professional identity with biomedically orientated labour ward practice. For example, the majority of managers and midwives accepted that labour ward midwives were experts in the delivery of the biomedical rather than midwifery model of care (see chapter ten of this thesis). As such, labour ward midwives were governing their own behaviours in relation to self; they had learned the rules of labour ward practice, including what they did and did not like to create a framework by which to self-regulate. Consequently 'doing midwifery'

provided practitioners with a framework by which to negotiate the hostile labour ward environment. Hence, timetabling the body was an effective way of managing the movements of the midwifery body and making it a willing participant in the delivery of biomedical midwifery care. Midwives were task- orientated (doing) docile bodies. These behaviours reinforced conformity to contractual and professional standards laid-down by the institution and the professional regulators such as the NMC (Pollard, 2011).

The findings of this study indicate that midwives' sphere of autonomous practice was dependent on the power that the coordinating midwives gave and the degree to which practitioners followed the labour ward routines. Also, midwifery bodies were disciplined by coordinating midwives use of a labour progress board.

11.3.2. 'The board' a panoptic mechanism for surveying bodies

Midwives and managers described the role of coordinating midwives as managing the workload and regulating the practice of less powerful clinical midwives who worked on the labour ward (see chapter ten of this thesis). One of the mechanisms coordinators used to control midwifery bodies was a labour progress board. Midwives were expected to record labouring women's vaginal examinations, contractions, parity and interventions such as artificial rupture of membranes on a white board. Accordingly, '*the board*' enabled the skills, actions and productivity of individual midwives to be overseen by coordinating midwives. Green (2005) describes how in her study about labour ward practice, coordinating midwives would seek out

midwives who failed to update '*the board'* or undertake a vaginal examination at the specified time. Midwives described how the coordinator '*would be curious what was going on and would go through each one (room) in turn'* so they could find out for example: '*when the next VE is due'* (see chapter ten of this thesis).

The '*board*', when used in this way, allowed continual surveillance and supervision of midwifery practice. Its use allowed coordinating midwives had the power to 'gaze' over midwives' and labouring bodies at will. The continual threat of the 'panoptic gaze' ensured midwives adhered to practices prescribed by biomedicine. Coordinating midwives had responsibility for monitoring and surveying individual practice; they were 'embodiers of the gaze' (see chapter four of this thesis). The coordinating midwife's role is similar to that of Foucault's (1977) descriptions of factory supervisors in eighteenth-century factories. The physical layout of modern factories enabled the supervisor to observe each stage of the production process and the individual bodies that carried it out. This type of surveillance was used to sustain disciplinary power and ensure conformity to the dominant biomedical midwifery discourse. The biomedical discourse structured relations of power and positioned midwives in an occupation and rank similar to that of a nurse. For example, it was socially accepted that all midwives' practice was overseen by coordinating midwives (see chapter ten of this thesis). At the beginning of this study coordinating midwives blocked access to the poolroom by writing a 'bogus name' on the labour progress board. This type of use turned the board into a powerful panoptic device for controlling the thoughts and actions of less powerful labour ward midwives and labouring women.

Increased visibility of an alternative form of midwifery care led to concerns being raised about the safety of waterbirth practice. For example, doctors complained to midwifery managers that waterbirth increased the risk of third-degree tears (see chapter ten of this thesis). Foucault asserts that 'clashes' such as these occur when social worlds with different values and beliefs become visible to one another. He named this concept heterotopia (Crampton and Elden, 2007). When this set of circumstances arise, dominant discourses initiate increased policing of spatial divisions to ensure their dominance is maintained (Danaher et al., 2002).

It was apparent in the findings of this study that raising of concerns about increases in waterbirth practice led midwifery managers to take steps to ensure that pool use was more acceptable to the dominant biomedical discourse. Midwifery managers gave practitioners permission to wear theatre clothing instead of their regular uniform when using a birthing pool. The new clothing had some benefits; firstly it improved waterbirth practitioner's physical comfort and secondly gave them a more acceptable biomedical persona. Questionnaire analysis revealed lower self-efficacy scores for portable pool use (see chapters seven and eight of this thesis). To improve portable pool self-efficacy, the labour ward matron designed a '*photographic fool's guide'* to ensure that the pool use in surveillance rooms was standardised. Some midwives found the barrier created by the birthing pools reduced their jurisdiction over labouring bodies. It seems that the Citadel forced practitioners to change from 'doing midwifery' to 'being with woman'. To help with these anxieties, managers purchased mirrors and stools (to place in the bottom of pools) so that practitioners were more able to closely observe labouring bodies under water. These actions enabled midwives to maintain their jurisdiction over the labouring body and conform to prescribed

biomedical rules of monitoring and measuring (see chapter two of this thesis). Hence, hospital waterbirth practice was refashioned to include a quasi- technical construct. Thus, attending practitioners were inculcated as an extension of their technical role in other areas of the labour ward. These actions are similar to Foucault's description of prison reform during the eighteenth century (Foucault, 1977). These reforms included the introduction of prison clothing for all inmates made prisoners bodies into an object for observation and normalisation. Similarly, by providing new clothing and introducing tight controls of Citadel birthing spaces, midwifery managers were able to reduce heterotopic anxiety and normalise birthing pool use.

Placing portable birthing pools in surveillance rooms and promoting the use of the poolroom shifted the coordinators gaze towards the 'being with woman' midwifery discourse. Lepori et al. (2008) describes midwives who are able to create and guard birth spaces where women can experience physiological birth undisturbed as 'ontological architects'. This concept builds on Fahy (1998) notions of 'being' and 'doing' midwifery by recognising that the relationship between physical space and the delivery of the midwifery model of care. The findings of this study suggest that birthing pools create birthing spaces that protect women and midwives from the gaze of biomedicine. Sayer (2000, p 120) describes how changes in social practices are often accompanied by

> ' significant changes in the patterns of movement of actors [subjects] but without making much difference to the material environment. It is, therefore, possible to have a new geography of the physical environment of constructed or natural spaces'.

Foucault (1986) holds that people do not possess the necessary agency to control freely the way they think but can actively negotiate their social identity within a given discourse. As discussed in chapter five of this thesis, discourses change across time and space so that subjects can self-regulate in line with institutional tactics and political strategies (Foucault, 1977). Self-regulating subjects are desirable for institutions such as hospitals, but they do not have the necessary resources to keep people under continuous surveillance (Danaher et al., 2000, p 75). It was clear in the descriptions of the workshop discussions that coordinating midwives influenced the practice of less powerful midwives to improve the use of birthing pools on their labour ward. However, just like the example of the car driver (see chapter four of this thesis) the choices they were able to make were limited by existing labour ward discourses. The normalisation of waterbirth practice enabled hybrid midwives to reconcile their position as a biomedical midwife with their professional identity (self) as a normal birth practitioner through waterbirth practice. Waterbirth practice appears to have helped labour ward midwives to close the philosophical gap between 'doing' midwifery and 'being with woman'.

Waterbirth enhances the physiology of childbirth and promotes normal birth midwifery practice, but its promotion in labour wards is dependent on the availability of equipment and the philosophy of care adopted by the organisation (Cluett et al., 2004). Consequently for change in hospital waterbirth to be successful, innovations that support critical praxis (see chapter four of this thesis) and harness the legitimate power of authority figures is required. An important step in the change process was the increased awareness amongst participants and co-researchers that the organisational culture made it difficult for individuals to practice 'real' midwifery

(Hunter, 20004). Page (2008, p 153) concurs stating that for midwives to deliver alternatives to standardised biomedical based care their needs to be recognition

> ‘of the reality midwives face in their day to day life in terms of issues pertaining to power and control it is important if this is to happen’

Bass et al (1996) argues that the only way to achieve practice change is by replacing fundamental political strategies, institutional tactics and supporting people to change (disciplining bodies), through increased social support to implement new ways of working. However, the findings of this study illustrate that by co-opting dominant discourses (working with them rather than replacing them) it is possible to change midwifery practice. Although there is some trade-off in the transformative power of action research, it does result in change that can be sustained. In this sense, this study offers a more pragmatic approach to organisational change than that suggested by Bass et al (1996).

11. 4. Reflexivity

My reflexive stance has been highlighted throughout this thesis to make my pre-conceptions and personal bias transparent. This approach is in keeping with action research methodology, which emphasises the importance of addressing preconceptions throughout the cycles of planning, data collection and analysis (see chapters four and five of this thesis). While conducting the research, I continued to work as a midwifery lecturer and visit students and midwives on the labour ward.

Having time to reflect on my position within the research and examine my stance on the role of the labour ward midwife and the promotion of normality was beneficial for me personally and professionally. While I actively challenged my preconceptions of labour ward practice, I was aware that I had a bias towards those practitioners who were passionate about the promotion of the midwifery model of care. I became aware of this tendency when I started to collect data. It was at this point that I began to challenge my preconceptions and re-examine my stance (see chapters four and five of this thesis). The process of data collection and analysis over a protracted period of time provided frequent opportunities to examine these preconceptions and clarify my understanding of the labour ward midwifery culture.

I firmly believe that my experiences as both a clinical midwife and educator have enabled a much deeper understanding of how to help midwives to improve the organisational culture on labour ward.

11.5. Unique contribution to knowledge

This study makes a contribution to knowledge in the following ways:

- The study is the first to describe midwives attitudes to waterbirth practice in depth, and gain understanding of the issues surrounding the promotion of birthing pools in a labour ward environment. Previous literature relating to the topic consisted of an unpublished UK thesis and two papers about from the USA on maternity nurses' promotion of hydrotherapy. A paper relating to the

barriers to waterbirth practice was published to disseminate preliminary findings (Russell, 2011).

- The study has uncovered the tenuous nature of midwives professional identity of the expert in normal birth care and the efforts made by some midwives to reclaim this position through the promotion of birthing pools. This new understanding can be used to increase the use of birthing pools on labour wards and to develop and maintain expertise in the midwifery model of care. As such the study adds to the diminutive amount of previous literature on how to support the delivery of the midwifery model of care in labour ward environments.

- The study is the first to use a critical realist ontology informed by Foucault's dimensions of political strategy, institutional tactics and the 'body'. This approach provides an explanatory frame for the complex process of changing behaviour and practice. It addresses the issue holistically and is therefore more likely to address the combination of factors that shape practice. The combination of critical realism and Foucauldian theory elucidated generative mechanisms that have their origins in evolving political strategy. This knowledge has a wider, more generic application beyond midwifery and could be useful in other health care fields.

- The study adds to our understanding of the need to create space in hospital settings for the delivery of the midwifery model of care. Understanding the

importance of creating distinct spaces for the promotion of birth may inform management strategies and help midwives argue for more alongside and freestanding midwife led facilities.

- The study improves the existing theory of birth theory by adding a terrain not previously described. The Citadel is a space within a space created by placing portable birthing pools in surveillance rooms. This new birthing terrain adds to our understanding of how birthing pools protect women from unnecessary medicalisation and supports a 'being with woman' midwifery discourse.

- The study advances current understanding of the reasons why midwives conform to institutional imperatives of productivity and efficiency and how the organisational culture can be changed to support normal birth discourses. This understanding can assist other organisations to develop waterbirth services based on midwives promotion and maternal request. Understanding the importance of auditing and evaluating midwifery models of care at all levels of the NHS may ultimately leads to improvements in the choices offered to women who give birth in hospital.

- The study demonstrates the importance of social support and clinical leadership in bringing about subtle changes in the labour ward midwifery culture. This change gave midwives 'permission' to think and act differently to the institutional norms of biomedicine. Ultimately improved understanding of the factors that support the delivery of the midwifery model of care on

labour wards may improve women's choice and student midwives learning experiences (see chapter one of this thesis).

- The study adds to our understanding of how change can be achieved by co-opting dominant discourses, working with them rather than replacing them. The study offers a pragmatic approach that adds to our understanding of organisational change and action research methodology.

- The study is the first study to measure midwives self-efficacy. The understanding of the theory of self-efficacy and the part it plays in changing practice behaviours adds to the existing literature and provides new insights into the relationship between personal knowledge waterbirth self-efficacy, and environmental factors (social support).

- The study developed an original waterbirth survey tool. Given that the psychometric properties of the tool are strong it is suitable for use in other midwifery contexts. This work has resulted in the publication of two papers one describing the literature on behavioural change (Russell and Walsh, 2009) and the other the results of the questionnaire analysis (Russell et al, 2013). Dissemination of these findings has led to requests from Australian midwives to use the survey tool in their research.

11.6. Strengths of the study

The main strengths of the study are as follows.

- I believe that the data collected would not have been possible without adopting an action research methodology. The rich data generated by the focus groups and in-depth interviews provided insight into the practice of hospital waterbirth and midwives' everyday experiences of working on labour ward. Triangulation of data from qualitative and quantitative methods adds to the validity of the study and confirmed a consistency of the findings.

- Workshops enabled the actions of the group to be effectively applied to practical situations over a prolonged period. The opportunity to reflect as a group increased the coordinating midwives' awareness and led to the development of new knowledge with which to develop and put in place interventions to increase pool use. The workshops provided a safe environment for reflection on practice with other like-minded individuals. This format allowed for the development of critical companionship and for pre-conceived ideas about waterbirth practice and the midwifery culture to be challenged and change implemented.

- The use of a waterbirth coordinator from a comparable unit provided coordinating midwives with practical help and enabled them to see there was a real need to improve waterbirth service.

- As an experienced midwife, I had knowledge of working in the midwifery culture, and therefore the language and terminology used by participants was very familiar to me and needed no clarification. Experience of facilitating group learning enhanced communication and collaboration with participants and workshop attendees

11.7. Limitations of the study

Some limitations of the study identified previously will be clarified here.

- It is acknowledged that this study focused on a small group of midwives working in one English Hospital., so it is possible that the findings may not represent the views of other UK labour ward midwives. However, the use of critical realism allowed for the deeper exploration of generative mechanisms and when I have presented some of the findings at national and international conferences they appear to resonate with other midwives' experiences of hospital waterbirth practice. The use of action research and critical realist ontology prevents generalisation of the findings.

- Midwives who took part in the study may not have been a representative sample. This possibility was reduced by using a range of methods to elicit

data from a significant proportion of coordinating midwives, clinical midwives and midwifery managers.

- It is possible that some midwives may have completed a waterbirth questionnaire on more than one occasion. However given the rotation of staff it is likely that the questionnaire data is largely composed of differing midwives. The fact that three separate groups were used meant that statistical tests with lower statistical power had to be employed with the result that the questionnaire findings are conservative.

- Testing of the newly developed waterbirth questionnaire demonstrated that the psychometric properties were strong and that it was a valid and reliable instrument. But the validity of any newly designed questionnaires are difficult to confirm on the findings of one study and therefore further studies are required to determine the full reliability.

11.8. Conclusion

This chapter has synthesised the overall findings of the study and highlighted how the study contributes to new areas of knowledge. Increased use of birthing pools by hybrid midwives made the midwifery model of care more visible within the organisation. Consequently, the study adds to the theory of birth territory and provides new insights into supporting the delivery of the midwifery model of care in medicalised environments. In keeping with an action research methodology, I have

demonstrated my reflexive stance and made my position transparent within the research process. In addition, the overall strengths and limitations of the study have been acknowledged.

This study is the first to describe midwives' attitudes to waterbirth practice in depth, uncovering generative mechanisms in the process that are more likely to lead to sustainable change. Consequently, the study adds to our understanding of how physical and philosophical spaces impact on labour ward midwives' abilities to promote care based on the midwifery model.

The political strategies responsible for midwives' conformity to the biomedical model of care and that enabled ward managers to lead change and normalise waterbirth practice on labour ward created distinct spaces for midwives to practice the midwifery model of care. These changes led to increases in the number of hybrid midwives and increase use of birthing pools and reclaim this position through the promotion of water immersion. In addition, the study is the first to use measure midwives' self-efficacy and to combine Foucault's work on discourse and power/knowledge with critical realism. These unique findings add to the existing knowledge base in this aspect of midwifery practice.

In the following chapter the study will be concluded before recommendations for midwifery practice, education and future research are made.

Chapter Twelve: Conclusion and Recommendations

12.1. Conclusion

This action research study has elicited the experiences of labour ward midwives in relation to the use of birthing pool and described how harnessing political strategies, institutional tactics and reshaping of midwifery bodies led to improved use of birthing pools by midwives. Prior to the research the unit recorded 25 waterbirths per year. The aim of the study was to understand how the organisational culture on labour ward could be changed to support midwives' promotion of water immersion using birthing pools. In the final twelve months of the project, 383 women used a birthing-pool during labour and 115 (43%) of these gave birth to their babies under water. Therefore, the study findings have demonstrated achievement of this aim.

Examination of the historical and current context of hospital midwifery practice illustrated how maternity policy has negatively impacted on practitioner's ability to promote normal birth in institutional settings. Water immersion was identified as a good way of supporting the delivery of the midwifery model of care on labour wards. The literature review aimed to identify papers relating to labour ward midwives' experiences and attitudes to the promotion of birthing pools. No papers investigating the promotion of waterbirth on labour wards were located from the review. This finding provided evidence of the need for the study. The paucity of literature in this area led to the review focusing on the identification of the factors necessary for improving midwifery-led care in hospital settings. The litertaure review revealed that

the successful introduction and acceptance of practice change requires a comprehensive strategy that supports ownership of practice change, capability to change and transformational leadership across all levels of the organisation. In addition the review identified that action research was an effective methodology. The thesis illustrates practitioners' involvement with diagnosing problems and implementing practical solutions to change and transform their situation. Thus, collaborative experiences of the researcher and midwives guided the research process and led to improved use of birthing pools on the labour ward concerned. Educational workshops appear to be a successful way of supporting, measuring and evaluating change in clinical practice settings. Problem-solving workshops based on an action research format, enabled authority figures to lead organisational change and normalise waterbirth practice on labour ward.

Foucauldian discourse analysis revealed institutional rules and obligations that positioned labour ward midwives as either biomedically orientated practitioners, hybrid or 'normality' midwives. The findings from the first research phase revealed a lack of leadership for waterbirth practice and identified that coordinators had the power to control access to the poolroom. The identification of discursive strategies exposed the relations of power within the organisational culture that led to the promotion of biomedical model of midwifery that marginalised waterbirth practice. The inclusion of Foucault's power/knowledge dynamic focused qualitative analysis on the identification of discursive strategies, subject positions and dominant and subjugated midwifery discourses. This approach allowed new insights into the way midwifery practitioners are disciplined and controlled by authority figures and powerful panoptic devices to conform to the dominant biomedical discourse. The

application of theoretical concepts such as disciplinary power, birth territory and heterotopia provided an explanatory framework to understand the subject positions labour ward midwives occupy.

The use of critical realism as the theoretical underpinning to the action research study was key to revealing the generative mechanisms responsible for the presence of the midwifery discourses and organisational change. Political strategies such as clinical governance and risk management have contributed to midwives occupying the subject position of a biomedically-orientated midwife. It appears that some practitioners internalised the values of the dominant discourse to meet the needs of the institution. Institutionalisation of midwifery, within an industrialised model of care has led to normal birth practice being viewed as something most labour ward midwives aspire to rather than achieve. Thus, midwifery models of care may have been subsumed within the labour ward culture.

This study advances current understanding of how organisational change and support for normal birth care in labour ward environments can be achieved by creating spaces significantly different from those occupied by biomedically orientated midwives. It was clear that improved availability of birthing pools, increased numbers of hybrid midwives together with changes in social support and leadership nudged care provision closer to the midwifery model of care. Consequently, the study improves understanding of the factors necessary for the successful promotion of the midwifery model of care in medicalised environments and the importance of the need for organisations to create space for normal birth practitioners.

This study highlighted the barriers to birthing pool use and the organisational changes required to support midwives promotion of alternatives to the biomedical practice expected by the institution. The study is the first to describe midwives' attitudes to waterbirth practice in depth and to measure midwives' waterbirth self-efficacy. The majority of data indicated that midwifery practice took place within an organisational culture dominated by biomedicine. In addition, the study adds to our understanding of how change can be achieved by co-opting rather than trying to replace dominant discourses such as biomedicine. Consequently, this study offers a pragmatic approach for improving the delivery of the midwifery model of care in hospital environments dominated by biomedicine.

12.2. Recommendations

12.2.1. Clinical Practice

Marked variations in the rates of water immersion between free-standing midwifery units and labour wards (Birthplace in England Collaborative Group, 2011) reinforce the view that care environments impact on midwives' ability to promote normal birth. It was clear that the clinical leadership provided by coordinating midwives, the waterbirth champion and managers increased support for birthing pool use on the ward. Thus, the way organisations are managed and led clearly impacts the culture that it supports. It is evident from the findings that the development of a waterbirth culture is only possible if those at the top of the organisation are supportive.

Therefore, it is essential that midwifery leaders recognise the important role they play

in enabling clinical midwives to provide alternatives to the biomedical model of care. It is critical that leaders within organisations understand the importance social support and role modelling play in enabling midwives to promote alternatives to routine care. It is recommended that organisations focus on assisting midwives to adopt a hybrid position (marrying the biomedical and 'with woman' discourses) in order to meet the needs of all childbearing women.

The role of the supervisor of midwives ensures the quality of care by conducting annual midwifery practice reviews (Paeglis, 2012). It is recommended that maternity units appoint supervisors to act as waterbirth champions (as described in this study). This intervention would raise the profile of waterbirth practice on labour wards and demonstrate senior managers commitment to supporting midwives in the fulfilment of their professional role. This recommendation would be relatively straightforward to implement but would require strong midwifery leadership within maternity units.

Strong clinical leadership for normal birth has the potential to transform the bureaucratic nature of labour wards by increasing the number of normal birth spaces using portable birthing pools. The lack of leadership for normal birth care is as a key factor in the medicalisation of institutional birth (O'Connell and Downe, 2009). This study highlights that the successful implementation of change requires that organisational drivers such as leadership, normalisation of birthing pool use and availability of resources may at times, be more important than internal factors such as self-efficacy.

Improvement in the auditing, dissemination and evaluation of waterbirth practice raised awareness of the need to improve the service midwives provided. A major difficulty was the lack of local and national waterbirth data. A key recommendation is for the government to require all NHS trusts to collect and publish waterbirth data so this type of midwifery care can be reported at a local and national level. Given the amount of information that is already collected by trusts, this recommendation would be relatively simple to implement but would require change at a political level for it to be successfully implemented.

12.2.2 Education and Training

The paucity of funded continuing professional development opportunities, due to the focus on mandatory skill training in obstetric emergencies was identified in this thesis. Unit managers introduced normality training for midwives to improve the delivery of normal birth care and water immersion. They also provided instruction on how to use the portable birthing pools and improved the waterbirth guideline to support practice change. Training to improve clinical skills training is important but opportunities, for midwives as a group, to critically reflect on normal birth care is also beneficial. It is clear that clinically based educational workshops, such as ones in this study, could improve the delivery of normal birth care. It is recommended that mandatory workshops be introduced in all maternity units to provide labour ward midwives with a format with which to examine the normal birth service. This educational initiative could also be used to provide an informal peer support network.

However, regular group meetings may require additional resources and so may be difficult to implement.

At the outset of this study, I made it clear that one of the drivers for the research was to improve student midwives' exposure to the midwifery model of care. It is evident from the findings of this study that increasing midwives use of birthing pool on labour may improve student learning. The NMC (2009) current policy states that students need to conduct forty normal births to be eligible to qualify as a midwife. In reality, numerical data represents women who have achieved a vaginal birth with or without intervention. It is recommended that educational institutions instruct student midwives to record the number of home births, physiological and waterbirths they have attended in their practice documents. This data could be audited on an annual basis and used to improve clinical learning environments.

12.2.3 Further research

This action research study focused on an area of midwifery practice that has not been researched in any depth previously. Consequently, some recommendations can be made. The findings of this study highlight one of the barriers to care is labouring women's failure to request a birthing pool. Further exploration of the impact of maternal request on the delivery of waterbirth services would increase understanding maternal choice plays in midwives' promotion of normality.

This study focused on a small group of midwives working in one English Hospital.

Given that the study took place in a very particular context it is recommended that similar research be conducted on other labour wards to discover if the findings can be replicated. In addition, further exploration of the use of portable pools on labour ward, using an ethnographic methodology, would enable direct observation of midwifery practitioners and women. This research would advance understanding of how the physical space created by the birthing pools changes the ways in which labouring midwives and women behave.

Testing of the waterbirth questionnaire for this study found the psychometric properties to be strong and that it was a valid and reliable instrument. However, the validity of any newly designed questionnaire is difficult to confirm on the findings of one study and, therefore, further studies are required to determine full reliability of the tool. It is recommended that questionnaire data from both midwifery led and labour ward settings be collected to compare variations in scores for personal knowledge, waterbirth self-efficacy and social support.

12.4. Closing remarks

Throughout this thesis, I have focussed on the experiences of a group of clinical midwives and their managers working on one English labour ward. The changes that occurred in their promotion and facilitation of water immersion took place over a number of years. I found I was able to embrace the emergent and unpredictable nature of action research during data collection but found recording the process in an understandable way within a thesis structure, challenging. However, the more I read

about the methodology and the issues surrounding its use, the more able I was able to structure the thesis so it was also an authentic portrayal of the research process.

The enthusiasm and commitment shown by some the coordinating and clinical midwives to improve the delivery of midwifery care was inspiring. I hope that this study has highlighted the difficulties midwives face in relation to the promotion and facilitation of water immersion and that I have done justice to the data provided by participants and workshop attendees. I have gained a great deal from conducting the research and learned even more from the process of completing this thesis. I have grown both personally and professionally and can honestly say that I have never ceased to find the topic fascinating and challenging. In conclusion, I believe that this study makes a significant contribution to midwifery knowledge and offers insight into organisational change and the promotion of birthing pools on labour wards that can be used to develop practice and inform future research.

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Appendix I

Letter of Invitation

Dear Midwife,

I wish to invite you to take part in an action research project that I am facilitating in the Maternity Unit at the [name of trust withheld]. The study is entitled: Realising behavioural change in hospital midwives Waterbirth practice: a participatory action research project. I have enclosed an information sheet about the purpose of the research and your role as a participant. There is also a consent form, which you need to read and complete if you decide to take part in the study.

If you wish to take part in the research please contact me by returning the reply slip in the envelope provided and return it to me via internal post, or telephone or email me so we can arrange a convenient time and date for the interview.

If I do not hear from you within 6 weeks of this letter I will presume you do not wish to be involved in the project at the present time.

Yours sincerely

Kim Russell

If you wish to take part in the interviews please complete the reply slip below and return to me in the addressed envelope provided:

Reply Slip

Name _____Work base_____

Contact telephone number _____

E-mail_____

Appendix II

Research Participant Information Sheet

Study Title: Realising behavioural change in hospital midwives waterbirth practice: a participatory action research study.

Invitation

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please contact me if you would like more information.

What is the purpose of the study?

The study is being undertaken as part of my MPhil/PhD research at the University of Nottingham and supported by my employer the University of Worcester and the maternity unit at [name of trust withheld]. The first phase of the research will focus on identifying factors that affect the delivery of waterbirth care to low risk pregnant women and developing solutions/interventions with participants to address them. In the second phase these solutions will be put into practice and changes in the delivery of waterbirth care monitored and evaluated following an action research cycle. During the first phase of the study I intend to interview labour ward co-ordinators and undertake at least 4 focus groups with unit midwives. In the second phase it is envisaged that focus groups and interviews will be used to monitor and evaluate changes in midwives practice and to identify further problems and solutions. Each phase of the study will last for 6-12 months.

Why have I been chosen?

I have contacted you because you are a hospital-based midwife who may spend some of your work time on labour ward, or you are a labour ward co-ordinator. If you never work on labour ward there is no need to continue to read any further.

Do I have to take part?

Your participation is purely voluntary and does not affect your employment in any way. It is up to you to decide whether or not to take part. If you decide not to take part then you do not need to contact me directly. If no contact is received within 6

weeks of sending out the letter I will presume you do not wish to be involved in the project at present.

What will happen to me if I take part?

The study is qualitative design that uses open interviews and focus groups to obtain information. This means encouraging you to express your thoughts or opinions about waterbirth following a question or prompt by the interviewer. There is no right or wrong answer. I am only interested in your opinions and experiences. You can stop the interview and focus groups, at any time without affecting your employment. The interviews and focus groups will be tape recorded to enable data analysis and last for approximately **1 hour**. Interviews and focus groups will take place at the hospital site in work time at the end of a day shift. Interviews and focus groups will be at a prearranged location away from the clinical area.

What do I have to do?

If you decide to take part then you need to complete the reply slip and send it back to me in the self addressed envelope or contact me directly (see contact number/email on the letter attached to this leaflet). I will then arrange a date and time for the interview/focus group that is convenient to you. Prior to the interview/focus group I will ask you to sign a consent form, a copy of which will be given to you to keep along with this information sheet. But remember even after this you are still free to withdraw at any time without giving a reason.

What are the possible disadvantages and advantages of taking part?

The main disadvantage is that it will require you giving up some of your time at the end of a shift or in your own time if this is more convenient. However to reduce this affect the interviews/ focus groups **will be conducted at your place of work**. The main advantage is the opportunity to reflect on your own experiences or thoughts on waterbirth and contribute to the development of solutions and improvements in the delivery of such care.

Will my taking part in the study be kept confidential?

The time and place of interview/focus group will be arranged in advance at a location, agreed with you, away from clinical areas. All interviews/focus groups will be digitally recorded and an ID code applied prior to being transcribed by an independent transcriber to prevent anyone identifying you. As well as this all place names and

locations will be omitted during transcribing. All information will be strictly confidential during the course of the study and all recordings will be stored on a secure password protected computer and destroyed at the end of the study. However should malpractice be disclosed to me during the interviews or focus groups then this will be reported to the NHS hospital trust involved.

What will happen to the results of the research study?

The findings will be fed back to participants and midwifery managers in order to support change in midwives waterbirth practice behaviours. The results of the study will be presented in my research thesis and assessed by lecturers at the University of Nottingham. A summary of the final report will be available to all interested participants and posted to them directly on completion of the study. It is intended that findings will be presented at local and national conferences and published in professional journals.

Who is funding the study?

This research is not sponsored by an outside organisation and is part of my MPhil/PhD research thesis at the University of Nottingham and supported by the University of Worcester. No payment will be received for participation in the study or for the researcher conducting it.

Who has reviewed this study?

[name of trust withheld] NHS Research and Development Unit have reviewed the study and ethical approval was granted by the Coventry Research Ethics Committee.

What if I have a concern or complaint about how the research has been conducted?

If you have any concerns about the study then please contact the researcher Kim Russell: Telephone 01905 855366 or e-mail k.russell@worc.ac.uk. Or if you are unhappy and wish to complain formally please contact Dr. Denis Walsh (Research supervisor) at the University of Nottingham: denis.walsh@nottingham.ac.uk

Thank you for your time.

Kim Russell
University of Worcester
WR2 6AJ

01905 855366
Email: k.russell@worc.ac.uk

Appendix I11

Consent Form

Study Number: 07/H1210/147

Title of Project: Realising change in midwives waterbirth practice: A participatory action research study.

Name of Researcher: **Kim Russell**

Please tick each box to confirm your agreement

I confirm that I have read and understand the information sheet dated 1st May 2009... (version 3.) for the above study and have had the opportunity to ask questions ☐

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

I understand that the interviews will be recorded digitally on a password protected computer and that all recordings will be destroyed at the end of the study. ☐

I agree to take part in the above study. ☐

_____	_____	_____
Name of Participant	Date	Signature
_____	_____	_____
Researcher	Date	Signature

1 copy for participant and 1 copy retained by researcher

Appendix IV

NHS Ethical Approval

NHS

National Research Ethics Service

Coventry Research Ethics Committee
2nd floor West Wing
University Hospital
Clifford Bridge Road
Coventry
CV2 2DX

Telephone: 024 7696 7529
Facsimile: 024 7696 5033

Mrs Kim E. Russell
Senior Lecturer in Midwifery and Women's Health
University of Worcester
Institute of Health, Social Care and Psychology
Henwick Grove
Worcester
WR2 6AJ

10 December 2007

Dear Mrs Russell

Full title of study: **Realising behavioural change in labour ward midwives practice behaviours: A Participatory Action Research study.**

REC reference number: **07/H1210/147**

Thank you for your letter of 01 December 2007, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information has been considered on behalf of the Committee by the Chairman.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The Committee has designated this study as exempt from site-specific assessment (SSA. There is no requirement for [other] Local Research Ethics Committees to be informed or for site-specific assessment to be carried out at each site.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Application	A&B	03 October 2007
Investigator CV	Mrs Kim Russell	03 October 2007
Protocol	Version 1	19 September 2007