CAESAREAN BIRTH: THE IMPACT OF CLINICAL UNCERTAINTY ON PROFESSIONAL DECISION-MAKING

A thesis submitted for the degree of Doctor of Philosophy

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ABSTRACT

The reasons why the caesarean section rate continues to rise in the western world have become a major issue in relation to contemporary maternity health care. One key factor put forward to explain the rise in caesarean section rates is the increasing influence of the biomedical model on childbirth. This model is built on the belief that obstetrics can structure the birth process so as to make birth happen in an orderly, safe and controlled way. However, much of the obstetric knowledge on which decisions are based is uncertain, or, in some cases, non-existent. In consequence, questions about the efficacy and efficiency of biomedical decision-making about childbirth have been raised in the political, consumer and professional arenas. Despite the ambitions of UK maternity policies to the contrary, and indications derived from evidence-based medicine, hopes of reducing the caesarean section rate have not been realised.

This thesis examines different parameters of caesarean section decision-making to those which have been studied previously. Using Fox's (1957) research on medical uncertainty as a framework for this study, the impact of uncertainty on midwives' and doctors' decision-making, the structural and organisational factors which impact on this process and the strategies which health professionals use to cope with uncertainty were explored. The method used was participant observation, supplemented by 16 semi-structured interviews with doctors and midwives, undertaken over a six month period from June 2000-December 2000. The field work was situated predominantly on a labour ward managing about 3000 births per year. The qualitative data were analysed in relation to the management of uncertainty through thematic analysis.

The study identified problems which midwives experience in their work on account of medical uncertainty, problems which lead to midwives becoming concerned about the limits of their own knowledge and feeling individually incompetent. Doctors, in contrast, are able to manage uncertainty by focussing on the limits of the body of knowledge available to them, rather than on their own individual lack of knowledge. Nonetheless, doctors' tolerance or intolerance of uncertainty impacts on decisions to undertake caesarean sections. If caesarean section rates are to decrease, clinicians must learn better ways to deal with complexity in decision-making, and organisational support needs to be in place to facilitate this process.

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GLOSSARY OF TERMS

Breech presentation The fetal buttocks/feet lie lower most in the uterus

Dystocia A difficult labour characterised by abnormally slow progress in labour which may also relate to the birth of the baby

Epidural The relief of pain without loss of consciousness through the introduction of an analgesic agent into the epidural space of the vertebral canal

External cephalic version The artificial alteration of the fetal position to facilitate birth

Haemophilia factor V111 Haemophilia resulting from a deficiency of factor VIII. It is an inherited disorder of blood coagulation characterized by a permanent tendency to haemorrhage

HELLP A syndrome of HAEMOLYSIS, elevated liver ENZYMES, and low blood platelets count (THROMBOCYTOPENIA). HELLP syndrome is observed in pregnant women with PRE-ECLAMPSIA or ECLAMPSIA who also exhibit LIVER damage and abnormalities in BLOOD COAGULATION

HIV Human immunodeficiency virus

IUD Intrauterine death

Kleihauer A blood test undertaken on a rhesus negative mother following the birth of her baby to check for antibodies.

Liqour The fluid surrounding the baby in the amniotic sac

Moxibustion: The burning of a small, thimble sized, smouldering plug or cone of moxa, usually Artemisia vulgaris (Mugwort), on the skin at an ACUPUNCTURE point

Multip A woman who has been pregnant more than once

NICU The neonatal intensive care unit

Occipitoposterior position The fetal head is deflexed, and not engaged in the pelvis and the limbs of the fetus are felt to the front of the mothers abdomen

Pethidine A narcotic analgesic that can be used for the relief of most types of moderate to severe pain, including postoperative pain and the pain of labour.

Placenta accreta A placenta that has become adherent to the uterine muscle over the whole or part of its surface

Pre-eclampsia A complication of PREGNANCY, characterized by a complex of symptoms including maternal HYPERTENSION and PROTEINURIA

Primip A woman who is pregnant for the first time

CHAPTER ONE
INTRODUCTION

> *"In effect we have redefined the task of science to be the discovery of laws that will enable us to predict events up to the limits set by the uncertainty principle" (Hawking 1988 p.173)*

This thesis aims to understand and explain the influence of uncertainty on the clinical behaviour and decision-making of obstetricians and midwives, and to explore its potential contribution to the variation in the rates of caesarean sections being performed. This introductory chapter will provide a brief outline of the problem, state the research question and conceptualise the framework to the thesis.

1.1 The problem

The continued rise in caesarean section rates in the United Kingdom, and the factors that have contributed to it, have stimulated an expanding interest from health-care professionals, researchers, political bodies and consumer groups. Much of the concern around caesarean sections is associated with the belief that the procedure increases morbidity and mortality risks to the mother (Yoles and Maschiach 1998; Burrows et al. 2004), and the infant (Levine et al. 2001; Haas and Ayres 2002). In addition there are issues around the increased costs associated with the procedure to the NHS when compared to a vaginal birth. Thus, from this perspective, the main concerns that some political, professional and lay groups have, revolve around whether caesareans are becoming an accepted and 'normal' part of birth, as the procedure becomes:

> *"an ever increasingly used technology which diminishes traditional forms of birth practices and creates doubts about existing techniques, definitions and forms of knowledge that surround birth" (DeVries 1996)*

However, on the opposite end of this continuum, some doctors argue that if caesarean sections are planned, morbidity and mortality risks to women are minimal (Paterson-Brown and Fisk 1997; Paterson-Brown et al. 1998; Paterson-Brown and Fisk 2004). These authors raise a number of dilemmas associated

with elective caesarean sections. A key debate is whether vaginal births are desirable, or achievable, for all women. Furthermore, Paterson-Brown and Fisk argue that because some women are now choosing to have smaller families, risks associated with women having had more than three caesarean sections, such as decreased fertility and placenta accreta, are substantially reduced. Nonetheless, a recent consensus statement from the National Institute of Health (NIH 2006) makes clear that more research is needed to substantiate such claims. They clearly state that, at present, women should not be granted caesarean sections upon request without clear medical reasons

Currently, there are around 600,000 births a year in England and Wales, of which around 125,000 involve a caesarean section (NICE 2004). There are wide regional variations in the use of the procedure which cannot be medically accounted for. Although figures released in 2004 for the period 2002–03 suggested that the caesarean section rate had stabilised for the first time in twenty years at 22% (Department of Health 2004), the latest figures for the period 2004–05 shows that the caesarean section rate increased to 22.7% (Department of Health 2006). Despite the increased policy emphasis on Changing Childbirth (Department of Health 1993) and evidence-based practice (Department of Health 1998) which puts women-centred care, informed choice and promoting the role of the midwife and 'normal' childbirth, neither policy initiative has had an impact on reducing the level of caesareans undertaken within the United Kingdom. The reasons for the high caesarean section rate are multi-factorial, complex, and not very well understood.

Current research on caesarean sections has focussed on two main areas. The first has been on the clinical and psychological outcomes for women (for example Josephs 1996; Fisher *et al.*1997; Creedy *et al.*2000). The second has been on comparative outcomes and risk management underpinned by a concern for rising litigation rates, indicated by research studies such as the term breech trial (Hannah *et al.*2000). Such studies have influenced the Royal College of Obstetricians and Gynaecologists to recommend that women should be encouraged to have a caesarean section for breech presentations, in preference to undergoing a vaginal birth. Furthermore, some authors have argued that research

within the evidence-based practice paradigm has assumed a simplistic linear relationship between the existence of 'evidence' and professional decision-making (Kanouse and Jacoby 1988; Wood *et al.*1998; Davies and Nutley 2000). In contrast to the considerable literature available on outcomes, there is a paucity of information about the role of either the midwife or doctor in the decision-making process, and about the factors that may affect this process.

This thesis examines very different parameters in the caesarean section debate. It is assumed by some policy makers that the decision-making of health-care professionals will be detached, impartial and based on the best available evidence (Downie and Macnaughton 2000). However, these assumptions underplay the impact of the uncertainties inherent in medical practice. In other research undertaken in general surgical and medical settings, uncertainty has been implicated as a cause of difficulty among physicians with respect to establishing consensus about diagnosis, treatment and guidelines (Allison *et al.* 1998; Chow 1998; Gillett 2004). These findings suggest that the impact of uncertainty on clinical behaviour and decision-making is an important, but unresolved issue.

The present thesis aims to understand and explain the influence of uncertainty on the clinical behaviour and decision-making of obstetricians and midwives, and to explore its potential contribution to variation in the rates of caesarean sections being performed. The issue of uncertainty underlies the medicalisation of childbirth. As Harvey (1996) notes, uncertainty around childbirth issues can be seen to be both real and exaggerated. Health professionals argue that, whilst it is impossible to predict the process and outcome of any individual pregnancy, the risk of mortality, albeit very low in developed countries, remains, and that, therefore, childbirth should remain subject to close surveillance. It is widely recognised that many aspects of pregnancy and childbirth remain obscure, for example predicting shoulder dystocia. Gibb (2001), for example, observes that whilst there are certain factors associated with dystocia such as pregnant women presenting with a large baby, there are no reliable predictors for dystocia, and almost half the cases reported involved infants less than 4kg. Although the risk of dying from childbirth is very low in the UK and other developed countries (Lewsi and Drife 2001), obstetricians continue to treat all women as 'at risk' of

problems developing during the course of their pregnancy and labour. The old adage of 'normal only in retrospect' will always be a pertinent factor in maternity care.

The research discussed in this thesis aims to address the following questions:

- What cultural and organisational contextual factors are involved in the process of professional decision-making about caesarean sections?
- How do obstetricians and midwives make decisions that results in a caesarean birth outcome, and what impact does uncertainty have on this process?
- What are the perspectives and coping strategies of obstetricians and midwives when faced with uncertainty in decision-making ?

An ethnographic study of a maternity unit was undertaken from June to December 2000. The main method used was participant observation, which involved shadowing doctors and midwives during the course of their work on the labour ward. In addition, 16 semi-structured interviews with a range of doctors and midwives at the unit were undertaken. The study was also informed by observations of unit meetings, and educational sessions for both midwives and doctors. Information about the hospital organisation and structure was collected. By situating this research in the context of the hospital, I was able to develop a clearer understanding of organisational and microcultural influences on the decisions that clinicians make under conditions of uncertainty.

1.2 Origins of the study

My interest in maternity care has spanned the last twelve years since I undertook training to become a midwife, having been a general nurse prior to that. During the period of training and the early years after this time, I worked predominantly as a team midwife, and gained considerable experience of supporting home births. My philosophy of childbirth was framed by a wonderful mentor who taught me to be a watchful observer of women in labour. This ethos was sustained by the publication of Changing Childbirth (Department of Health 1993). However, my hopes about the changes this would bring to midwifery and

women's experience of childbirth were, like those of many others, not realised. In particular, I began to take a particular interest in the increasing rates of intervention in childbirth.

I began to explore these issues further with my first qualitative research study, focussing on men's experiences of complicated births, in part fulfilment of my first degree (Bobbitt 1995). That study came about because I had been witness to a forcep delivery in which a baby sustained irreversible injuries. Both parents were traumatised by this event. I kept in touch with the family for four years after the birth, and I know that, up to that point in time, the thought of another child was beyond them. The above study was followed later by another qualitative study exploring women's experiences of labour induction (Green 1998). In both of these studies, I had explored the views of women and partners, but it became apparent to me that midwives and doctors were also troubled by such events. I started to think that the perspectives of clinicians also had to be heard so as to contribute to an improved understanding of the backstage of childbirth management, and of why particular decisions are taken.

Much of the previous research on childbirth has failed to address the biomedical framework which influences the way in which clinicians make decisions, and in particular how this process is affected by the unpredictability of childbirth outcomes. However, as I discuss further in the thesis, there is a growing interest in the general medical and sociological literature about the impact of uncertainty on the decision-making of health-care professionals. Situating this research in the context of the hospital, and, in particular, the labour ward setting, provided a clearer understanding of the social and cultural processes involved in decision-making under conditions of uncertainty for midwives and doctors.

1.3 Structure of the thesis

The thesis contains nine chapters and is thematically structured. Chapter two follows on from this introductory chapter. It situates caesarean sections within the wider context of issues concerning childbirth. It provides the background for the study and fuller statement of the problem. This chapter takes a historical

perspective, detailing how the debates around caesarean sections over the last 100 years differ little to those of today. These debates demonstrate that little consensus has been achieved about when or why a caesarean section should be done. This chapter provides the background context of individual and professional uncertainty through historical analysis of medical journals and other artefacts relating to contemporary organisational and professional issues around childbirth.

Chapter three reflects the first of the three aims of the study. It locates the work of clinicians within the wider context of the changes occurring within the NHS. It explores the cultural and organisational factors that have had an impact on maternity care in the UK. I include a discussion of the concept of evidence-based medicine, and debate the claim that it provides 'certainty in a world of clinical uncertainty' (Hunter 1996). Altruism and commodification are seen to be central concepts implicated in the caesarean section debate. The debates concerning whether caesarean sections should be considered an alternative form of birth for women who do not want to undergo vaginal deliveries and whether doctors are doing more harm than good by undertaking caesarean sections upon maternal request are considered.

Chapter four reflects the second and third aim of the study. It considers the literature on broader social and cultural issues which must be taken account of when examining how uncertainty impacts on professional decision-making about birth. In this chapter, I consider how sociological theories can contribute to an improved understanding of the difficult and challenging issues associated with the caesarean section rate. Discussion of these issues will contribute to understanding the socio-cultural context of professional decision-making under uncertainty, and of how professionals attempt to manage uncertainty.

Chapter five is the methodology chapter. It locates the study within an ethnographic framework, providing an account of how the research was undertaken, and identifies the different stages in the research process. Data included participant observation over a six month period in one maternity unit and 16 in depth interviews with a range of midwives and doctors. The chapter

includes a reflective account of the process of access negotiation, research roles and relationships in the field, the practicalities of undertaking, interpreting and presenting field notes and interviews and ethical dilemmas encountered both in and out of the field.

Chapter six provides an ethnographic based account of the site, setting and key personnel involved in the process of managing childbirth. It offers an account of the cultural and social factors which impact on the decision-making of clinicians. This chapter illustrates key personnel, their activities and the spaces that managing childbirth takes place in. Chapter seven continues with a fieldwork-based account of the work of doctors and midwives on the labour ward and therefore contributes to achieving the second aim of the study (exploring how obstetricians and midwives take decisions which result in caesarean birth outcomes). I show that the process of decision-making about birth outcomes is subject to considerable uncertainty related to the limitations of medical knowledge. Chapter eight is the last fieldwork-based account, related to the final aim of the study in which the coping mechanisms of midwives and doctors towards uncertainty, and their attitudes to caesarean sections are examined. Chapter nine brings together, and discusses the findings from the study. This concluding chapter reviews the main findings of the study, and offers recommendations which may inform future policy decisions and implications for further research.

CHAPTER TWO
CAESAREAN SECTIONS: THE BIOMEDICAL CONTEXT

"Surprising though it may seem this operation is one of the oldest in the history of medicine and without doubt the greatest. The oldest in that the history of its origin is lost in the mists of antiquity and the greatest in that it is the only operation in which two lives are concerned". (Young 1944:2)

2.0 Introduction

Chapter two seeks to situate the development of caesarean sections within a historical perspective, highlighting the uncertainty inherent in decision-making, alongside debates and discussions that have focused on mortality and morbidity issues. Using medical journal extracts from the end of the nineteenth century, I draw attention to the conflict and uncertainty evident among obstetricians about the conditions under which a caesarean section should, or should not be performed and how little has changed today. The opinions and experiences of midwives in relation to caesarean sections were largely absent from these journals and are therefore not considered in the early sections of this chapter. This chapter will also identify that cultural variations in approaches to caesarean section have resulted in quite different rates across national and international boundaries. This chapter will show that despite technological advances in maternity care, considerable uncertainty continues to surround contemporary decision-making among health-care professionals.

2.1 The history of caesarean sections

The word "caesarean" was derived during the middle ages from the Latin word caedere "to cut". Caesarean section refers to the operation of delivering the baby through incisions made in the abdominal wall and uterus of the mother in the period prior to, and during, the course of labour. Various myths and legends from different parts of the world surround the history and development of caesarean sections. For example, Greek mythology offers some dramatic tales of abdominal delivery in which the Greek god Zeus tears the premature Dionysus out of his dead mistress Semele's womb and implants him into his own thigh where he

stayed until term (Trolle 1982). Historical literature indicates that caesarean sections had been carried out in pre-Christian times on both dead and living women as far back as the Egyptian era (Trolle 1982). The physician Galen noted that:

> *"The way in which the abdomen is cut open and the child helped out whilst still fixed to the uterus is not our invention but has been described by many of the earlier authors" (Trolle 1982 pp.17)*

It was not until 1737 that the first recorded caesarean section was undertaken in the United Kingdom by Dr. Smith in Edinburgh (Young 1944). The baby was stillborn and the mother died some eighteen hours later. Historical records indicate that the first successful caesarean section performed in the UK was undertaken by an Irish midwife, Mary Donally, one year later (Young 1944). Although the child was stillborn the mother survived the operation. In writing about the history of caesarean sections, Young notes that many doctors were sceptical of this achievement. Indeed, Young, himself, commented that Donally's success was simply a matter of "good luck" on the part of the midwife, rather than attributing her success to any level of skill or expertise.

Up until the beginning of the twentieth century, caesarean sections were not a very well developed technique, and the practice varied according to the knowledge and skill of the doctor who performed it. However, the experience of even those relatively few early caesarean sections, and those that subsequently followed, provided the basis for significant developments in surgical techniques during the 19th century. Whilst some doctors agreed that a caesarean section was for some women the only chance of survival, others would not contemplate it at any cost (Leavitt 1986; Kass 1995). Practices such as craniotomy continued to be used as a last resort, when it became apparent that delivery of the baby could be achieved by no other way. Table 2.1 on the following page demonstrates some international survival rates of caesarean section from 1800 to 1880.

Table 2.1 International survival rates of caesarean sections 1800-1880

Country	Year	No. of cases	% survival rate
USA	Up to 1877	80	48
Germany	Up to 1872	712	47
France	Up to 1872	344	45
Britain	Up to 1879	131	18

Source: Francombe and Savage 1993 : 28

It is evident from the table that survival rates in Britain were significantly below those of other countries. Francombe and Savage (1993) note that in Britain, caesarean sections were only carried out as a last resort, therefore women were more likely to be in a debilitated state when the procedure was undertaken. This is likely to account for the lower survival rates. Haemorrhage and sepsis, as a result of puerperal fever, were the most common causes of death following a caesarean section, with maternal mortality in Great Britain and Ireland in the region of 85% in the 19th century (Eastman 1932). It was the beginning of the twentieth century that caesarean sections became readily accepted into obstetric practice. Indeed, Dr. Row (1901), writing in the Lancet, described how, 30 years previously, Sir James Simpson had written that recourse to a caesarean section invariably meant that a woman's life was sacrificed, concluding:

> *"What progress has been made in 30 years a surgeon can now undertake the operation of caesarean section under proper conditions with a confidence that it would be successful and there can be no doubt that many lives both maternal and fetal have been saved by this means" (Row 1901:145-146)*

Despite the high mortality rate of caesarean sections, doctors continued to try out new ways of undertaking the operation believing that by improving the technique, mortality rates of women could be reduced. One of the more notable attempts at around this time to reduce maternal mortality as a result of caesarean sections was discovered by a doctor in Italy in 1876. He found that the removal

of the womb (hysterectomy) following a caesarean section dramatically reduced the risk of haemorrhage. This procedure was referred to as 'Porros operation' named after the doctor who developed the technique. Even though there was a decreased risk of mortality from haemorrhage when compared to the classical caesarean section, rendering women sterile was met with considerable distain by many doctors. As a result, the procedure was not widely taken up by the obstetric profession. Nonetheless, there were some doctors who saw many advantages to the operation. They argued that sterilisation would save the lives of many women who were at high risk of mortality because of extreme poverty and poor health, poor obstetric histories and high birth rates due to lack of birth control methods (Playfair 1886).

2.2 The turning point

The turning point in the evolution of caesarean sections came about as a result of three significant advances in obstetrics from the 19th century onwards- anaesthesia, the introduction of aseptic techniques and the use of uterine sutures. The first was the use of anaesthesia (chloroform) in childbirth, introduced by James Young Simpson in 1847. Although the up take of chloroform was slow because there were concerns about the risks to women's health, it became more widely used in hospitals after Queen Victoria used it for her eighth delivery in 1853 (Loudon 2001). Its use meant that many women no longer had to suffer the pains of operative deliveries without some form of analgesia. However, pain relief was not available outside the confines of hospital. Therefore, because home birth was more common, most women did not have access to it. The other major advance, eighteen years later, was the widespread introduction of antisepsis for surgical procedures to minimise the spread of diseases, such as puerperal fever, by Joseph Lister (Loudon 2001).

The third significant turning point in the evolution of caesarean sections came about in 1882, through the recommendation of Max Sanger, a German surgeon, to use uterine sutures to close both the uterus and the abdominal wall (Eastman 1932). Although the origins and first use of this type of suturing is debated, it was Sanger who developed the specific techniques which he combined with the principles of sterility adapted from Joseph Lister. His recommendations had

been made as a result of time spent on the Western Frontier of America observing obstetricians at work there. He realised that their methods combined with Lister's principles of sterility were potentially a winning combination. Unfortunately, for some time to come, antisepsis techniques were only applied in hospitals, which meant, again, that few women survived caesarean sections when undertaken at home (Loudon 2001).

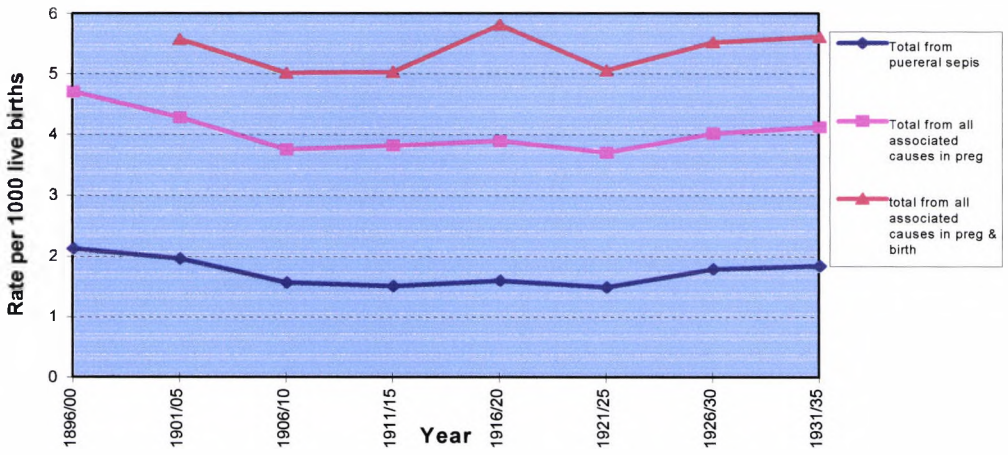
2.3 Maternal mortality: A continuing problem

Despite the improved method of undertaking a caesarean section, statistical evidence from both England and abroad showed that that the rates of maternal mortality continued to rise during the first part of the twentieth century as a result of haemorrhage and infection. Winter (1929), for example, analysed German statistics that indicated an overall maternal mortality rate of 7.1: 1000. He noted that a rise in caesarean section rates was not accompanied by a fall in either fetal or maternal mortality rates. He concluded that the increase in mortality rates was a direct result of the increase in the numbers of caesarean sections being undertaken in the country.

There were similar findings in America, where Plasse (1927) had estimated that the current 1% caesarean section rate in America represented approximately 25,000 operations each year. Upon further exploration of these statistics, Plasse found that approximately three quarters of these operations were for what he considered medically unjustified reasons. He concluded that approximately 900 – 1,800 women died each year, either directly or indirectly, as a result of having a caesarean section.

High rates of mortality were also prevalent in Norway, Italy, Sweden and Holland (Loudon 2001). In the United Kingdom, a preliminary enquiry into maternal and infant mortality concluded that maternal deaths through puerperal infection were largely avoidable (Campbell 1924). The report indicated that up to 40 percent of mortality could have been avoided through proper attention to the strict adherence of aseptic techniques.

Figure 2.3 The annual mortality rates in England and Wales from 1891 to 1935.



source: Macfarlane and Mugford 1984

Figure 2.3 demonstrates that maternal mortality remained high until the mid-1930's in England and Wales, despite the introduction of antisepsis techniques and improved training methods of health professionals. Because it had been observed that some maternity hospitals in England and Wales had significantly lower mortality rates in comparison to the national mortality rates, this pointed to a significant failure in maternity care in many maternity units (Loudon 2001). In addition, Loudon notes that the provision of specialist maternity services, for example undertaking caesarean sections, was patchy. This meant that many complications in labour had to be dealt with in the home without specialist equipment and expertise which women should have been entitled to. Furthermore, the overall standard of obstetric education was abysmally low, which, when compounded by the extremely long hours worked by medical students who by and large worked without any significant form of medical supervision, meant that women were at increased risk of morbidity and mortality (Marks 1994). Marks observed that although there were reforms to the hours

worked and the training of both midwives and doctors in the latter part of the 19th and the early part of the 20th century, these reforms were not adhered to.

Much of the significant decline in maternal mortality from the mid 1930's onwards can be attributed to the introduction of antibiotics for puerperal fever in 1936, and the subsequent use of blood transfusions for maternal haemorrhage. Loudon (2001) makes this historical comparison visually explicit;

> *"In the 1890's there were on average thirteen maternal deaths a day in England and Wales. In the 1990's there is less that one maternal death a week, even though the population of women of childbearing age has doubled" (Loudon 2001:216)*

By 1927 a health report levelled criticisms at the medical profession for their poor standards of medical education and technical competence (Campbell 1927). For example, it was found that few trainee doctors were actually getting to observe and manage women in labour. This was because the numbers of women being admitted into hospital were low, around 15% by 1927 (BMJ 1946), and of those women who were admitted to hospital, their care was generally being managed by trainee midwives. Indeed, as the next chapter indicates, the lack of clinical experience for doctors continues to be a significant problem during the course of medical training.

In their response to the criticisms levelled at them in Campbell's report, obstetricians set up their own professional college in 1927, which became known as The Royal College of Obstetricians and Gynaecologists (RCOG). Using the recommendations in Campbell's report, obstetricians managed to acquire monies from local authorities to build or improve on their educational establishments and the facilities that women gave birth in. They also looked at ways in which their training could be improved to relate more closely to the clinical area. They concluded that increasing the numbers of women who attended hospital for care in pregnancy and labour would help achieve their aims. The Government set up an investigative committee to examine the safety of contemporary institutional confinement. The RCOG was a significant part of this review process (BMJ

1946). Doctors argued that their improved training and better facilities enabled them to deal more effectively with unexpected and unpredictable emergencies. Without producing any viable evidence, they argued that encouraging more women to give birth in hospital would bring about a decrease in the maternal mortality rate. The Ministry of Health of the time (1956 to 1959), had felt unable to question the authority of the medical profession, and, indeed, were convinced by their persuasive arguments, supporting the call for increased hospital confinement of women. Thus, the trend for increasing hospital confinement of women in labour continued relatively unquestioned, and unsubstantiated by evidence that it would improve maternal and perinatal outcomes. By 1970, 83% of women were institutionalised for childbirth, rising to almost 100% by the end of the twentieth century (Tew 1995). Thus, the era of watchful expectancy was being superseded by one of active management, with increasing attempts to control the pathological side of birth based on the misplaced belief that hospital and obstetric interventions could influence more positive outcomes both in maternal and neonatal outcomes (Tew 1995). In fact, although mortality rates have been reduced in maternal and perinatal / neonatal areas, the reasons for this are not directly attributed to 'clinical care at the bedside' (Tew 1995). Rather, the widespread development and introduction of a range of antibiotics to treat infections, ergometrine, improved facilities for blood transfusions, adherence to cleanliness and asepsis and improved health of pregnant women

2.4 Caesarean Sections: Rhetoric of Need

In parallel with the practical and institutional arguments around childbirth, a series of debates around caesarean sections were gaining momentum in the early part of the twentieth century. These debates were predominantly concerned with addressing criteria about when and why the operation should be performed. Whilst many doctors acknowledged the increased safety of the operation, and that it was a life saving operation for some women, concern as to whether it was being used judiciously was growing amongst others (Spencer 1899; Kellog 1916; Boyd 1916; Kerr 1921). In the time leading up to, and including the introduction of Sanger's operation, the reason identified for undertaking a caesarean section was chiefly a deformed pelvis, or some other physical deformity that prevented a vaginal delivery (Young 1945). However, even here, there was considerable

uncertainty about what constituted the need for intervention. For example, Dr. Braithwaite (1898) writing in the Lancet, enthusiastically described himself as having successfully performed two elective caesarean sections on women who had ovarian tumours. Such rationales for undertaking a caesarean section were hotly debated in subsequent publications of the Lancet, where another doctor argued:

> *"Ovarian tumours was not an indication for this severe operation which in addition entails some risk of rupture of the uterus in subsequent pregnancies...it would seem better to follow the practice of ordinary midwifery" (Spencer 1899)*

The subject of the relative indications for caesarean sections and the uncertainty that surrounded this was frequently the focus of the International Congress of Gynaecology and Obstetrics forums. For example, one such forum, which convened in Amsterdam in 1899, attempted to gain consensus on what constituted pelvic disproportion so as to categorise which women should have a caesarean section for it. No agreement among the profession could be reached on this and other topics and so, not surprisingly, variations in obstetric practice continued.

One doctor in 1916 wrote an article in the Lancet, claiming that caesareans were being undertaken for commercial gain through the advertisement of particular technical skills (Kellog 1916). Kellog argued that many doctors were too inexperienced to manage complications in birth such as breech and face presentations, and that their own anxieties and uncertainties about birth outcomes affected their judgement. Indeed, various audits of medical records undertaken in 1901 and 1921 supported Kellog's claims. The audits revealed that women were having caesarean sections for brow, face, occipital, and transverse lies and for maternal age over 35 (Williams 1901), as well as for uterine inertia, epilepsy, hydramnios, varicose veins, and abdominal pain (Kerr 1921). Kerr concluded that the "*operative zeal of the practitioner had outstripped both his knowledge and judgement*" (Kerr 1921;338), appealing for a re-evaluation among the

medical community of the varying conditions in which caesarean sections were being undertaken. Another doctor reluctantly concluded that:

> *"there is little hope that the natural operative furore will wear itself out quickly but it may be that wide dissemination of the general principles underlying the relatively safe performance of obstetric operation can effect some improvement."(Plasse 1929;176)*

The above analysis demonstrates that the issues around variation in clinical practice can be attributed to uncertainty around birth outcomes, although it is apparent that other factors also affect the decision-making process. These issues have been, and continue to be a longstanding problem as the next section indicates.

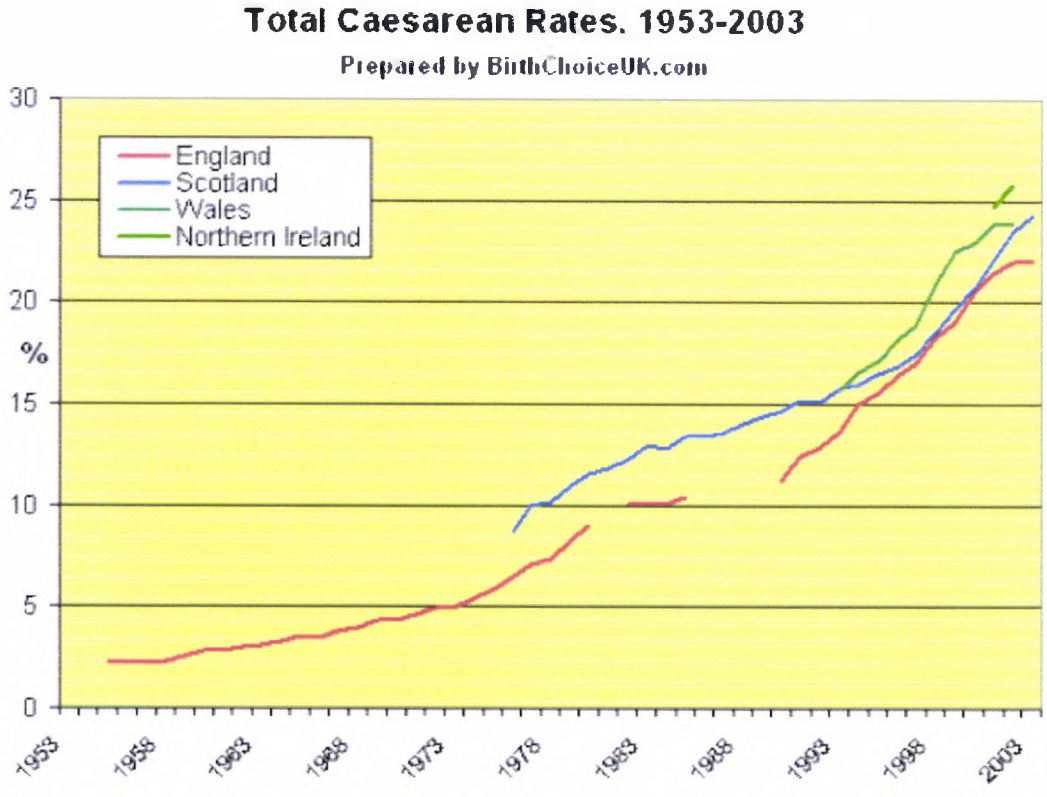
2.5 Caesarean sections: a rising concern

Throughout the last century, and up to the present day, the rationale for undertaking a caesarean section has remained a contentious area of debate. These discussions have centred on the ethical, social and cultural consequences of the operation, all of which continue to attract intense political, public and media interest. As Chaffer and Royle (2000) argue:

> *"The rising caesarean rate has serious implications in terms of both morbidity to women and infant and in terms of the resources required to conduct the caesarean and undertake the required aftercare." (Chaffer and Royle 2000:677)*

In particular, these debates have gained momentum over the past thirty years with a stark increase in the numbers of caesareans taking place in the UK. Figure 2 overleaf shows that in the 1970's, the rate rose from 4% to reach 9% by the end of that decade rising to 10.4% in 1985. Since then the rate has continued to climb steadily reaching 12.4% by 1990, 15.5% by 1995 and 19% by the end of 1999, to 22% for the period 2002/ 2003 (Department of Health 2004). More recently, as pointed out in chapter one, the caesarean section rate has increased to 22.7% (Department of Health 2005).

Figure 2.5



source: birthchoice.com 2005

Furthermore, the cost to the NHS each year of undertaking caesarean sections is widely considered to be problematic (NICE 2004). The estimated cost of a caesarean section is £3,200, compared with the cost of a vaginal delivery at £1,698 (Petrou *et al.* 2002). Thus, determining appropriate usage of caesarean sections is a central theme in maternity care policy because a reduction could represent significant cost savings to the health care budget. The rise in caesarean sections is not just a UK phenomenon, for example over a quarter of births in the USA (National Vital Statistics Report 2003) and a fifth of births in Canada (Canada Institute for Health Information 2004) are by caesarean section.

It was not until the 1980's that significant attention was given to the rise in caesarean sections. Firstly, the World Health Organisation (WHO 1986) expressed concerns about the increasing medicalisation of childbirth and its detrimental effects on maternal and infant morbidity. Prior to this, the WHO had already concluded that there were no health benefits with caesarean section rates

above 10 - 15% (WHO 1985). Although this estimate is quoted worldwide as a desirable goal, there is considerable debate that this level is attainable because of increasing focus on maternal choice, and recourse to repeat caesarean sections as opposed to encouraging attempts at a vaginal delivery after a caesarean section, and finally the increasing age of women having their first baby. Furthermore, this estimate is not based on any empirical evidence (Thomas *et al.* 2000). More recently, the WHO (2001) have acknowledged the continued upward trend in caesarean section rates and are in collaboration with international communities in order to identify what a realistic and safe caesarean section rate would be.

Secondly, the high profile suspension, and subsequent reinstatement, of the female obstetrician, Wendy Savage in 1985, also courted considerable media and public interest (Savage 1986). The suspension was as a result of complaints about her practice made by some of the medical colleagues whom she worked with. These complaints were related to her decision not to perform caesarean sections in situations in which her colleagues claimed they would have done. The case raises two important points. The first point is a restatement of the general obstetric opinion that no consensus exists as to what the right level of caesarean sections should be and what constitutes the need for a caesarean section. This is exemplified in an extract from Savage's book which involves Gordon Stirrat, a Professor of Obstetrics and Gynaecology and the solicitor, John Hendy, at the enquiry. Gordon Stirrat was making it clear that in his opinion her practice reflected the diversity evident in maternity care generally:

> *John Hendy: "If the management of these cases does demonstrate incompetence what implications do you see for obstetricians?"*
> *Gordon Stirrat: "Very, very serious implications for the whole of obstetrics in this country. It would be a decision which would move us very significantly towards the defensive medicine position which we are only to well aware of from across the Atlantic. There is no single body of practice which is agreed within obstetrics in this country and one has to ask why that is. There are basic scientific facts about so many of our practices that are lacking. We are practising on the basis of our training, our experience,*

such scientific knowledge as is available. If I had to encapsulate my job, it is as a risk assessor." (Savage 1986:161)

This quote demonstrates that uncertainty is inherent in obstetrics, and arises from the inevitable limitations of the medical knowledge base. This has led to individual obstetricians practicing within the boundaries of their own experience and knowledge, making risk based decisions which are highly subjective, debateable and open to criticism by different practitioners with different viewpoints, knowledge and experience because few agreed standards exist.

The second important point raised by the case was the issue of medical power in childbirth. It is apparent from the regional variation in caesarean section rates in the UK, and as highlighted in Savage's suspension, that obstetricians vary considerably in their attitudes and beliefs about the way birth should be managed as illustrated in the following comment by Savage (1986):

"*Obstetrics spans the whole spectrum of attitudes from what I call the pessimistic approach, that no labour is normal except in retrospect, to the other end which I call the optimistic approach that everything is normal until something goes wrong. Pregnancy is not an illness. It is a very important part of a woman's life, a couple's life together and it is of enormous psychological significance. I think that it is very important that the people who are assisting the woman during the pregnancy allow her to feel in control of the situation and not feel taken over by the hospital, by the doctor, by the system - because if she does feel that way, she is far less able to be this autonomous new person who is the parent." (Savage 1986:137)*

As Savage's case shows, the criteria for, and the use of, caesarean sections are by and large determined by the medical profession. Furthermore, because of the high rates of caesarean sections, and the wide variation in the procedure in western cultures, such decisions are clearly influenced by social and cultural factors.

As the debate gained momentum on why caesarean section rates were rising, there was increasing interest by social scientists in the process and the broader consequences of obstetric procedures. Davis-Floyd (1992), an American anthropologist, researched a number of key issues associated with this area. Her research undertaken in America during the latter part of the 1980's was based on 100 interviews with women who had recently experienced childbirth and twelve interviews with obstetricians. Davis-Floyd presented a broad range of dilemmas and ambivalence held by clinicians and women around obstetric procedures, and also portrayed the major impact that obstetric procedures has had on women's conception and experience of childbirth. Importantly, she draws attention to how medical school and residency socialises doctors into what she described as the 'technocratic model' of childbirth. As one physician in her research asserts:

> *"My philosophy of birth is using what I've been taught to use and what I've seen in my experience works, keeping in mind safety above all else and not compromising safety for social reasons. If women put demands on me where I can't monitor the baby, or have an IV in them when they suddenly abrupt and go into shock before I can get an IV in- no I cant live with that." (Davis-Floyd 1992:260)*

Importantly, one of her crucial findings was that in the technocratic model of birth, obstetrical procedures provide a sense of cultural order imposed on the "chaos of nature" (Davis-Floyd 1992:258). She also argues that the continued performance of these rituals in every day practice affirms the technocratic model of reality upon which these procedures are based. The model ensures that women are subjected to standardised care and management which, it is perceived, succeeds in reducing the uncertainty inherent in childbirth. Although the research was conducted in America, much of what she found resonates with some findings from research in the UK (for example Cartwright 1979; Hunt and Symonds 1995; Harvey 1996).

As a result of the continuing rise in the numbers of caesarean sections, by the 1990's a range of audits were undertaken to assess the factors contributing to it (McIlwaine *et al.* 1995; Robson *et al.* 1996; Wilkinson *et al.* 1998). McIlwaine's

(1995) review was a retrospective national audit of caesarean sections in Scotland over the period 1994/1995, whereas the other two audits were more focussed on specific hospitals/areas. Nonetheless each audit focussed on birth and outcome data, which included looking at the effect of case-mix variables such as parity and age on caesarean birth outcomes. They concluded that older women having their baby for the first time were more likely to have a caesarean section, and that the risk of a caesarean section was increased in women who have had a previous caesarean section. The findings in each study were consistent, identifying four main clinical rationales for caesarean sections being undertaken: dystocia; "fetal distress"; previous caesarean section; and breech presentations. Robson (1996), in particular, believed that caesarean section rates could be reduced through a process of continuous audit and evaluation of practices based on current evidence. By applying principles of early diagnosis and treatment of problems as soon as they present, a significant reduction in the number of women having a caesarean section could be achieved.

However, Robson's and Wilkinson's studies were 'snapshots' of what was happening in maternity units across the UK. Questions still remained about the decision-making process and the indications for undertaking caesarean sections across the board. In response to these unanswered questions, a multidisciplinary collaboration involving the Royal College of Obstetricians and Gynaecologists, The Royal College of Midwives, The Royal College of Anaesthetists and the National Childbirth Trust came together to undertake the National Sentinel Audit of Caesarean Sections in England and Wales. The first part of the audit collected data from hospitals in England and Wales on all women having a caesarean section between 1 May and 31 July 2000. The aim of the audit was to determine factors associated with variation in caesarean section rates. The second part of the data collection involved a survey of obstetrician's and women's views. The Audit confirmed that the four main reasons for undertaking a caesarean section were the same as those identified by Robson and Wilkinson, but identified a fifth reason for undertaking the procedure - maternal choice. Each of these is discussed in greater detail within the context of evidence based medicine in the next chapter.

2.6 Caesarean Sections: Risks

A caesarean section is considered to be a major surgical operation with the risk of maternal mortality estimated to be around 5 times higher than for women who have a vaginal birth (NICE 2004). It has been recognised that the true mortality figure is difficult to assess because of the many diverse indications for, and the differences in the general health of, women having the operation. The main risks to women undergoing a caesarean section have been aspiration pneumonia from anaesthesia, (although this risk has been significantly reduced since the widespread use of regional anaesthesia) infection, haemorrhage and thrombosis (Lewsi and Drife 2001). Significant long term morbidity problems have also been identified which includes the formation of adhesions, intestinal obstruction, bladder injury, infertility, placental problems in subsequent pregnancies and uterine rupture, and may be under reported (Amu *et al.* 2000; Jackson and Paterson-Brown 2001; NICE 2004; Burrows *et al.* 2004).

An increasing number of research studies have focussed on the potentially psychologically incapacitating aspects of caesarean sections for some women (for example; Oakley and Richards 1990; Fisher *et al.* 1997; Churchill 1997; Creedy *et al.* 2000). The numbers of studies undertaken in this area are considerable, some of which have been prospective longitudinal cohort studies. For example a prospective study of 270 primiparous women found that women who delivered via elective or emergency caesarean section, experienced adverse emotional consequences such as anxiety and depression in the postpartum period (Fisher *et al.* 1997). Briefly , most of the studies in this area suggest that the shock of the disappointment of failing to have a normal vaginal delivery, and changes in body image with subsequent lower self esteem as well as increased dependence on others in the immediate post natal period, can produce profound stress, anxiety and depression for some women. However, some health professionals argue that a vaginal birth is not a desirable option for some women (Paterson-Brown *et al.* 1998). Indeed, this is indicated by the increasing numbers of women (currently estimated to be 7% in England and Wales) who request a caesarean section whether for medical or non-medical reasons (NICE 2004)

The risks to the neonate are also significant. The risk of still birth is reported to be increased in subsequent pregnancies after a caesarean section, although the reasons for this are not clear (NICE 2004). Furthermore, increased risks of respiratory distress syndrome in the neonate, of asthma and allergies (Morrison *et al.* 1995), and of injury to the infant as a result of cuts from scalpel blades (Haas and Ayres 2002), and have been observed.

2.7 Clinicians attitudes towards caesarean sections

Savage and Francombe (1993), among others, have voiced concerns about obstetricians practising defensive medicine. The authors attribute this to the rise in litigation, and suggest that this may be contributing to the high caesarean section rate. In Savage and Francombe's (1993) survey exploring caesarean section rates in the UK during the latter part of the 1980's, they found that 20% of 306 obstetricians cited litigation as the probable leading reason for the rise in caesarean section rates. However, the link between litigation and the rise in defensive practice has not been explored, until relatively recently, in significant detail. A study undertaken in maternity units in Ireland supports Savage and Francombe's perspective (Birchard 1999). The study found that 82% of obstetricians surveyed reported that they performed caesarean sections when sufficient doubts existed about the birth outcome so as to avoid the risk of litigation. Similarly, an earlier study exploring malpractice claims in the USA also found that physicians admitted to practicing defensively (Fielding 1995). In this study, Fielding found that doctors stated they viewed their relationships with patient as unpredictable because of litigation fears. He found that doctors were more likely to be risk averse and order more tests than was perhaps necessary. However, as Symon (2000) notes, the definition and extent of defensive practice is difficult to quantify. He argues that whilst the fear of being sued, regardless of the actual probability of being sued, may have a critical effect on how the practitioner acts, it may also have a beneficial effect by improving on standards of communication and documentation.

The fear of litigation among obstetric and midwifery practitioners may be further exacerbated by reports such as the 8th Confidential Enquiry into Stillbirths and Deaths in Infancy (CESDI 2001). These reports, which have been taking place

since 1992, highlight the high numbers of cases in which suboptimal care was a contributory factor in the death of a baby. They serve to heighten awareness of the risk of fatalities. It comes as no surprise that doctors may view a caesarean section as a more preferable option to a difficult and complex birth for which the birth outcome is unpredictable, for example in breech presentation cases.

Research has indicated that the opinions of obstetricians on the benefits and risks of caesarean section are ambivalent and diverse (National Sentinel Audit 2001). For example, the National Sentinel Audit reported that 51% of obstetricians believe that caesarean sections are safer for the baby than a vaginal delivery where the outcome is unknown and that between 7% and 46% of doctors surveyed would actually choose a caesarean section themselves, rather than undergo a vaginal birth. Indeed, there are an increasing number of studies that suggest a planned caesarean section improves outcomes for babies when compared to vaginal deliveries (Finer *et al.* 1981; Smith *et al.* 2002; Minkoff and Chervenak 2003). However, the evidence presented in these studies is not sufficiently conclusive as to advocate a shift in the current policy of discouraging women who choose a caesarean section upon request for no medical reason.

These findings are important because other studies have shown the strong influence doctors can have on the decisions that women make and what actually happens to them in childbirth. For example, Murray (2000) found that women with private health care insurance in different hospitals in Chile had caesarean section rates ranging from 57-83% , but that between 6 -32% of the women in the hospitals surveyed reported that they actually wanted this method of delivery. Notably, and in spite of this high rate, Murray found that women still spoke favourably of their relationship with their obstetricians, describing them as having "empathy" "humane qualities" and "being on the same wavelength". Murray concluded that ultimately women valued a personal relationship with their obstetrician more than having a natural birth.

2.8 Caesarean sections: International Comparisons

The rise in caesarean section rates in other western countries, and the reasons for undertaking the procedure, reflects those of the United Kingdom. However

European counties, such as Holland, Denmark and Sweden, have only had a small rise in caesarean section rates, with the overall rate being kept below 15% (Birth Trends 2004). Mckay (2000) suggests that the considerable interest in social factors around childbearing issues in these countries may have a positive impact on birth outcomes. For example, maternal child health psychologists are an important part of the maternity care team in Sweden. The psychologists not only see pregnant and post natal women, but also help midwives resolve difficulties that they have encountered during a woman's childbirth experience. As in the UK, the vast majority of births in Sweden are attended to by midwives and take place in hospital with the obstetricians only becoming involved when complications arrive. Although the percentage of women giving birth in Swedish hospitals compare to those who give birth in the UK, Sweden's caesarean section rate remains much lower. Generally, Sweden is considered to have a healthier population, and is a more affluent country than the UK which may help explain the lower caesarean section rate. However, in the absence of randomised controlled trials, and the exploration of a range of other factors that might contribute to lower caesarean section rates, the reasons for this are unclear.

In each of these three countries, as in the UK, midwifery is a central feature of maternity care. However, midwifery in Holland includes an extensive network of independent midwives who are paid for either by the government or private insurance companies. Home births, which are attended in the majority of cases by midwives and G.P's, are promoted in Holland, however the number of midwives in current practice is dwindling. Around 34% of women have births at home attended by a midwife, and just under 65% of women give birth in hospital, with a small number of women attending other birth centres (Mckay 2000). McKay notes that midwives complain they are overworked and underpaid for the type of services they provide, and that this may account for the low numbers of midwives practising. Midwives in Holland attend around 46% of births overall, with medical professionals tending to the rest. McKay reports that midwives in Holland have been struggling to keep obstetricians from encroaching on their practice boundaries. Indeed, McKay has observed that there are growing tensions between midwives and obstetricians in other countries such as Sweden, Denmark and the UK which generally focus on where the

boundaries of normality lay. Nonetheless, in each of these countries, there is a general consensus among many health-care professionals and lay groups such as the NCT, that birth should be regarded as a normal physiologic process.

By comparison to Holland, Sweden and Denmark, the caesarean section rate in the USA is currently 26.6% (National Centre for Health Statistics Report 2003). The rising caesarean section rate first started to cause concern among American health agencies during the 1970's when it increased from around 5% nationally to over 20% in the 1980's. American health agencies set up a multi-professional task force in 1979 to evaluate the rising caesarean section rate and to look at ways to reduce it, believing that its potential for short and long term harm and the added financial cost was significant. The task force released a statement about caesarean births and concluded that:

> *"The rising caesarean section birth rate is a matter of concern. The consensus statement reflects the judgement that this trend of rising caesarean birth rates may be stopped and perhaps reversed, whilst continuing to make improvements in maternal and fetal outcomes, the goal of clinical obstetrics today" (USDH 1981:4).*

Their hope was that by encouraging awareness and peer evaluation of the problem, and increasing emphasis on evidence-based practice they could work at reducing the caesarean section rate to the WHO's recommendation of 15%. One of the ways the task force hoped to achieve this was to encourage vaginal births after a previous caesarean section (VBAC). Initially, there was a small but steady decline in the rate between 1989 and 1995 as more instrumental deliveries were undertaken, instead of caesarean sections. However, the rate then increased by 4% in 1998 to reach 25% in 1999. This rise is attributed to American obstetricians becoming increasingly concerned about escalating litigation costs particularly in relation to the risk of uterine rupture in women undergoing VBAC and poor birth outcomes, such as an increase in Erbs palsy and intracranial haemorrhage (Towner *et al.* 1999) following instrumental vaginal deliveries. This concern has been reflected in media reports in which American obstetricians have called for a moratorium regarding the current policy on reducing caesarean

section rates (Gottleib 1999). More recently, the American College of Obstetricians and Gynaecologists released a consensual statement in recognition of these issues:

> *"If the physician believes that caesarean delivery promotes the overall health and welfare of the woman and her fetus more than a vaginal birth, he or she is ethically justified in performing a caesarean delivery. Similarly, if the physician believes that performing a caesarean delivery would be detrimental to the overall health and welfare of the woman and her fetus, he or she is ethically obliged to refrain from performing the surgery. In this case, a referral to another health-care provider would be appropriate" (ACOG 2003).*

Elsewhere, in other countries such as Chile, caesarean section rates vary from 40% to 80% (Murray 2000). In Brazil, caesarean section rates are as high 80% (ICAN 2004). Virtually all maternity care in these countries is provided by obstetricians, and the high caesarean section rate in these countries is attributed to the fact that obstetricians get paid more money for undertaking operative deliveries (Murray 2000). Like America, they do not have a formal system of maternity care such as those that I have described in some European countries. Typically as Jordan (1997) describes

> *"What the woman knows and displays by virtue of her bodily experience has no status in this setting. Within the official scheme of things she has nothing to say that matters in the actual management of her birth. What she knows emerges not as a contribution to the store of data relevant for making decisions but as something to be cognitively suppressed and managed. In the labour room authoritive knowledge is privileged" (Jordan 1997:64)*

However, these forces also work at suppressing a midwifes intuitive and embodied knowledge, making it problematic in terms of the prevailing ethos of biomedical dominance. It is nonetheless important to also consider that some midwives subscribe to the biomedical model of childbirth either because they

agree with the managed labour ethos, or because the midwife has come under pressure to follow hospital policies and protocols (DeVries 1989). A study in America in the 1980's found that obstetric nurses felt that the focus on achieving higher rates of vaginal births resulted in women feeling that they were failures because they could not manage to achieve a vaginal delivery (Sargent and Stark 1987). In the UK Adams (1990) observed two types of midwives, those that were "with women" and those midwives who were more directive and controlling. Similarly, Kirkham (1989) found that midwives were much more likely to 'side' with obstetricians and hospital policies and denied women choice so that they could maintain control in the birth situation. In considering the impact of biomedical policies on the work that midwives undertake and on birth outcomes, it is important to understand the medical belief system around childbirth, and not simply assume that biomedical thought processes overtly work at controlling women and childbirth. These issues are discussed further in chapter four.

2.9 Biomedical and lay solutions to reduce caesarean sections

The National Sentinel Audit is one of several initiatives aimed at looking at a range of strategies that might assist in developing a framework to reduce caesarean section rates. As identified earlier in this chapter, the National Sentinel Audit successfully identified the five main reasons that caesarean sections are being undertaken and the findings are consistent with previous audits that have taken place in the UK. The groups that are lobbying for a reduction in caesarean section rates come from a diverse range of professional and political groups such as the RCM, RCOG, the Department of Health and lay groups such as The Association for Improvements in Maternity Services and The National Childbirth Trust. Other initiatives aimed at reducing the caesarean section rate are, firstly, to address the shortage of midwives currently in practice (Department of Health 2001). Secondly, the publication and dissemination of information for women of those factors most likely to decrease their chance of having a caesarean section, for example NICE guidelines on fetal monitoring (NICE 2001) and a range of midwifery information leaflets from the Midwives Information and Resource Service which are supported by the NHS Centre for Reviews and by the Royal

College of Midwives, the Royal College of General Practitioners and the Royal College of Obstetricians and Gynaecologists.

In relation to midwifery, there is evidence in the U.K which indicates that autonomous midwifery care and caregiver support for women during childbirth can be an effective means by which to lower caesarean section rates (Hundley *et al.* 1994; Turnbull *et al.* 1996; Hodnett 1999). These reports suggest that traditional midwifery approaches such as one to one support for women in labour is fundamental to achieving a vaginal birth outcome. Intervention only occurs when it is absolutely necessary. Lesley Page (1991) notes the dilemma for midwives working in obstetric units who are bound by unit protocols dominated by a medical model of childbirth;

> "*In an age where we seem to believe we can always improve on nature, where health care is dominated by dramatic technology and where defensive attitudes on medico-legal issues predominate, it will be a daunting task to re-establish this principle. In Britain, Wendy Savage's case has illustrated the crucial dilemma of our times. We can never provide absolute safety – a small number of babies will always die in birth – but it seems we are more likely to be exonerated if we have used some form of technical intervention than if we have not" (Page 1991:253).*

Page identified that midwives have an important role in reducing caesarean section rates, and asserts that midwives must have a more prominent role in managing normal childbirth;

> *"People are asking for change in the way pregnancy and birth are treated within the health care system, and we need a mediator to bring together the two points of view, and to provide balanced care. I am advocating that the role of midwifery is to negotiate a definition of birth which includes both the medical and the family perspectives. In negotiating the two definitions the midwife brings a unique perspective on birth and different approaches*

to care. These perspectives are an amalgamation of the traditions of midwifery and the best of scientific perinatal care" (Page 1991 p250)

This perspective has been supported in subsequent maternity reports such as The Winterton Report (Department of Health 1992) and Changing Childbirth (Department of Health 1993). Furthermore, these reports have signalled a shift in government policy over the last decade which has encouraged a move away from the dominant patriarchal biomedical model towards a woman centred model in which decision-making is a more collaborative process between both groups (Department of Health 1993). In spite of this, midwifery practice has, in the main, failed to make a significant impact on either stabilising or reducing caesarean section rates nationally. The RCM partially attributes the rise in caesarean section rates to the problems in recruitment and retention of midwives (Guardian 2000).

Social scientists (Jordan 1987; Davis-Floyd 1992; DeVries 1996) attribute continued obstetric dominance in maternity units to technological innovations which have been one of the most significant factors in diminishing the importance and influence of the practice of midwifery. This is largely because technology, its development and its use in pregnancy and labour has been, and is still, by and large, decided upon by the medical profession. Societal acceptance and reliance on technology has, argues DeVries (1996), created doubts about the legitimacy and authority of midwifery which is characterised by low technology and psychological supportive mechanisms.

It appears, however, that with the rise in caesarean section rates and the use of technology, the role and skills of traditional midwifery have been eroded to the extent that many midwives must be questioning how - and whether - they can reverse the trend in operative deliveries. The debate on caesarean sections and addressing ways to reduce it through research must now be analysed on a number of different levels which are informed by different social, cultural and medical perspectives which involve a range of different parties and how changes are being implemented in the NHS. At the centre of the debate is the reality for health-care professionals of making decisions that are frequently and seemingly

life and death decisions, based upon limited knowledge of actual birth outcomes. These issues are discussed further in chapter three and four within the context of the changes to the NHS structure and organisation, and the new culture of evidence-based medicine.

2.10 Conclusion

This chapter began with an examination of historical data relating to the debates and uncertainties surrounding caesarean sections. These related to the high maternal mortality in childbirth and, in particular, caesarean sections. The chapter has highlighted that at the beginning of the twentieth century, no consensus existed among the profession about when a caesarean section was medically justified. In relation to the latter point, little has changed in contemporary western societies. Clinicians in the UK are aware that, in terms of discussions about maternity care, reducing caesarean rates is high on the political agenda.

Experience in other countries, such as the USA, has indicated that efforts aimed at reducing the caesarean section rate have been problematic and were only marginally successful for a short period of time. However, some European countries have caesarean section rates of less than 15%, even though in countries such as Sweden, as in the UK, the majority of women give birth in hospital. The reasons for this are not understood, and warrant further exploration.

This chapter has identified that research in maternity care has yet to adequately address those factors that impact on midwives and doctors decision-making, such as the uncertainty inherent in maternity care. In the UK it appears that a key issue in this debate relates to what appears to be an almost intractable problem of distinguishing between those women who need a caesarean section and those who do not. In this situation there is increasing emphasis by government bodies on using evidence-based medicine to help inform clinical decision-making, but they have failed to acknowledge the complexities involved in this process and the dilemma's that this presents clinicians. In the next chapter I consider the ways that the wider processes of change in the health care system may impact on the way both doctors and midwives work and come to make decisions, and the

problems and uncertainties that are inherent in the 'evidence' of evidence based-medicine.

CHAPTER THREE

ALTRUISTIC RHETORIC AND REALISTIC PERSPECTIVES OF CLINICIANS PRACTICE

3.0 Introduction

As discussed in the last chapter, determining when a caesarean section is medically indicated is a consistent concern among health-care professionals, researchers and public policy makers. In this chapter, I locate clinicians and their work within the wider context of the changes occurring within the NHS, and the challenges that this presents them. These challenges include managing risks and benefits defined in the biomedical context, managing decision-making around uncertainty and combining these with difficulties associated with gaining of informed consent. For many clinicians there is considerable conflict in maintaining altruistic objectives in the clinical area because of the uncertainty inherent in decision-making, a lack of resources and increasing concerns about role responsibilities and professional boundaries.

3.1 The Economic and Political Context of Contemporary Maternity Care

The origins of the ongoing NHS reforms of the 1990's go back to the 1970's, when there was increasing recognition that the NHS was not providing an equitable geographical service (Butler 1999). The NHS reforms have at their heart concerns about escalating costs and resource allocation. Furthermore, Butler has observed that the growth in technological innovation (which has generated more complex and costly medical treatment) has led to the realisation that a gap would always exist between what the NHS might provide and what it actually can provide. It was also apparent that there was considerable wastage and variation in the way heath care services operated up to the 1970's. Hospitals, welfare agencies and primary care services all operated independently of each other, and there was much repetition and uncertainty related to resource allocation and outcomes in the care offered to patients.

For example, hospital consultants maintained considerable power and control over spending, so that a hierarchical paternalistic structure operated in the way

funding was distributed within the main teaching hospitals (notably in London). These London based hospitals received funds that were disproportionate compared with the needs of other health care institutions and community services (Hardey 1998). Thus, growing concern about the inability of service providers to combine and manage these services effectively resulted in state intervention into the NHS designed to gain control over spending and the delivery of services.

The Griffiths Report (DHSS 1983) represented a radical shift in health care policy, and was seen as an attempt to introduce business management into the NHS. Griffiths argued that the NHS should, and could, be managed like a business, with clearly defined objectives, lines of accountability and measurable outcomes. In effect, the Griffiths report gave general hospital managers the responsibility to ensure the efficient use of resources. Hospital managers were seen as 'agents of central government' (Hunter 1994) and derived their legitimacy from the requirement on them to do the government's bidding. This philosophy was met with some hostility by both the British Medical Association (BMA) and the Royal College of Nursing (RCN). The BMA, in particular, had concerns about the involvement of hospital managers who lacked understanding of the complexities involved in patient management and decision-making, in deciding how resources should be used, and who should, or should not, receive treatment. However, as Hunter (1994) observes, the changes in fact had no impact on the dominance of the medical profession within the NHS:

> *"While the authority of doctors may have been bruised as a consequence of general management, their power and status, both within the NHS and in society more generally, have remained largely intact"(Hunter 1994:5)*

Although, initially, these early changes had no impact on the way that doctors worked, Griffiths did herald the drive for cost efficiency, equity and professional accountability in the NHS, as further reforms to the NHS confirmed. These reforms culminated in the White Paper 'Working for Patients' (Department of Health 1989). The reform proposals of 1989 were subsequently enacted through the 1990 NHS and Community Care Act, and could be seen as an attempt to shift the balance of power between doctors and managers in favour of the latter. The

NHS services were to become consumer-driven rather than profession-led. However, as Sargent (2002) observes, the users of health care services could not themselves determine which services best met their needs.

Health professionals' competence has been brought under the spotlight as a result of the Alder Hey (Department of Health 2001), Bristol (Horton 1998) enquiries and the media reporting on the case of Doctor Harold Shipman (e.g. Boseley 2000). Reports in the mass media have amplified issues of medical uncertainty, error and risk. Headlines such as "Our lives in their hands" (Dalrymple 2000), "Wacko's in white coats" (Freedland 2000) and "Taking the NHS to court" (Dobson 1999) have served to add to the disquiet felt among the public, and to a steep rise in litigation claims against the medical profession (Hoyte 1995).
As competency levels of health professionals have been subject to increased scrutiny, studies have indicated that health-care professionals are facing uncertainties about their roles, and about the skills and knowledge base they need in order to perform tasks competently (Annandale 1996; West 2001). These authors attribute this to a significant period of transition in the organisation, the rise in litigation, and management and delivery of health care services since the onset of the 1991 NHS reforms. West (2001) has observed that the economic and political forces, which have been highlighted in this chapter, made it inevitable that the close scrutiny of health-care professionals would become a key concern of contemporary medical care. The main concerns of doctors in relation to these changes are that they are being compelled to define their practices and modes of operating in ways that many believe are undermining their professional values and decision-making. For example, decision-making based on clinical experience alone is no longer acceptable in the new NHS culture. As a result, there has been increased emphasis on professional and individual accountability and a concomitant pressure on doctors to develop their practice alongside the latest scientific evidence

However, both nurses and midwives also feel threatened by the ongoing changes in the NHS (Annandale 1996). Annandale's qualitative study undertaken in 1994 in the UK included interviews with 19 nurses and midwives which explored their perspsectives about accountability. Her findings suggest that members of these

professions feel a heightened awareness of risk and uncertainty in the wake of the 1991 NHS reforms. Like doctors, midwives and nurses spoke of an erosion of professional authority. They attributed this to rise of the patient as a consumer with the right to redress if NHS services fall short of their expectations Mead (2003) has observed that the hierarchal structure within maternity units in the NHS has contributed to midwives feeling that their independence has been undermined as they feel pressure to conform to unit guidelines and philosophies. However, midwives and nurses expressed concern that the lack of adequate and consistent staffing and resources will only fuel complaints from consumers, leading to persistent demoralisation of staff. These factors have subsequently led to an increased awareness of individual practice by oneself, and surveillance of, and distrust in, colleagues. Thus, in an attempt to manage individual accountability so as to cover ones self, both colleagues and patients have come to be seen as 'risk generators'.

Issues of professional accountability, the containment of cost and the provision of an equitable service for all are fundamental in any modern health care system. In understanding why these changes have occurred and the impact on clinicians involved in maternity care, it is important to understand the wider political context of health care changes occurring in the UK.

3.2 NHS Reforms and their Impact on Maternity Care

As I outlined above, the changed approach to managing the NHS meant that the drive for efficiency started to bring individual and professional autonomy into question. These changes impacted on maternity services which were under consumer, political and media scrutiny particularly during the 1980's and 1990's. Hospitalisation of childbirth reached almost 98% by 1989 (Tew 1995). This change, combined with the NHS reforms of the 1990's, meant that the role and position of the midwife came under obstetric control as the numbers of women delivering in hospital increased (Dingwall 1988). As Dingwall observed, these factors contributed to the midwife being seen as an obstetric nurse. Traditional midwifery skills, such as giving psychological support in labour and autonomous decision-making have been devalued in this process. Dissatisfaction with maternity services among both women and health professionals, revolved around

the rise in the rates of intervention that were occurring in childbirth, and a lack of choice for women in where they gave birth and who looked after them.

Dissatisfaction with maternity services stimulated an inquiry into the provision of maternity care. Influenced by pressure groups such as the National Childbirth Trust and The Maternity Alliance, and drawing on the views of health-care professionals and consumers, the Committee collected information on aspects of preconceptual, antenatal, intrapartum and postnatal care which informed the Winterton report (House of Commons 1992). From the evidence they collected, they highlighted three major themes;

- Women's need for continuity of care
- Women's desire for choice of care and place of delivery
- Women's right to control their own bodies at all stages of pregnancy and birth (House of Commons 1992:xiii,para38)

This report was remarkable because it moved away from the traditional focus on mortality of previous inquiries and centred on the needs of women. As a result, it was warmly welcomed by consumer groups and midwives. The report recognised problems of rivalry between midwives and obstetricians but identified;

> *"The right of midwives to practise 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 1992:xxxvi)*

The government responded to the Winterton report with Changing Childbirth (Department of Health 1993). Based on the Winterton report three principles of good maternity care were identified. These were making care women centred, improving accessibility of services and using resources efficiently (Department of Health 1993). There were two significant issues identified in the report. Firstly, clinicians had to ensure that care provided was based on evidence.

Secondly, they needed to develop a strategy for identifying areas in which more research was needed. Ten key indicators of success were identified (appendix a), and it was expected that all maternity care providers implemented these goals within five years (National Health Service Management Executive 1994). However, there were difficulties in implementing many of the proposals, of which the primary one was a constraint on financial resources. For example, the report recommended an increase in Team Midwifery schemes. However, many team midwifery schemes that were established in 1990 were discontinued because of dissatisfaction and disillusionment among the midwives involved in them (Institute of Manpower Studies 1993). Disappointingly, Bradshaw and Bradshaw (1997) concluded that the report had little impact on the division of labour, or on the power and status of midwives, who remained ensconced by organisational regulations and rules, and continued to be dominated by the obstetrical profession.

Although there were changes in the way health care services were being managed, much of the initiatives around childbirth were largely political rhetoric. The government's central focus continued to be on cost effectiveness and efficiency and published further reforms to strengthen their resolve in this respect. One of these initiatives was the creation of the National Institute of Clinical Evidence (NICE) in 1997 to maintain the drive for evidence-based medicine. This was followed by The White Paper 'A First Class Service' (Department of Health 1998) which focussed on quality in the new NHS, and introduced the notion of clinical governance. Health-care professionals had to become involved in, and are subjected to, a range of clinical audits on the type of care provided and the outcomes of the care given. For the first time there was a statutory duty on the NHS to promote quality when 'Making a Difference' was published in 1999 (Department of Health 1999) with section 18 of the 1999 Health Act stating:

> *"It is the duty of each Health Authority Primary Care Trust and NHS Trust to put and keep in place arrangements for the purpose of monitoring and improving the quality of health care which it provides to individuals"*

In an effort to ensure that the standard of care given by clinicians is of a high standard and is supported by evidence, the work of NICE was supported by the Commission for Health Improvement (CHI) which was set out in the 1999 Act as cited above. The CHI principle functions revolve around having the authority to visit an NHS Trust and request the production of any NHS Trust information relating to standards in the hospital. Any findings that suggest an NHS Trust is falling below acceptable standards, means that action against the Trust can be taken by the Secretary of State. However in attempts to continue modernising the NHS the government has since disbanded the CHI, replacing it with the Healthcare Commission in March 2004. Its main objective is the continued emphasis on efficiency, effectiveness and economy of health care services with a wider remit which includes Audit and private and voluntary healthcare functions of the National Care Standards Commission. The inference for clinicians in contemporary maternity services is that there are clearer standards for maternity care, followed by closer monitoring of clinical practice through the process of ongoing audit. However, both the RCOG and the RCM were able to demonstrate that maternity care was already well underway in fulfilling the requirements of the Department of Health by using research to facilitate decision-making. This was as a result of Iain Chalmers efforts to assemble a database of perinatal research, eventually culminating in 'Effective care in pregnancy and childbirth' in 1989 (Enkin *et al.*1989) and The Cochrane Pregnancy and Childbirth Database. Later, other medical specialities saw the benefits of centralising research evidence, and so the database led to the establishment of the Cochrane Collaboration which included medical and surgical reviews of research projects. There have been other significant initiatives in the maternity services that have been a blueprint to other professional health care groups. For example the Confidential Enquiry into Maternal Deaths which has been established for over forty years, and which has recently changed its remit to include child health in 2003, led to the Royal College of Surgeons setting up a similar project in 1987.

Although these changes are intended to bring about an improvement in the quality of care patients receive, nonetheless, as both West (2001) and Annandale (1996) identify, they raise questions about what is fundamental and marginal to

the role of the health care professional. The impact of this new culture of learning and the uncertainty it has created is discussed in the next section

3.3 Evidence-based Medicine

As the above section implies, medicine is clearly not insulated from cultural and intellectual challenges. Although it has been widely recognised that there are variations in the type of care provided by clinicians, their authority and scientific knowledge base are being challenged on all fronts. These challenges are exemplified by an increase in infections which are difficult to control or eradicate (for example MRSA and HIV) and the problems associated with an increased prevalence of chronic illness and aging populations (Fox 2000).

It is well recognised that doctors vary significantly in their use of tests and treatments, and that variation in clinical practice occurs without demonstrated variability in the epidemiology of the diseases for which those tests and treatments would be relevant (Gerrity *et al.* 1995; Chow 1999). Indeed, this has been a longstanding problem, and was pointed out in 1979 by Cochrane, who claimed that many treatments in use at that time were of no proven effectiveness (Butler 1999). Although doctors were initially reluctant to accept such claims, the basis behind Cochrane's assertion was looked into more closely, and became the catalyst in the move towards scientific evaluation of medical treatments.

At the start of the NHS reforms, it was estimated in 1991 that only about 15% of medical interventions were supported by solid scientific evidence (Butler 1999). Thus, the NHS reforms at that time recognised the need to commit more money to research and development. This was to enable researchers to identify those treatments which were effective and would form part of clinical guidelines, and dispense with those treatments which were found to be ineffective. Nonetheless, as Hurwitz (2004) asserts, many health-care professionals continue to debate guidelines because the research which informs guidelines is of variable quality and credibility. Indeed as Gibb (2001) has found, most evidence in maternity care is not at level 1 which consists of systematic reviews and randomised controlled trials, but rather at levels of evidence which is considered to be of a lower quality obtained from expert committee reports and / or the clinical

experiences of respected authorities. Wood and colleagues (1998) argue that unless there are incentives for clinicians to change their practice such as group consensus and cohesion, guidelines are unlikely to effect a rapid change in actual clinical practice. Despite the existence of guidelines, clinical uncertainty may lead physicians to adopt local customs as the standard of care where there is little empirical evidence providing certainty. Thus, uncertainty may be an important cause of variation in physician care, and for the overuse of tests and treatments in clinical care.

Prior to the 1990 changes to the structure and organisation of the NHS, health-care professionals were more concerned with meeting the needs of the individual patient and less concerned with maximising the long term welfare of the patient population (Butler 1999). Clinicians did not have to consider the costs of treatments that they prescribed. Conversely, hospital managers strive to get the most from resources that they command by rationing services for the greater good of all patients. Thus, their emphasis is on providing efficiency alongside effective care, and ensuring that evidence-based guidelines are drawn up which reflects this emphasis. However, for many doctors, integrating evidence into clinical decision-making raises ethical dilemmas as some clinical guidelines are based on weak and conflicting evidence (Hurwitz 2004). Furthermore, Butler (1999) argues that the drive for evidence-based medicine may actually complicate decision-making for health-care professionals. This is because once NICE have reviewed the effectiveness of a new drug and recommended its wider use, the pressure to make it available to all who might benefit from it will be considerable. Clearly this has many positive benefits for the patient. However, it also has the potential to add to the burden of an over-stretched NHS budget if the treatment is expensive (Hurwitz 2004; Butler 1999). As Fox (2000) has observed:

> *"Reconciling and integrating the one-on-one doctor patient relationship of clinical medicine with population based reasoning and action is a long standing cognitive problem in modern medicine, fraught with uncertainty that also invokes strong sentiments about physician's role responsibilities and value commitments"(Fox 2000:417)*

Although the tension between a one-on-one doctor/patient relationship and population-based healthcare are not new, Fox argues that it has been increased by a number of converging factors. Fox identifies these as: firstly, the emergence and re-emergence of infectious diseases; secondly, the persistent tendency for chronic diseases that predominantly affects people in the lower socio economic groups of society; and thirdly, the increased emphasis on practicing evidence-based medicine based on interventions that are clinically appropriate, efficacious and effective. Fox goes on to argue that each of these developments invites a more cohesive group consensus than is usually characteristic of the individually focussed doctor/patient relationship of clinical practice. This trend raises:

> *"Difficult methodological attitudinal and professional questions about how the two approaches and their implications for the handling of medical uncertainty can be reconciled" (Fox 2000:417).*

The particular problems that Fox refers to revolve around the rhetoric of evidence-based medicine and the actual practice of incorporating evidence into clinical practice. Evidence-based medicine is described as a means by which individual clinical experience is integrated with the best available external evidence, derived from patient centred clinical research conducted through large randomised controlled trials, or from the systematic review of a number of smaller clinical studies (Sackett *et al.* 1997). Evidence-based medicine is based on the following main principles as devised by Miles (1997:158) and Sackett who emphasised patient preferences and values in the decision-making process (Sackett *et al.* 2000):

- Clinical decisions should be based on the best available evidence, taking account of data from patients and populations
- The integration of best research evidence with clinical expertise and patient values
- Doctors decisions should avoid a basis in established habit and in an adherence to medical tradition

- Epidemiological and biostatistical information have an important place in clinical practice
- Conclusions about treatment which emerge from an appraisal of the evidence should be allowed to change clinical practice
- Adoption of EBM should lead to doctors evaluating their own performance.

However, the interpretation of the concept of evidence-based medicine has caused considerable scepticism and debate. It has been argued that EBM is biased towards a "narrow scientism and empiricism" and a "kind of biomedical positivism" whose goal is a science based rationalisation of health policy (Fox 2000). Hunter (1996) maintains that evidence-based medicine:

> *"makes a spurious claim to provide certainty in a world of clinical uncertainty. The dilemma facing policy makers, managers and practitioners as well as the public in general is that in most cases we are not dealing with a clear cut question of whether treatment is effective or ineffective. Rather the questions are how effective and to what degree of probability?" (Hunter 1996:6)*

Other critics of evidence-based medicine argue that the concept of appropriate care is open to varying interpretations. For example, Naylor (1998) argues that this is very much dependent on individual clinician's perspectives which are influenced by socio-cultural and emotional factors as well as the availability of resources in a given area. Many physician sceptics of evidence-based medicine do not believe that all the variance in clinical practice has to be remedied through the use of clinical guidelines derived from the results of randomised clinical trials (Fox 2000). Rather Hurwitz (1997) argues that it is important to study these variations because:

> *Soundly based guidelines can help focus such variation especially where there is both considerable certainty about efficacious treatment strategies (based on scientific evidence or expert opinion) and where significant*

departure from these strategies occurs without valid justification. (Hurwitz 1997)

Similarly, one of the strongest criticisms of the application of population-based data to the individual is that it entails accepting the ecological fallacy (Pearce 1999). The author describes the ecological fallacy as an example of the effect of spurious correlation. It is called "ecological" not because it has anything to do with ecology or the environment, but because it has to do with analyzing data areas, or groups, or aggregates. Typically, what happens is that aggregates of data will show some relationship between the average value of one variable and the average value of another. However, at the same time, the relationship between the individual values of those variables may be quite different. Uncertainties still exist in population data because evidence derived from patients enrolled in published trials is not necessarily relevant to other groups of patients who have been excluded from studies because of specific factors such as pregnancy or age (Hurwitz 2004). In these circumstances evidence-based medicine is very limited in its ability to assist the clinician in the decision-making process. This view is supported by qualitative data from a case study involving four different hospital sites in England exploring attitudes towards evidence-based medicine (Wood *et al.* 1998). The study concluded that clinicians believe that evidence of all types remains open to individual interpretation no matter how rigorous the clinical trial. Fox (2000) concludes that placing too much credence in evidence-based medicine, standardised guidelines or average outcomes ultimately reduces the complexity of clinical decision-making to objective facts that excludes many other important factors in the decision-making process, particularly the patients' individual needs. Thus, evidence-based medicine, for many, is a restatement of the conventional medical model in which the body is treated as separate to the mind where symptoms are considered universal, irrespective of the person and context.

Armstrong (2002) notes that the control that doctors have traditionally enjoyed over the way they worked and the decisions they made, has been gradually stripped away by the changes in the way the NHS is now managed. Hospital based doctors are concerned about the extent to which evidence based medicine

is contributing to the fragmentation of clinical expertise and autonomy from the individual clinician towards

> *"Corporate entities such as expert panels, consensus conferences, clinical guidelines, development groups and experts in data extraction and analysis whose skills are not necessarily similar to those required by the physician" (Hurwitz 1997)*

By comparison, however, Armstrong contends that evidence based-medicine has not had a significant impact on the clinical autonomy of general practitioners. This is because of the equal credence given to patient-centred care, and evidence-based medicine in the wake of NHS changes. He found that it was the idiosyncratic needs of the patient that determined treatment, not the pharmacological properties of drugs. This factor enabled G.P's to continue acting at their own discretion when prescribing treatment for their patients.

The image of the clinician making decisions in a world of clinical trials, guidelines and protocols, Garro (1998) argues, is not quite as simplistic as this image suggests. Rationality is *"ambiguous, slippery and subject to multiple definitions"* (Garro 1998:321). To illustrate this point, the National Sentinel Audit found that 16% of caesarean sections were undertaken for what obstetricians claimed were life threatening conditions. A retrospective review of these cases by the audit commission determined that only 2% were actually 'life threatening' which suggests different interpretations of realities exist among clinicians. However, the audit makes such assessments without taking into account the clinical context of the situation in which such judgments were made.

Progress in midwifery research, which includes a variety of research methods, has accelerated at a significant pace over the last decade so that it has developed its own 'scientific evidence' base (Sargent 2000). As I have previously discussed in this chapter the publication of 'Effective Care in Pregnancy and Childbirth' (Chalmers *et al.* 1989) and its subsequent updates, is the first example of an amalgamation and summary of midwifery and obstetric research that has been profoundly influential in developing evidence-based maternity care. However, it

too is subject to the same issues and debates that revolve around evidence-based medicine that I have discussed, and is built upon the same evidence grading mechanisms that inform the NICE guidelines. In lieu of the controversy that surrounds much of evidence-based medicine, Wickham (2000) argues that midwives might find it more helpful in developing their role in maternity care, to practice from what she terms 'evidence-informed midwifery' rather than evidence-based medicine. Wickham posits that this method will not be dominated by science and the randomised controlled trial, but by methods that encompass art and science, giving voice to women on issues that really matter. Nonetheless the scientific method, rightly or wrongly, has dominated much of past and current midwifery practice, and it is to this that I turn to in the next section.

3.4 The use of evidence and its impact on the uptake of caesarean sections

Many advocates of evidence-based medicine have argued that its philosophical origins extend back to the mid 19th century. This is evident from medical journals where doctors shared their successful and unsuccessful stories of what worked for them in clinical practice, and what did not, with their medical colleagues. The considerable problem for many doctors at this time was that dissemination of research findings was very slow. This is illustrated in the slow uptake among many physicians in England, of the recommendations by Max Sanger (Eastman 1932), to use uterine sutures to close wounds from caesarean sections. Max Sanger's research methods drew on variables such as the woman's age, length of labour and type of suture material used. Sanger was able to show from his findings based on 17 American women that that birth outcomes were improved if more sutures had been used, and in particular, if silver wire had been the suture material of choice .

Sanger was, in effect, making evidence-based claims for obstetricians' clinical practice. These findings meant that obstetricians felt able to contemplate undertaking a caesarean section not as a last resort, but, rather, as a viable option. This is exemplified by one obstetrician at the beginning of the twentieth century who remarked on the present situation, in comparison to previous years, was one:

"Where a surgeon can now undertake the operation under proper conditions with a confidence that it would be successful, and that there can be no doubt that many lives have been saved by this means" (Row 1901)

However, it became clear that since this new found knowledge could improve the chances of survival for women, the operation was no longer being considered strictly as an emergency measure. Protagonists were also arguing that the increased safety of the operation meant that it could be used for a range of medical problems that, in their view, posed a threat to the life of the mother. Much of the 'evidence' put forward by such doctors were based on their own practice, personal beliefs and individual circumstances. As I have highlighted in chapter two, issues such as increased maternal age, varicose veins and ovarian cysts were all hotly contested reasons for undertaking a caesarean section because no evidence existed to support doctor's claims to the contrary. Indeed reasons for undertaking caesarean sections, such as those that I have identified, became integrated into practice as a result of obstetricians who were considered 'influential' and 'experienced' authorities in childbirth management. The general lack of evidence for many procedures in childbirth was widely acknowledged as a problem at the beginning of the twentieth century. Many doctors were found to have :

"Produced no evidence to show that their systems are more worthy, less risky and promise a higher conservation of life than carefully watched spontaneous labour "(Holmes 1921 quoted in Graham 1999:43)

Indeed, as I have already pointed out in this chapter, this mode of practice has only relatively recently been challenged as part of the 1990 NHS reforms. There has been considerable pressure to make decision-making in relation to maternity care, as in other aspects of health care, more explicit and formal (Department of Health 1993). This shift has had considerable implications for clinical practice, which Fox (2000) has argued, contributes to the fragmenting and shifting away of clinical expertise from its previous locus with the practicing physician towards a more aggregate and collectively-orientated perspective. Fox (2000) outlines that medical decision-making is influenced by a range of many different complex

factors which inform everyday practice. In particular, she argues that medical uncertainty is a challenging and problematic constant for health-care professionals. This is because it complicates and curtails the ability of physicians to prevent diagnose and treat disease, illness and injury and to predict their course and outcome. Thus, decision-making can only be understood in the context of individual circumstances at the time the decision was made. However, guidelines are now being published by NICE in two formats, one specifically for health-care professionals and the other for pregnant women. These guidelines, for example the recent caesarean section guidelines (NICE 2004) and fetal monitoring guidelines (NICE 2001) reflect the Departments of Health's commitment to ensuring informed patient choice in the decision-making process. The next section discusses the five most commonly identified reasons for undertaking caesarean sections in the U.K and highlights the debates and controversies associated with each one.

3.5 Contemporary reasons for undertaking caesarean sections

Chamberlain and Steer (1999) point out that the only absolute reasons for undertaking a caesarean section are cephalopelvic disproportion (CPD) where the mothers pelvis is too small for a vaginal birth and major placenta praevia, where the placenta completely covers the opening of the birth canal. However, they acknowledge that even the diagnoses of both these conditions are subject to uncertainty. It is evident that similar controversy surrounds the reasons identified for undertaking a caesarean section presented in the National Sentinel Audit, and outlined below.

3.5.1 Fetal compromise

The National Sentinel Audit found that 22% of caesarean sections were undertaken for fetal compromise, where the fetal heart rate gives rise for concern. This was the most commonly reported reason for undertaking a caesarean section. The introduction and widespread uptake of electronic fetal heart rate monitoring (EFM) into clinical practice started in the 1960's, without ever having been proven to be clinically effective. In spite of this, the procedure became standard practice in the management of labour:

"Continuous electronic fetal heart rate monitoring is a marvellous invention introduced into obstetrical practice during the 1960's. No longer was the perception of fetal distress limited to heart sounds; the continuous graph paper portrayal of the fetal heart rate was potentially diagnostic in assessing pathophysiological events affecting the fetus" (Cunningham et al. 1993:395)

Underlying this new technology was the assumption that EFM provided accurate information which would be of value in diagnosing fetal distress and predicting fetal anoxia. It was anticipated that clinicians would gain reassurance from its use and be better able to intervene to prevent fetal death or morbidity. In short, as Elizabeth Cartwright noted fetal monitoring *"has become an integral part of the habitus of obstetrics"* (Cartwright 1998:244). Furthermore, Davis-Floyd (1992) posits, the print-out of the fetal heart rate produced by the machine appears more authoritive because it is perceived as visible evidence of the wellbeing of the fetus.

The EFM has superseded the traditional embodied midwifery approach of using a pinards to listen to the fetal heart rate, and now supplements and supports the hand-written record in the maternal notes. The supposed benefits of EFM, have not, however, been proven. It contributes to an unnecessary increase in caesarean sections because of erroneous diagnosis of fetal distress (Thacker and Stroup 2004). This is because EFM is open to differing interpretations by clinicians. What one doctor considers an abnormal EFM tracing, another doctor might not. Thacker and Stroup undertook a meta-analysis of studies of 58,855 pregnant women where either intermittent fetal monitoring or EFM had been used during the course of labour. This was done so as to determine a comparison of the wellbeing of the 59,324 infants born to these women in the immediate post-delivery period. Thacker and Stroup conclude that:

"The only clinically significant benefit from the use of routine continuous fetal monitoring was the reduction of neonatal seizures. In view of the increase in caesarean sections and operative vaginal deliveries the long term benefit of this reduction must be evaluated in the decision reached

jointly by the pregnant woman and her clinician to use continuous EFM or intermittent auscultation during labour" (Thacker and Stroup 2004)

In recognition of Thacker and Stroup's first review in 1998, and subsequent update, EFM guidelines were consequently published (NICE 2001). The guidelines stipulate that continuous electronic fetal monitoring should be recommended for high risk pregnancies where there is an increased risk of perinatal death, cerebral palsy or neonatal encephalopathy. EFM should also be used where oxytocin is being used for induction or augmentation of labour. The guidelines advised against its use in the circumstances outlined below:

"Women who are healthy and have had an otherwise uncomplicated pregnancy intermittent fetal heart rate auscultation should be offered and recommended in labour to monitor fetal wellbeing" (NICE 2001:2.3)

As EFM is considered an imperfect tool, the Royal College of Obstetricians and Gynaecologists working party have recommended that the fetal scalp pH should be used to clarify whether an abnormal CTG represents fetal acidaemia. This recommendation has been incorporated into the EFM guidelines, and reiterated again in the NICE caesarean section guidelines. The National Sentinel Audit (2004) reported that overall fetal blood sampling took place in most cases of caesarean sections for fetal compromise. But, although some units had 100% concurrence with RCOG recommendations, in 9% of units the standard had not been achieved.

It is important to note, however, that changes in EFM patterns are not always associated with acidosis (Gibb 2001). Fetal blood sampling is not always necessary, because when properly interpreted, visual assessment of EFM changes in most cases proves of equal value to pH in predicting outcome among experienced clinicians. Clinicians should ensure that the woman is aware that fetal blood sampling is an uncomfortable and distressful procedure. Furthermore, women should also be informed that there are risks of scalp laceration, fetal bleeding and puncture of the fontanelle with loss of cerebrospinal fluid (NICE 2001). Gibb observes that decelerations in the fetal heart rate may, for example,

be associated with maternal position, dehydration, ketosis and pyrexia, and that the administration of fluid, remedies to reduce maternal temperature or the correction of maternal position may remedy the problem.

Although the guidelines provide clear linear pathways for decision-making in relation to whether a caesarean section is necessary on the basis of an adverse CTG, they have not addressed clinicians' views about their use in the clinical area. Research has shown that many clinicians find EFM reassuring (Bassett 2002) in the current litigious climate. It remains to be seen how effective the guidelines will be in discouraging their use for women who are at low risk of perinatal mortality.

3.5.2 Caesarean sections for prolonged labour

The National Sentinel Audit (2004) found that 20% of caesarean sections were undertaken for 'failure to progress'. This term is frequently used to describe contractions that have become ineffective in aiding cervical dilation, but is considered to be derogatory for the woman (Davis-Floyd 1992). A wide range of research literature has consistently indicated that 'failure to progress' is the most common reason cited for caesarean sections in women who have not given birth before (O'Driscoll *et al* 1984;1993; Taffel *et al.* 1991; Stafford 1990; Robson *et al.* 1996; Anderson and Lomas 1985). A frequently asked question is why so many women do not manage to labour 'effectively', and therefore require intervention in the form of artificial rupture of membranes and intravenous syntocinon to stimulate 'stronger' contractions.

Katz-Rothman (1983) draws a distinction between biomedical and traditional midwifery models of childbirth. Firstly, the biomedical approach, typically used by both obstetricians and midwives in maternity units, divides the birth process into socially constructed stages which last a specified period of time. Davis-Floyd (1992) observes that these socially structured stages create order and certainty for the health-care professionals in an otherwise potentially chaotic process. From the biomedical perspective, there is the latent phase of labour (where women are not deemed to be in established labour until they reach 3cm

dilatation) followed by three distinct stages of labour. The first stage of labour is when the cervix dilates fully to allow the birth of the baby to take place. The time spent in labour is dependent on whether the woman has had a baby before. Accordingly, it is expected that women should dilate 1cm per hour if they have had a baby previously, or 1.5cm per hour if they have not. This rationale is based on the Friedman curve. This was developed fifty years ago and is a graph used to note progress of labour (figure 3.5.2), plotting the descent of the fetal head and the cervical dilatation.

Figure 3.5.2 The Partograph (WHO 1994)

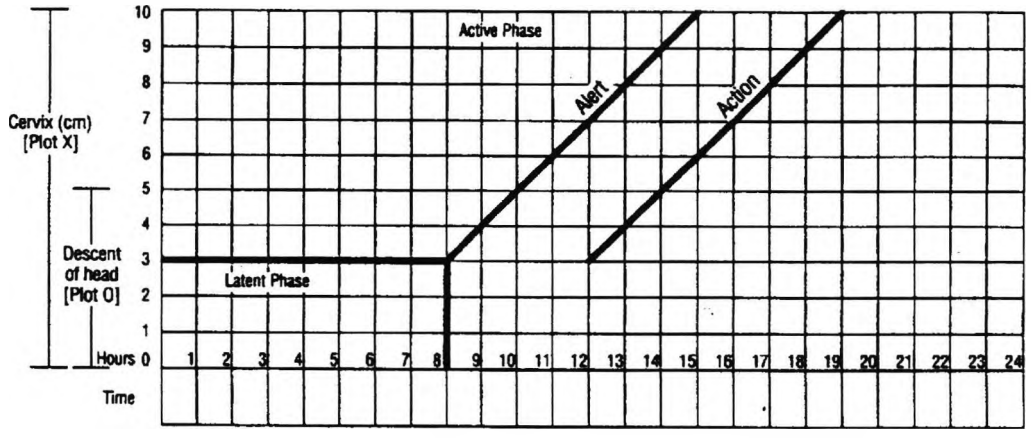


Figure 3.5.2 demonstrates a typical partogram used in the course of a woman's labour based on the Friedman curve. It shows that with normal labours progressing to delivery, the descent of the fetal head starts at the upper left and, over time, is marked toward the lower right of the graph, while the dilatation begins at 0 at the lower left and rises to 10 over time at the upper right hand corner of the graph. In this way, there should be an 'X' plotted on the graph at each vaginal examination, and any distortion of the 'X' indicates a problem in the descent of the fetal head, or in the dilatation, and intervention will then become necessary. This is commonly called 'failure to progress' The second stage of labour occurs when the mother experiences the urges to push the baby out from the birth canal, and typically can take from 1 to 2 hours. The third stage of labour is the expulsion of the placenta.

In contrast, the traditional midwifery model, as described by Katz-Rothman (1983), and used by some midwives such as those belonging to the Association of Radical Midwives, sees each labour as unique:

> *"Rather than using arbitrary time limits nurse-midwives look for progress, defined as continual change in the direction of birthing"(Katz-Rothman 1983:265).*

From this perspective, each woman's labour is individual, and not defined in terms of time constraints as implied by the biomedical model. Therefore, the traditional role of the midwife is to only intervene when absolutely necessary. As both Katz-Rothman (1983) and Durham (2002) observe, such midwives have learned to tolerate uncertainty and unpredictability.

The use of the partogram in labour is endorsed by the National Sentinel Audit in the caesarean section guidelines (2004), Buchmann *et al.* (1998) and the World Health Organisation (WHO 1994). The evidence supporting the partogram are from the results of a large multicentre trial conducted by WHO involving over 35,000 women in South East Asia. The findings indicate that its use is associated with reduced perinatal mortality outcomes, a reduction in infections and a reduced incidence of long labours and unnecessary caesarean sections.

However, Buchmann *et al.* (1998) notes that the partogram does not allow for differences in women according to their cultural and ethnic backgrounds. Nor does it allow for midwives to treat birth as more than a medical event. There has been widespread criticism that labour ward policies which adhere too rigidly to the biomedical model have resulted in labour becoming a mechanistic and regimented process (Simmonds 2000). Interventions, such as syntocinon used when a woman's labour is deemed to have slowed down, are not necessary in all cases. Indeed, each woman should be treated and assessed on their individual situation, as not all women will progress at the same rate (Enkin *et al.* 1996). Furthermore, research has shown that a single intervention in labour can often lead to a cascade of interventions, with a resulting increase in the caesarean

section rate, and in a negative birth experience for the mother (Cartmill and Thornton 1992).

3.5.3 Previous caesarean section

The National Sentinel Audit (2004) reported that 9% of women who gave birth in England and Wales has had at least one previous caesarean section. Repeat caesarean sections contribute 14% to the overall caesarean section rate. The audit found that repeat caesarean section rates ranged from 6% to 64% between maternity units. In one hospital, there was 100% repeat caesarean section rate (NICE 2001). The percentage of women in England and Wales who attempted a vaginal birth after a previous caesarean (VBAC) section was 33%, but the Audit found that 51% of women had a VBAC if they already had at least one vaginal birth previously (NICE 2004). However, other research evidence suggests that the success rate for vaginal birth after caesarean section is as high as 86% (Asakura and Myers 1995: Sanchez-Ramos *et al.* 1990). However, these studies have failed to make clear the birth method selection criteria for women in the study, for example how many women were offered VBAC but declined, and why they declined, and whether women self-selected to opt for VBAC. These differences are important because the involvement of the woman in the decision-making process is an important factor in determining birth outcomes.

Furthermore, research evidence can often be negated by the attitudes of obstetricians and midwives towards caesarean section rates, and in particular towards VBAC. This is amply demonstrated by the example of the hospital which had a policy of 100% repeat caesarean section rate. The National Sentinel Audit (2001) found that 51% of obstetricians surveyed believed that caesareans were safer for the baby because of the perceived risk of uterine rupture. However, uterine rupture is rare. It is increased in women having a planned vaginal birth (35 per 10,000) compared with women who have a planned caesarean section (12 per 10,000). Because the risk of uterine rupture is relatively uncommon, the NICE caesarean section guidelines recommend that pregnant women who have had a previous caesarean section, without additional complications such as a breech presentation, should be supported in having a VBAC. NICE guidelines stipulate that ultimately the final decision as to mode of

delivery should reflect maternal choice, rather than obstetric preferences or unit policies.

3.5.4 Breech presentations

The National Sentinel Audit (2004) found that 11% of women underwent a caesarean section for breech presentation babies. Breech presentation presents a significant challenge to the clinician in managing a vaginal birth on account of concerns about an increased risk of perinatal morbidity and mortality (Hannah *et al.* 2000). The management of breech births is widely recognised as a controversial issue (Savage 1986; Robinson 2000; Gibb 2001; Haheim 2003) . This is because some obstetricians will advise women against having a vaginal birth, without first considering alternative options that may help turn the baby to a cephalic position. The most commonly used interventions to aid this process are external cephalic version (ECV), recommended by the RCOG and is part of the caesarean section NICE guidelines (NICE 2004) and moxibustion (Burr *et al.* 1999). There is clear evidence that ECV in women without previous scars to the uterus reduces the incidence of breech birth and caesarean section by around 40% (Hofmeyr 1989). However, the RCOG reported that ECV is not part of routine practice in the U.K (RCOG 1999).

During the course of the field work for this study, an international multi-centre randomised controlled trial involving 2088 women was published (Hannah *et al.* 2000). Increasingly, the management of breech births has, over the last twenty years, become a contentious issue. A large randomised controlled trial involving 2088 women, published during the course of my field work, which examined the morbidity and mortality outcomes for babies, concluded that a caesarean section at term was safer for the baby than a vaginal delivery (Hannah *et al.* 2000). As Ikomi and Kunde (2002) have observed, the focus on the overall mortality rate has influenced many clinicians worldwide to encourage women to have a caesarean section rather than attempt a vaginal birth. The trial supports obstetric management with the resulting effect of reducing uncertainty associated with birth outcomes. However, the study has been criticised on several points. Some

commentators have argued that the results are questionable because 15% of the vaginal births were induced and just under 48% were speeded up with oxytocic drugs (Robinson 2000). Furthermore, Robinson has argued that where the labour was not interfered with in any way, outcomes for vaginal births in the study were, infact, better. The mortality rate for the non- intervention group was 3.3% compared to 5% for vaginal breeches that had intervention in labour. The mortality rate for elective caesarean section breech births was lower than both these at 1.6%.

The risk of mortality is heightened in reports such as the 7th Confidential Enquiry into Stillbirths and Deaths in Infancy (CESDI 2000). These reports state that the single most avoidable factor in contributing to stillbirths among vaginal breech births was attributed to sub-optimal care. Further, the report concludes that the registrar who generally is still in training, was the professional most likely to be involved in the labour and delivery. Less than a fifth of these labours had more senior involvement at any stage with consultants only being informed in half of these cases at the delivery. Inexperience at the time of delivery exacerbated the risk to an already hypoxic baby in some cases.

Although the management of breech births are covered in obstetric/midwifery training sessions, clinical experience has long been recognised as crucial to good outcomes for vaginal breech births (Chamberlain and Steer 1999; Robinson 2000; Gibb 2001). However, Robinson (2000) and Gibb (2001) are particularly concerned that as more women are persuaded by their obstetrician who draws on the 'evidence' presented in the Hannah trial to opt for a caesarean section, the skills of practitioners in the management of vaginal breech births will dwindle still further. This could, in the long term, mean that because there are so few practitioners skilled in vaginal breech births, those women who would prefer to opt for this method of delivery may not have access to the necessary skills and experience of the health professional. Gibb argues that a policy of no vaginal breech births would take away the choice for those women who want to attempt a vaginal birth. Moreover, there will always be the woman with the undiagnosed

breech who presents in labour fully dilated for whom a vaginal birth is the only option.

3.5.5 Maternal choice

The increasing safety of caesarean sections in the past few years has led some obstetricians to agree to maternal requests for a caesarean section without any medical reason being identified. The National Sentinel Audit (2001) findings suggest that, for women who are healthy and who have had an uncomplicated pregnancy, the overall risk of intrapartum maternal death is small (less than 5 per 100.000). In lieu of this, protagonists of 'elective caesarean sections on request' argue that women have better mortality and morbidity outcomes in comparison to those associated with an emergency caesarean section. They also argue that an elective caesarean section is safer in terms of morbidity and mortality for women than a vaginal delivery where the outcome is unknown (Paterson-Brown and Fisk 2004). Paterson-Brown and Fisk (1998) have steadfastly argued that;

> *"Until recently doctors and patients have been united in wanting lower caesarean section rates. This is changing, and the concept of a more liberal patient-centred choice is gaining credence. Caesarean sections are no longer black and white decisions but are becoming increasingly discretionary, based on maternal choice, their increasing safety for mother and baby, and recognition of the pelvic damage associated with vaginal birth"*

Paterson-Brown and Fisk detail why obstetric consultants should consider women's choice to have elective caesarean sections. Firstly, although short term morbidity after elective caesarean sections such as pain, urinary and wound infections and thromboembolism, is increased in the immediate post-delivery period after the operation, it is less than after an emergency caesarean section. Secondly, they argue that a planned caesarean section results in women recovering better physically and psychologically if they have been fully informed, and have been a part of the decision-making process. Thirdly, they suggest that elective caesarean sections avoid pelvic floor damage. This damage

includes anal sphincter tears which are associated with normal vaginal deliveries, and vacuum extraction and forcep vaginal deliveries. It results in long-term morbidity, both physical and psychological, for women. Fourthly, they argue that women's reasons for choosing an operative delivery are complex and personal, and range from a desire to avoid a long and protracted labour to being able to plan the birth day at a time mutually convenient for herself and the obstetrician. Therefore, providing the woman is fully informed of the risks associated with caesarean section, it is she who has to live with the consequences of her choice. They conclude that consultants should consider that the risk-benefit ratio of an elective caesarean section versus a vaginal delivery where the mode of delivery remains uncertain may not be as unbalanced as previously thought, which has been discussed in chapter one.

In response to such arguments, Stirrat and Dunn (1999) point out that it is unethical for a doctor to agree to an elective caesarean section for no medical reason. They argue that there is a considerable lack of *reliable* information on both the short term and long term mortality and morbidity related to an elective caesarean section. Stirrat and Dunn contend that further research needs to be undertaken before maternal choice can be ethically considered a viable option for having a caesarean section:

> "*Informed maternal choice is fundamental to the practice of midwifery and obstetrics today. Maternal autonomy is however only one element in ethical clinical practice; another is not doing harm. To carry out a caesarean section on a woman when in the opinion of the obstetrician it is not in the best interests of her and her baby is therefore unethical. Here the autonomy of the doctor not to act unethically must be exercised. Unfortunately maternal autonomy is often assumed as doing what the woman requests at a particular moment. It is far more complex than that. Doctors should help the mother in the process of exercising her autonomy in the best interests of herself and her child."(Stirrat and Dunn 1999)*

They argue, instead, that practitioners should be addressing the way 'normal birth' is managed, and suggest a review of women's position and mobility during

labour, the provision of one-to-one support for women in labour and reducing the use of epidurals. If these factors can be improved upon, they argue, women might be less likely to request a caesarean section.

At present, relatively few women actually request a caesarean section. The National Sentinel Audit (2004) found that, overall, 7% of women were recorded as having requested a caesarean section, however this estimate was subject to variation depending on whether the woman or the doctor was asked the question in the study. Lower figures have been found in other studies. For example, an audit undertaken in Scotland of 8090 caesarean section cases found that 7.7% (623) were reported to be due to maternal request (Mcilwaine *et al.* 1997). Of these cases, once other factors such as previous caesarean sections and breech presentations had been excluded, just 0.4% (31) of women had requested a caesarean section for no medical reason. Furthermore, Murray's (2000) study undertaken in Chile, and Potter *et al.* (2001) study carried out in Brazil, both concluded that the majority of women surveyed would prefer not to have a caesarean section, even though these countries have caesarean section rates of up to 80%.

The National Institute for Clinical Excellence (2004) states that a woman's request for a caesarean sections is not, on its own, an indication for caesarean section and recommend that:

- Specific reasons for the request should be explored, discussed and recorded
- In the absence of an identifiable reason the overall benefits and risks of caesarean sections compared with a vaginal birth should be discussed and recorded
- When a woman requests a caesarean section because she has a fear of childbirth she should be offered counselling to help her address her fears in a supportive manner, because this results in reduced fear of pain and shorter labour

- An individual clinician has the right to decline a request for caesarean section in the absence of an identifiable reason. However, the woman's wishes should be respected and she should be offered referral for a second opinion. (NICE 2004:4.8)

However, such recommendations on their own are not enough to effect a change on attitudes of consultants who consent to caesarean sections for no apparent medical reason. The Royal College of Midwives (2004) is calling on action to ensure that obstetricians follow the NICE recommendations by the ongoing process of auditing clinical practice.

3.6 Conclusion

This chapter has outlined the economic and political context to contemporary maternity care in the UK. Decisions about whether, and on what basis, to proceed with caesarean sections as well as the myriad of other decisions which both precede and are a corollary of it, are bound into sets of social as well as medical considerations. These extend beyond the technical into concerns about professional autonomy and objectives, ideas of knowledge, certainty and uncertainty, self and expertise. Techniques which suggest that decision-making can be made formally explicit through the application of linear and dichotomous models fail to take account of these issues. Moreover they do not adequately account for the fully processual nature of interactions between the many parties involved before, during and after the procedure. Thus the biomedical approach to caesarean sections is influenced by individual professional value orientations that juxtapose rational, technological ways of knowing with interpretative, intuitive and experiential knowledge.

In this situation it is important to address these issues, using social scientific and anthropological approaches to understanding those issues of significance to pregnant women, professional bodies and the clinician. The next chapter will explore these issues further within the context of medical uncertainty from both the organisational and individual health care professional's perspectives.

CHAPTER FOUR

MEDICAL UNCERTAINTY: SOCIOLOGICAL PERSPECTIVES

4.0 Introduction

In the previous two chapters I have argued that the issues surrounding the management of childbirth, and in particular the mode of delivery, remain controversial. Controversy is evident in recent public and professional debates about the increased numbers of caesarean sections being performed and the regional variations in the procedure, now widely recognised as public health concerns. These discussions show that caesarean sections may be viewed as a life saving necessity or as a medical or social commodity. This debate is not just a UK phenomenon, but is occurring across cultural and national geographical boundaries in a variety of settings and situations.

In the first part of this chapter, I argue that central to this debate are professional conceptions of birth, and the underlying issue of how obstetricians and midwives manage decision-making in the context of the unpredictability of childbirth outcomes. Most research within the evidence-based practice paradigm has assumed a simplistic relationship between the existence of 'evidence' and professional decision-making. However, much research in this paradigm has failed to adequately explain why health-care professionals vary in their use of tests and treatments, and to explain how they cope with the clinical uncertainty inherent in medicine.

The development and increased use of caesarean sections are recognised as historically, politically, legally and culturally constructed activities by other academic disciplines outside of conventional biomedicine. Thus, the analysis of decision- making concerning birth outcomes can not be considered from a solely biomedical perspective, but must include other disciplines and perspectives. This chapter will touch on a number of these debates with a view to contributing towards a sociological understanding of uncertainty in maternity care from the practitioner's perspective. In doing so, this chapter will provide the necessary

framework in which to locate my own ethnographic research presented in chapter five, which seeks to situate the clinician at 'centre stage'.

4.1 The evolution of uncertainty

Understanding and managing the unpredictability of childbirth so that the outcome results in a healthy mother and baby, rather than focussing on what the experience of birth meant for the woman, is, many would argue, central to obstetric practices. Yet, it is important to note that this does not mean that doctors make concerted efforts to develop skills and attitudes that are at variance with the needs of women as many feminists imply (e.g. Scully 1980; Murphy-Lawless 1998). Some feminist research has failed to take account of the ethical, moral and at times controversial dilemmas that clinicians frequently have to face in fast moving and potentially life threatening situations. Nonetheless, the way doctors seek to control and manage the unpredictability of childbirth does need further exploration as regional variations in caesarean sections are a cause for concern. This is because of the questions raised about possible inappropriate usage, cost, and practice style.

In framing this discussion within social scientific rather than biomedical terms a wide range of disciplines and different schools of thought may be represented. Many social scientists attribute the current ethical and social dilemmas clinicians face and the problems in medical decision-making to the wider problems of modernity, and its associated concerns about uncertainty, risk and danger. Lupton (1999) and Giddens (1998), among others, have problematised taken-for-granted assumptions that science and medicine represent the vanguards of progress. These social scientists assert that contemporary society is characterised by a growing sense of the failed promises of science and technological innovations (for example the inability to effect cures for many diseases) and '*by uncertainty and ambivalence related to constant change and flux, cultural fragmentation and the breakdowns of norms and traditions*' (Lupton 1999:11). In consequence, political, professional and public bodies are now questioning the expertise of medical practitioners and the cost, effectiveness and iatrogenic side effects of medicine in general.

The concerns that medical uncertainty engenders has led to a number of studies in America and Canada that have examined whether uncertainty may contribute to rate variation among both medical and surgical physicians. Problems such as limited medical knowledge and uncertainty about the course and outcome of disease make it difficult for doctors to determine benefit and risk calculations of treatments (Wennberg et al.1982; Epstein *et al.* 1984; Nightingale 1987; Poses *et al.* 1998). The studies conclude that because of uncertainty, variations in "practice style" among physicians have occurred. As a result of these findings, considerable sums of money have been spent on outcomes research and medical audits in an attempt to determine effectiveness and value for money for a range of procedures and treatments, with the aim of applying these findings to clinical practice in the form of evidence-based medicine. These studies have been useful in describing how best evidence and other techniques can improve the available information about what treatments patients undergo, and about the efficacy and costs of, and regional variations in medical procedures. Nonetheless, the utilitarian approach used in these studies has failed to encompass physicians' attitudes to uncertainty, to identify the role of uncertainty in decision-making, or to consider how clinicians actually come to make decisions in difficult clinical situations. Thus the ubiquity and acknowledged importance of uncertainty in patient care warrants closer examination that can not be achieved by quantitative studies alone.

Medical uncertainty and the problems it pose's for physicians, were first identified during the late 1950's by sociologists, particularly Talcott Parsons and Renee Fox. Both sociologists emphasised the impact of uncertainty on the work and role of the physician as a source of considerable strain which they had little control over. Of specific relevance to my work are the three categories of medical uncertainty proposed by Renee Fox (1957).

Fox's study "Training for Uncertainty" (1957) is widely regarded as a seminal analysis of the impact of uncertainty in medical practice. Her work was based on a field base observational study, carried out in the period from 1953 to 1958 at an American medical school in which she "*identified shared and subsequently analysed the training for uncertainty sequence experienced by medical students*"

(Fox 1959:5). Fox concluded that there were three basic types of uncertainty around which the process of training for uncertainty in medical school was based.

Firstly, she found that uncertainties originate in the impossibility of learning all the vast knowledge and skills of a continually advancing modern medicine. Secondly, uncertainties arise from the many gaps in medical knowledge and the limitations in medical understanding and effectiveness which continue to exist as medicine advances. The third source of uncertainty that she identified was the difficulty for medical students in distinguishing between personal ignorance or ineptitude and the limitations of present medical knowledge. Medical students came to learn that their central task was to learn to act in the face of uncertainty as their clinical responsibilities grew. Fox concluded from subsequent research that learning responsibility was an essential component in the move from their neophyte status as student to that of doctor:

> *"Their attainment of a more detached kind of concern about uncertainty by muting awareness of its constant presence in medical work, pushing strong feelings about the most emotionally evocative issues it raises below the surface of consciousness not displaying uncertainty, and shrouding it in silence. This complex of responses to uncertainty is influenced and structured by the professional socialisation process that medical students undergo which consists of the largely latent messages they receive from their teachers and that they reinforce in one another about what medically capable and emotionally mature physicians ought and ought not to admit exhibit and discuss with colleagues and with patients (Lief and Fox 1963 cited in Fox 2000: 411)*

Her work since this first study has continued to emphasise the need to understand decision-making in terms of the difficulties uncertainties pose for doctors and their ways of grappling with the limitations of biomedical science. Clinicians see each patient outcome as part of an overall professional learning curve. They recognise that there can be no medical progress in the absence of, as Fox expressed it, a 'courage to fail' ethos. This theme is significant throughout her

research and is illustrated in the following extract from a letter written by a doctor to the family of a patient who died on the renal unit where she was undertaking her research:

> *We were all shocked by Walter's sudden death. We are grateful for his pioneering spirit and his great co-operation with all of us, which enabled significant progress to be made in the field of high blood pressure. We can only regret that he did not live longer to enjoy the fruits of this progress (Fox 1957:63)*

This letter was representative of many written communications between doctors and patients and their relatives which Fox had access to. Analysis of these documents complements the observations and interviews with both patients and doctors which she drew upon in her research. Her findings emphasised that doctors placed considerable importance on good working relationships with patients, as well as among themselves, in relation to their efforts to cope with uncertainty. Fox asserts from that the impact of medical uncertainty raises:

> *'Emotionally and existentially charged questions about the meaningfulness as well as the efficacy of physicians efforts to safeguard their patients well being, relieve their suffering, heal their ills, restore their health and prolong their lives' (Fox 2000: 409)*

Since completing this seminal study, Fox has identified uncertainty management as an important theme in a variety of medical research settings which she has explored, particularly in the field of organ transplantation and medical scientific research (Fox 1959; Fox 1989; 1996). Fox argues that although medical research continues to lead to 'discoveries' and improved outcomes for patients, uncertainty persists with respect to the unwanted side effects of the technologies, procedures and drugs that physicians use to diagnose and treat patient's diseases. For example she writes that significant gaps continue to exist in our knowledge related to the 'emergence and re-emergence' of a broad spectrum of infectious diseases, such as HIV/AIDS, Ebola hemorrhagic fever, legionnaires disease and bovine encephalopathy to cholera, yellow fever, and tuberculosis (Fox 2000).

Fox's work involves very thorough and comprehensive ethnographic studies spanning several years of field work, and based on close observation of the work that doctors undertook and their interactions with patients in America. Her work was undertaken during the 1950's at a time of new and specific field of enquiry in medical research, where patient expectations of medical technology were lower, and the patient was a much more passive participant in their relationships with doctors. This is because the doctors she observed were working in a field of enquiry that was at that time constantly evolving and exciting, but also daunting because it was filled with vast uncertainty and frequently tragic consequences for patients.

It may be argued that because of these particular factors, the prominence of uncertainty which Fox identifies in her study may not be as applicable to other aspects of medicine. However, since Fox instigated the investigation of medical uncertainty as a new field of enquiry, many other social scientists have gone on to undertake qualitative and quantitative research in this area (Light 1979; Katz 1984; Chow 1998; Babrow and Kline 2000). These researchers have identified additional types of uncertainties that crosscut those identified by Fox. They have concluded that the issues of uncertainty and certainty are much more intricately entwined than Fox suggests. These issues are discussed in the next section.

4.2 Training for certainty

Building on Fox's work, sociologist Donald Light's (1979) study was an ethnographically based account of the uncertainties that trainee American psychiatrists encountered during the 1970's. Light identified a range of uncertainties associated with the relationships trainee psychiatrists developed with their mentors, and with the processes of diagnosis and treatment, including patient responses to these processes. He observed a gradual shift in the trainee psychiatrist's expectations from being highly idealistic to a more pessimistic stance about what they could hope to achieve in patient outcomes. This was because the doctors found it difficult to make accurate diagnoses and predictions about patient outcomes, particularly with respect to patient suicides. The need to gain control over so much uncertainty became a central focus of their training so

that progressively 'training for uncertainty' became 'training for certainty and control'. There were two key ways in which trainee psychiatrists attempted to achieve this goal. Firstly, Light contends, they did this by shifting some of the responsibility back to the patient, so that negative outcomes (particularly in the event of suicide) were perceived to be a direct result of patient non-compliance with treatment regimes. This was demonstrated in medical reviews and case conference meetings where unsuccessful cases such as suicides were 'buried'. Instead, case conferences focussed more on those patients for whom improvement was apparent, and, therefore treatment was considered successful. These 'successful' cases reaffirmed doctors' professional authority and effectiveness as a doctor.

Secondly, because their field was subject to many ambiguities, trainee psychiatrists attempted to gain control over their work by adopting and conforming to one of several medical psychiatric orthodoxies. This made the process of patient care more certain and less open to disruption. In doing so, however, Light argues, the doctors who participated in his study ran the danger of gaining too much control to the detriment of their patients, because they became insensitive to the complexities and uncertainties involved in diagnosis, treatment and maintaining good doctor-patient relationships.

Light's study, whilst based in the USA, was set at a time before significant changes were made to the way mental health services were run and patients were treated. For example the issues of control and the importance of compliance are reflected in the book 'One Flew Over the Cuckoo's Nest', published in 1962, which was the product of both the personal experiences of its author, Ken Kesey, who worked as an orderly at a mental institution and the specific culture in which it was written during the 1960's. Nonetheless, Light provides an interesting analysis of how the training of doctors produces such a separation of styles and approaches, particularly in their management of clinical uncertainty. The doctors that Light observed did not display the emotions and reflexivity that Fox has described. Rather, they were much more likely to adopt controlling mechanisms, and to maintain emotional distance between themselves and the

patient. In this respect, he presents alternative ways of managing, and coping with, uncertainty which I discuss in greater detail later in this chapter.

Jay Katz (1984), himself a psychiatrist, notes that the medical socialisation for uncertainty that Fox described is, in fact, more akin to training for certainty. From his perspective, as an observer of American medical practice, he notes that physicians acknowledge the indeterminacies of medical knowledge among themselves. Like Light, Katz contends that doctors, on the whole, avoid discussing uncertainty with their patients. He found that doctors believed that their patients would lose trust in the medical profession's ability to make the right decision for them because they were concerned that displays of uncertainty would serve to make the profession look indecisive and fallible. Like Light, Katz also argues that doctors are inculcated to disregard uncertainty in clinical situations by being taught the importance of conformity and orthodoxy. He argues that this training, which begins in medical school:

> *continues in postgraduate training and is reinforced by specialisation which tends to narrow diagnostic vision and to foster beliefs in the superior effectiveness of treatments prescribed by one's own speciality. (Katz 1984:188).*

This, he concluded, enables clinicians to remain in control over their internal and external environment. He found little evidence that physicians consciously consider uncertainty as having an impact on their decision-making in the clinical field. However, whilst some recent studies support Katz's findings (e.g.Cassell 1991; Atkinson 1995; Sinclair 1997), other contemporary research does suggest that doctors are less inclined to be controlling and omnipresent (e.g. Christakis 1999; West 2001).

Although these studies are somewhat dated, and there has been a restructuring of the health care systems both in America and the United Kingdom, associated with an increased emphasis on evidence-based medicine and greater patient involvement in decision-making, many of the findings of these studies have since been replicated in more contemporary studies about uncertainty and clinical

practice. Indeed, the anthropologist Davis-Floyd (1992) has highlighted the importance of conformity and orthodoxy within obstetrics as a mechanism designed to attempt to maintain control over the unpredictability of childbirth. Although, as I have identified in chapter 2, her research was not directly related to exploring medical uncertainty, she made some interesting observations related to this area. Davis-Floyd was able to conclude that obstetrical rituals such as the timing of the labour process provide cognitive anchors for health-care professionals, enabling them to cope with the potential unpredictability of birth. Davis-Floyd recognises that without this adherence to precision and order, clinicians feel vulnerable and out of control in the clinical situation, particularly if adverse events occur. The importance of ritual and control is exemplified in the following extract with a doctor whom she interviewed:

> *'I think my training was valuable. The people who trained us and their philosophy were unbeatable. Dr. Pritchard... he's the man in obstetrics today in this country. And his philosophy was one of teaching one way to do it and that was his way, and it was basically the right way.I like the set hard way. I like the riverbanks that confine you in a direction. Later on you can incorporate a little bit of this and that as things change, but you learn one thing real well and that's the way' (Davis-Floyd 1992:264)*

Davis-Floyd argues that much of the rationale for the way that obstetricians, and the medical profession in general, operate has been driven by a mechanistic notion of the universe which is explored further later in this chapter.

Some social scientists have argued that too much has been made of medical uncertainty. For example, the very term medical uncertainty has been questioned (Atkinson 1995). Atkinson remarked that the term is 'an odd-job word'. It includes a large number of topics and therefore has no distinct or concrete identity. In an earlier article, 'Training for certainty' (1984), Atkinson reviews the work in this area, and in particular the work undertaken by Renee Fox. He argues that the theme of uncertainty has been 'underdeveloped and overplayed'. This, he contends, has resulted in inadequate attention being given to the phenomena of medical knowledge. Atkinson argues that, had physicians been

trained for uncertainty, as Fox has maintained, the traditional authoritarian relationship between the physician and the patient would have been altered. He claims that, instead, the emphasis during training and subsequent qualification is on the certainty, rather than the uncertainty, trajectory. He asserts that medical students are taught the importance of routines, professional values and norms, such as conformity, and peer support, which enable them to achieve a sense of certainty, even when faced with the ambiguities inherent in medicine. In this way, the doctor feels able to maintain credibility in front of the patient. Atkinson is thus convinced that medical uncertainty is not as prominent an issue as Fox implies, and it is his view that doctors:

> *have faith and moral certainty in the stability and predictability of the world within reach...because such faith provides that sense of I can do that again (1984: 955)*

Indeed, Fox would not dispute this. The difference between the two perspectives lies in Foxes view of physicians as reflexive social beings, as having to juggle with many competing professional realities, as well as attempting to take account of the perspectives of the patients, amid a consistently changing health environment. Atkinson has not looked at the socio-emotive aspects of the work of physicians and has thus failed to take account of the unusual pressures entailed by the type of work that the physicians undertake.

4.3 The uncertainty of diagnosis, treatment and patient outcomes

Increasingly patients look to medicine for a solution to their ills (Williams 1997). But the public's high expectations of what medicine can and can not do, combined with an increasing awareness of the iatrogenic effects of medicine, mean that "medicine is at one and the same time a fountain of hope and font of despair" (Williams 1997:1042). However, from the doctor's perspective, medical work is a process of discovery, with, as Paget (1988) argues, the diagnostic and treatment process intersecting the development of the patients illness, and unfolding in response to it. Paget's study involved in-depth interviews with forty doctors in which she explored the subjective experience of physicians who, she argues, inevitably make mistakes. Paget argues that mistakes are an intrinsic

feature of medical work which she describes as an error-ridden activity. Errors occur through the passage of time because clinical medicine is an:

> *unfolding activity. A mistake is a temporal process, the now of mistakes collides with the then of acting with uncertain knowledge. 'Now' represents the more exact science of hindsight then the unknown future coming into being" (Paget 1988:78)*

Thus, clinical judgement involves acting as if one possessed complete certainty in its absence. A doctor interviewed by Paget illustrates this point succinctly:

> *"The errors are errors now but they weren't errors then." (Paget1988:48)*

Paget attempts to understand what it is like to do medical work amid so much uncertainty. It offers a move away from the traditional rhetoric of the blame culture which is present in much of the feminist literature on medicine. It seeks to place the physician's story at the centre of her work, and provides an insight into how physicians think about, and cope with, uncertainty in medicine. Although medical mistakes put the patient at risk, her concern is with the subtle effects this endemic danger has upon clinical work and the doctor.

Similarly, Christakis (1999), an American physician and sociologist, contends that the increasing importance placed on making a diagnosis and predicting the outcome of a disease to patients has drawn attention to the problems of uncertainty faced by doctors. Drawing on his own research which used surveys with 697 American physicians, and follow-up in-depth interviews with 32 physicians, during the late 1990's, Christakis explores doctors' beliefs regarding the act of prognosis i.e. telling patients whether their disease is curable and how long they have to live. He found that physicians dreaded telling patients about the course and outcome of their disease:

> *"Making a diagnosis has become the central concern of the clinical encounter because prognosis and therapy are seen to follow necessarily and directly from it. The ontological perspective is further reinforced when an effective therapy for a disease exists because effective therapy*

further narrows the range of possible outcomes a disease might have. Once a diagnosis is made and effective therapy is initiated the clinical course of a disease is presumed to be relatively fixed, non individualistic and standardised." (Christakis 1999)

As Fox (2000) points out, even if a patient has a condition that is generally amenable to existing therapy, this does not inevitably mean that his/her medical history will unfold in the usual way, or result in a favourable outcome. Explicit prognostication becomes both more difficult, and more necessary, in such instances. Although it may be a means of gaining some degree of control over the unfolding clinical situation, prognostication under these circumstances is likely to be threatening both to the patient and the physician because it reveals not only medical uncertainty and limitations, but also medical fallibility.

Christakis (1999) also contends that continually advancing medical science which can diagnose disease sooner, sometimes long before the disease itself becomes a problem (such as the ability to detect the gene for Huntington's Chorea or some types of breast cancer) contribute to increasing uncertainty about the course and outcome of a disease. Thus, because there is always a chance, no matter how remote, that a cure may be found, physicians can have a tendency to skew prognosis in a more optimistic direction, and avoid discussion of negative outcomes. Like Paget (1988), Christakis also provides an understanding of how doctors manage and cope with the uncertainty associated with the diagnosis and outcome of a disease. He includes background data on the organisational context and the impact this has on doctors' work. Both Paget and Christakis challenge assumptions of the medical profession being controlling and unfeeling, and highlight the complexities of decision-making under conditions of uncertainty.

4.4 Variations in professional practice: a consequence of uncertainty?

In addition to the studies discussed above, other studies reflect the variations of clinicians practice. For example, Baumann *et al.* (1991) examined overconfidence among clinicians in two independently designed studies carried out during the latter part of the 1980's in Canada. The first part of the study examined treatment choices of physicians for breast cancer. The second part of

the study was concerned with nurses rapid decision-making in intensive care units. Bauman uses the terms 'micro-certainty' and 'macro-uncertainty' to refer to the bi-dimensional nature of the uncertainty concept. Both of the above groups displayed aspects of micro-certainty and macro-uncertainty. Micro-certainty meant that clinicians were very confident that they had made the right treatment choices for their patients at an individual level. Conversely, however, at the group level, for example at case conference meetings, little consensus could be reached about optimum treatment for patients. Macro-uncertainty was, thus, demonstrated at this level. Disagreements arose because there was considerable uncertainty and debate around which treatment was therapeutically better than another. These debates led to interprofessional conflict. Ultimately because no consensus could be reached, clinicians would frequently agree to disagree. Baumann concludes that clinicians compensate for uncertainty by developing and maintaining one school of thought based on their clinical experience of what they perceive works, and does not work, to aid them in the process of decision-making. However, as Baumann has noted, patient choice is severely limited in this process because it is guided by the practitioners' preferences and assumptions, which may not necessarily be beneficial for the patient or based on research evidence.

In a more recent study involving in-depth interviews with 53 American physicians from a range of specialties, Chow (1998) explores how physicians from different specialities explain their diagnosis and treatment of tonsillitis, a clinical issue which is subject to much controversy. The study found that clear speciality-specific differences existed. The value of tonsillectomy had the lowest level of interspeciality consensus with ear, nose and throat specialists being the most confident that tonsillectomy rather than antibiotics would be more effective in the long term. Conversely, paediatricians were the least confident in tonsillectomy, preferring instead to treat the condition with antibiotics. Chow concludes that physicians are aware of the range of treatments available for tonsillitis. However, her research indicated that the physicians she interviewed felt that research evidence was subject to debate and subsequent change as 'new' information surfaced. Thus, they were more likely to be committed to an approach which fitted with their professional orientation.

Other studies, for example those of Epstein (1984), Poses *et al.* (1996) and Holtgrave *et al.* (1991) have supported the theory that physicians commonly use a worst case scenario as part of their decision-making when there is considerable uncertainty. Furthermore, in their quest to be more certain they found that physicians have a propensity for over- testing. This appeared to be more likely, the less experience clinicians had in a given speciality. This propensity gives rise to over-testing in a quest to be more certain which are costly and unnecessary, and may do harm to the patient without changing the original diagnosis.

Harvey (1996) undertook an ethnographic study in two intensive care units and a labour ward in the U.K. between 1988-1992 exploring how doctors' used technology to manage uncertainty. In her observations of obstetricians, Harvey concluded that they over-emphasised uncertainty and the potential for adverse outcomes occurring to women. Technology was put forward as a remedy to address the uncertainty and unpredictability inherent in childbirth. The emphasis on risk and uncertainty ensured that women are compliant with treatment, and, in so doing, enables the obstetrician to maintain control over the childbirth process. By comparison, doctors in the intensive care setting underplay uncertainty. Technology served to mask the extent of uncertainty that doctors experienced, and gave the illusion of certainty to relatives. Harvey's emphasis has been more focussed on the patriarchal and dominant aspects of medicine, an approach which, as I have already argued in chapter two, has failed to take account of the doctor as a human being, beset by worries and anxieties that befall the medical, nursing and midwifery professions. I have argued that such generalisations are outdated in contemporary medicine. Further, her study does not provide an insight into the complexities involved in decision-making in fast moving and volatile situations.

The majority of research in this area has taken place in the USA, and has predominantly focussed on the physician. As in the USA, significant emphasis has also been placed on cost and the management of health services in the UK (Hunter 1994). The management of health care services in the USA has had significant impact on the medical profession and the way it works. Klint (1999)

observes that competitive market forces have introduced competitive tension between specialists, which has injured the medical professional's tradition of collegiality. Klint argues that decision-making is now expected to be made more quickly and accurately with less recourse to tests, and without adequate recognition being given to the complexity and uncertainty involved in decision-making. Many doctors have voiced concerns that pressure to achieve organisational goals and keep costs low is generating bankruptcy and burnout. Fox (2000) observes that frequent policy and organisational changes have meant that doctors working in the USA are facing an unknown future.

There have been some studies in both the U.K and elsewhere which have sought to understand how nurses and midwives gain control over uncertainty. As Light (1979) observed, the shift towards controlling uncertainty is also evident in nursing as it is in medicine, but the actual definition of uncertainty and its control differs for nurses. Light argues that this difference arises because nurses do not have the level of autonomy that doctors have, and that this affects the way in which they can control uncertainties associated with treatment, diagnosis and their knowledge base. Studies exploring how nurses and midwives manage uncertainty in decision-making have used vignettes (for example Benner and Tanner 1987; White *et al.* 1992; Cioffi and Markham 1997: Thompson and Dowding 2001). Using simulated patient assessment vignettes, Cioffi and Markham's (1997) study of clinical decision-making of 30 Australian midwives, for example, found that in conditions of high uncertainty midwives were much more likely to rely on heuristics and organisational guidelines. This meant that they judged the probability of the patient's presenting signs and symptoms as belonging to a previously experienced clinical situation, and acted in accordance with unit protocols for the identified problems. Cioffi and Markham concluded that whilst this approach meant that midwives enacted routines to manage decision-making, it led to over-diagnosis of problems and reduced patient choice. Thompson and Dowding (2001) and Benner and Tanner (1987) have reported similar findings among general nurses. Thus, these studies argue that any deviation from routines was likely to result in blame not only from the patient, but from the NHS Trust in which midwives work (Annandale 1996; Cook and Procter 1998).

Despite their apparent differences, these studies suggest that medical problem solving is far from a linear process, and that uncertainty, to a greater or lesser extent needs to be recognised as a unavoidable characteristic of clinical practice. Thus, the three main types of uncertainty identified by Fox are by and large constant features of medical and clinical work. Alongside the kinds of uncertainty that she has identified, Fox (2000) has identified an additional type of uncertainty. This type arises from a variety of changes that are occurring around medicine, and which are both organisational and cultural in nature. These changes have profound consequences for the way care is delivered and experienced by health care workers and patients. It is to organisational uncertainties that I now turn to in the next section.

4.5 Organisational uncertainty

Alongside uncertainties inherent in medicine and medical knowledge, clinicians are also facing new and uncertain times as a result of the ongoing changes being made to the structure and organisation of the NHS which I have discussed in chapter three. Clinicians have become subject to regular and frequent audits in addition to being told what should be done and how it should be done as set out in national standards and guidelines. As West (2001) has exemplified

> *The culture of health service management has changed, radically, over three decades reflecting the growing domination of public choice theory alongside neo-liberal economics (West 2001:20)*

In addition to organisational changes, West also draws attention to changes in professional demarcations. For example, with the implementation of reduced working hours for junior doctors and the changes occurring in postgraduate medical training, midwives have taken on many roles previously filled by junior doctors, for example taking venous blood samples and venous cannulation. The reduction in junior doctor's hours has led to them spending less time in the clinical field but the same amount of time continues to be given over to theoretical instruction. This shifting balance has resulted in many doctors who are aware of the theory of how to manage certain obstetric problems not actually

gaining the clinical experience required to carry out procedures with the necessary skills and expertise expected of them. Thus, as changes continue to evolve in the way the NHS is organised clinicians have to deal with the uncertainty that is created in the internal environment, particularly with regard to their roles and responsibilities as a health care professional.

Similarly, Lipsky's (1980) classic American ethnography 'Street Level Bureaucrats', asserts that increased emphasis on output combined with a lack of resources within organisations creates uncertainty, stress and instability among workers. Decisions about the way health care is to be managed are made at government level, and passed down to NHS Trusts. But ultimately, it is the clinician who decides the actual care a patient should get within the resources available to them. They have to find ways of managing with the resources they actually have at hand. Since they have insufficient time and resources to make equitable decisions for everyone whom they come into contact with, they have learned to develop routines to make their work more manageable. However, as the services that clinicians provide on the front-line increasingly come under the spotlight, clinicians have become concerned that higher levels of expectation from NHS Trusts and public bodies have not been accompanied by additional resources to work with (West 2001). This creates anxiety about professional standing and authority being questioned. Thus, in the same way that Annandale (1996) described, Lipsky also found that 'street level bureaucrats' developed similar defensive practices that ultimately affected the client, themselves and the quality of services provided. Therefore, unless personnel needs are attended to and seen as unique in each care setting, many health care initiatives are potentially at risk of failing with the persistent shortage of staff and resources. Furthermore, there is also an inherent dilemma identified by Lipsky of trying to provide a personal service in a system designed to batch process people.

4.6 Uncertainty: A socially constructed phenomena

Societal preoccupation with uncertainty and its concomitants might be viewed as a universal phenomenon. However, Fox (1976) and others (for example Douglas 1986; Giddens 1998) have noted that the concepts of uncertainty, probability and risk are socially constructed phenomena's pertaining to western cultures. Fox for

example refers to work she had undertaken in Zaire during the mid 1970's examining how social, cultural and historical factors affect medical research there. Fox found that in Zaire deterministic fortune and misfortune orientated ways of thought dominated their culture, rather than scientific western ways of reasoning using probability modes of logic. Thus illness and other happenings were viewed as being

> *caused primarily by supernatural, psychic and interpersonal forces within a closed system of thought and belief...there is no room for the concept of probability in this way of thought , nor for the formal acknowledgement of an ultimate, irreducible degree of uncertainty as an inherent property of mans attempts systematically to understand, explain and predict physical biological social cultural and psychological phenomena (Fox 1980;10)*

Thus by comparison within western cultures scientific innovations and the desire to know, understand and control what happens to us and our surroundings is a prime feature of our society. The discovery of the hole in the ozone layer, BSE and the unknown side effects of many medical treatments have created unknowable futures with a resulting anxiety about danger and risk that has surfaced in society. In relation to pregnancy such examples include invitro fertilisation. Medical advances have enabled a minority of couples to have a much wanted child, however concerns have now arisen about the potential side effects of such treatment not only in the pregnancy but also in the health of the baby. Another example is the use of obstetrical ultrasound scans. These may indicate a potential problem with the unborn baby, which would otherwise not have been realised prior to the advent of scanning technology. This new knowledge creates dilemmas for the clinician and parent. The question arises as to whether knowledge is sufficiently advanced to know what to do with the new information and in particular identify a cure for the illness. These 'discoveries' are now widely regarded as problems of modernity. Therefore in discussing uncertainty it is important to acknowledge that as a concept, it is ethnocentrically and culturally bound within contemporary western societies.

4.7 Biomedical (un)certainty: the search for truth

As Fox (2000) has concluded from her work, much has been written on the increasing disquiet in society about a state of profound world wide crisis on issues relating to uncertainty, anxiety and risk. To document these wider issues, I will draw on several historical ideas related to the state of medical knowledge and the increasing concerns about medical uncertainty. Firstly, to understand how we have come to be in this state of flux the physicist Fritjof Capra (1983) suggests a good starting point:

> *The world view and value system that lie at the basis of our culture and that have to be carefully re-examined were formulated in their essential outlines in the sixteenth and seventeenth centuries (Capra 1983:37)*

Therefore in examining the impact of uncertainty on decision-making in childbirth, it is necessary to acknowledge knowledge as historically and culturally situated. The particular focus of this section will be on the changing context of medical ideas and sources of medical knowledge and the quest for medical certainty.

The separation of the body from the mind has historically been a widely held assumption of medicine. Descartes (1596 -1650) was one of the first to be associated with the conceptual split between the physical body and the mind, which became known as Cartesian dualism (Capra 1983). However, as Jewson (1974) notes, the rise of the mechanical body is generally attributed to Isaac Newton who had a powerful influence on medical theories. The mechanical philosophy was revered highly in both scientific and non-scientific quarters. Its proponents sought to impart the idea that individual parts of the body, like parts of a machine, could sometimes be fixed or replaced. This view is epitomised in the concept of the 'plastic body' in which the technologies of cosmetic surgery have "greatly expanded the limits of how the body can be restyled, reshaped and remodelled" as the old one needs updating (Williams 1997: 1042).

Lewinsohn (1998) compares past systems of medicine with contemporary medicine, and examines the complex and changing role of science and theory in medical practice. She demonstrates how each period in history is associated with particular medical perspectives until new approaches break through the conservatism of medical establishment thinking in use at any one time, becoming incorporated into every day teaching and practice of medicine, they remain merely unpractised ideas. Until the 18th century the potential for intolerable suffering from pain, bleeding and sepsis for the patient limited doctors from further investigation of the body. In consequence, physicians were limited to surface phenomena, and had to interpret disease through the patient's account of her subjectively defined sensations and feelings by relying on the senses – touch, sight, hearing and smell. For treatment the physician had to rely on his own experience and empirical traditional methods, during mostly home visits, with little or no assistance or equipment. On the basis of 18 physicians' hand-written obstetric case notes produced in the USA between 1785 to 1875, Kass (1995) highlighted doctors anguish at not knowing more about the mechanism of birth so that they could assist women better during the long and arduous labours that many of them had to endure. To illustrate this point, Kass quoted one frustrated physician as stating in his notes:

> *"All directions in the books are so vague and indefinite." (Kass1995:267)*

In the period from the 16th to the 18th century, western culture shifted from a person-centred to an object-centred cosmology. Women became 'cases', in effect being forced to adopt the role of passive and uncritical patient in the face of incontestable medical knowledge. During this period, increasing importance came to be placed on scientific principles. University training in medicine was established, as was greater control over licensing of medical practitioners (Sinclair 1997). These developments were accompanied by growing acceptance in the nineteenth century of the view that diseases were caused by specific events located within local tissues, of which the ill patient was unaware (Jewson 1976).

Capra (1983) suggests that the Cartesian disjunction allowed biomedicine to turn its full powers to the explanation of physiological and pathological mechanisms:

> *Descarte's strict division between mind and body led physicians to concentrate on the body machine and to neglect the psychological social and environmental aspects of illness. From the 17th century on progress in medicine closely followed the developments in biology and the other natural sciences. As the perspective of biomedical sciences shifted from the study of bodily organs and their functions to that of cells and finally to the study of molecules physicians found it more and more difficult to deal with the interdependence of body and mind (Capra 1983:122)*

Sullivan (1986) argues that the earlier Cartesian dualism was superseded by an epistemological dualism which emphasised two different ways of knowing - subjective awareness and direct observation. This dualism focused on visual inspection and the autopsy as the final arbiters of clinical truth. The patient's subjective account of distress was deemed unreliable and essentially irrelevant to the physical diagnosis. Thus, the conscious awareness of the patient was subordinated to the physician's privileged knowledge of the body, acquired by direct examination. The body revealed its disease to the doctor without the need for the patient's self-interpretation (Sullivan 1986:61). Disease was then identified and treated as a dimension of human biology rather than as socially produced human suffering. Sinclair (1997) points out that this shift was only made possible through the generation of knowledge based on anatomical dissection. Anatomy, Sinclair argues, fundamentally changed the basis for the classification of disease from speculative pathology to the postmortem dissection of the patient. This shift is exemplified in the following account in which the physician William Hunter, in 1751, described the importance of human dissection of a pregnant body:

> *Anatomy has at least kept pace in improvement with the other branches of natural knowledge. One part however and that the most curious and certainly not the least important of all, the pregnant womb had not been treated by anatomists with proportionate success in medicine. Few or*

none of the anatomists had met with a sufficient number of subjects either for investigating or for demonstrating the principal circumstances of uterogestation of the human species. With respect to the present undertaking in the year 1751 the author met with the first opportunity of examining in the human species what before he had been studying in brutes....a very able painter was found; every part was examined in the most public manner and the truth was thereby very well authenticated. (quoted in Speert 1996 pp.8)

Anatomical dissection enabled the physician to become the 'active knower', and the patient as the 'passive known' (Sullivan 1986). Rose (1994) goes further, and contends that the fusion between pathological anatomy and the growth of the hospital enabled the progress of symptoms to be traced to their interior sources in a system of life. This development allowed successive events to be followed not merely to the point of death but beyond it.

Changing models of medical knowledge, including changing ideas of 'disease', were associated with a range of developing treatment strategies. Many such strategies were linked to the management of different components of bodies. One of these strategies, woven around the mechanical notion of the body, was to consider replacing or repairing broken parts. Thus, caesarean sections arose out of other surgical techniques, which, as Trolle (1982) has highlighted, developed from a range of historical and cultural practices and beliefs that I have previously discussed in chapter two. Subsequently, over many hundreds of years the procedure was then used as an attempt to save the baby and the mother in the course of complicated labours.

However, as the reductionist view of disease established itself as a primary principle of modern medicine, Newtonian mechanics was gradually losing its position as the fundamental theory of natural phenomena among many scientists. This was due in part to the discovery of the theory of evolution by Darwin. Thus, in the nineteenth century, many scientists abandoned the world as a machine perspective to replace it with the concept of an evolving and ever changing

system. Nonetheless, as Capra (1983) notes, this new theory did not lead biologists to modify the reductionist paradigm. Rather, they concentrated on fitting the Darwinian theory into the Cartesian framework. This was easily achieved as Darwin's work generated an increasing interest in the genetic structures of cells reinforcing the concept of the separate biological parts of the body. But later, more holistic forms of genetic reductionism were to develop out of Darwinian principles. Furthermore, Darwin was strongly influenced by the patriarchal bias of his time. He perceived the typical male as strong, brave and intelligent and the female as passive, weak in body and deficient in intellect. This perspective matched the growth of a patriarchal society in the eighteenth century as a result of the rise of industrialisation and urbanisation, and the change in the roles of men and women which ensued. As Donnison (1988) notes, medicine, like many other learned professions of that time, reinforced the subordination of women.

The discovery of the uncertainty principle by Heisenberg in 1926 led many scientists to question Cartesian dualism (Hawking 1988). As Hawking explains, there have been few other scientific discoveries that have generated such controversy, and produced so many changes in scientific thinking. Based on findings related to quantum physics, Heisenberg was able to show, through the study of atoms, that basic concepts about the nature of reality needed to be revised. Cause and effect could no longer be specified with certainty in the way that Newton described. Thus, in Heisenberg's view, and in relation to the present, no single theory can make sense of social phenomena that we are seeking to understand.

Following this discovery, physicists set about reconceptualising the universe, through quantum physics as a dynamic whole, whose parts were essentially interrelated and interchangeable and could not be defined in the precise way described by the Cartesian-Newtonian model (Capra 1983). Nonetheless, these changes in the way physicists undertook and understood their work had little or no effect on biologists and doctors who continued to use a mechanistic model to define medical theory and practice. The exploration of the cell and its smaller structures committed biologists to explaining living organisms completely in

terms of their molecular mechanisms. As Davis-Floyd (1992) notes, the Cartesian legacy has left a powerful influence on the medical disciplines. This is apparent in their teachings and subsequent outlook on the human body in which the core subjects that medical students primarily studied during their initial two years in medical school:

> *are the basic sciences: biochemistry, neurophysiology, anatomy, histology, bacteriology. Often taught not by physicians but by research scientists, these courses are usually presented as pure science, divorced from explanation of any practical function (Davis-Floyd 1992:255)*

Fox (1980) illustrates how biomedical characteristics become embodied in the process of becoming a doctor. Her observations in a medical school demonstrate that first medicine is introduced as a science which is taught as being inherently uncertain. Secondly, medical education begins by entry to the body. This work aimed to show ethnographically how medical training

> *Introduced them to the uncertainty that they later faced as clinicians and investigators but also taught them ways of thinking about and coping with it (Fox 1980:5)*

As previously discussed, Atkinson's research in Edinburgh in the 1980s and, more recently, Sinclair's ethnography amongst medical students in London in the early 1990s, demonstrate similar findings. Thus, despite intercultural differences between the USA and the UK, biomedical knowledge and cultural forms have remained remarkably stable over recent times and have core elements which were evident in earlier periods of modern medicine and before. Frankenberg (1990) has epitomised these elements as being:

> *Pragmatic and aims towards action, perceives diseases as limited episodes with the focus on the 'case' (Frankenberg 1990:2).*

However, as Cassell (1991; 1998) and Katz (1999) have shown in relation to surgeons, there is a variety of models that can be identified in different

specialities, as Chow's (1998) research, discussed earlier in this chapter, has shown. Hence, it seems probable that, within obstetrics, more than one model may operate according to context. Thus, as Savage (1991) acknowledges:

> *There may be the model made explicit in textbooks and journals, which express the official views of the discipline and which in some instances contrasts with the models, which inform everyday practice. These models employed at the operational level may be widely influenced by, for example matters of convenience, institutional policies or personal cosmologies, as well media representation. (Savage 1991: 16)*

In contrast there is a paucity of research that indicates how student midwives or nurses are trained to deal with uncertainty, and this is a significant gap in the sociological literature. As Atkinson (1995) and others, for example Fox (1957) and Bosk (1979) have observed, clinical decision-making does not take place in a social vacuum. Furthermore, patient characteristics such as ethnicity, gender and social grouping affect the process of diagnosis and the outcome in addition to local norms and practices and the attitudes of the doctor(s) involved in this process (Bosk 1979; Chow 1998; Christakis 2000). As Atkinson (1995) emphasises, each clinical setting will generate its own information embodied in various forms of representation such as laboratory results from bodily effluvia, scans, fetal monitor print-outs, written notes and spoken consultations. However, as many authors have observed (Fox 1957; 1980; Bosk 1979; Light 1979) despite all this additional information and the use of technology clinician's continue to face problems of uncertainty in the process of clinical decision-making. As Fox (2000) points out:

> *"Scientific, technological and clinical advances change the content of medical uncertainty and alter its contours, but they do not drive it away. Furthermore although medical progress dispels some uncertainties it uncovers others that were not formally recognised and it may even create new areas of uncertainty that did not previously exist." (Fox 2000:409)*

Thus, despite the current emphasis on patient choice, in practice, clinical medicine continues to operate in a locally contextualised way in which the general, and generic findings of scientific medicine are always in practice filtered through the particular situations and the particular relationships of individual professionals in particular settings. However, despite this heterogeneity of practice, certain understandings bind together the professional body of staff so that, at least to outsiders, including patients, practice within a clinical domain appears to be uniform and consensual. Nonetheless, as West (2001) has pointed out, medical training has long neglected the emotional and inter-relational dimensions of medicine, including coping with medical and institutional uncertainties, in initial training and subsequent professional development

4.8 Coping with uncertainty

A review of the relevant literature illustrates that biomedicine has neglected to acknowledge the psycho-emotional aspects of being a doctor, and coping with medical uncertainty. Fox (1957) identified some of the key means which medical students and doctors have developed in order to come to terms with uncertainty. Although, in many respects, the fundamental problems associated with medical uncertainty about knowledge and skills are similar, the ways of coping with them differ. According to Fox, there are three specific methods by which students come to terms with uncertainty. Firstly, medical students attempt to learn as much medical knowledge as they are able. They realise that it is impossible to learn all there is to know. They therefore identify what they are expected to know, and learn this. Secondly, they develop a muted awareness about uncertainty which is influenced by the socialisation process as part of medical training. They learn, through the process of observation what physicians will admit to, reveal and discuss with their respective colleagues. Thirdly, medical students develop what Fox termed 'gallows humour'. She described their humour as 'counterphobic' and 'ironic':

> *infused with bravado and self mockery, often irreverent and ghoulish - that is centred on the uncertainties and limitations of medical knowledge, medical errors, the side effects of medical and surgical interventions, the failure to cure, and death (Fox 2000:411)*

Fox argues that although on the surface, 'gallows humour' may indicate relative ease with uncertainty, the reverse is true. Gallows humour is shaped by a considerable amount of stress in response to managing sick and/or dying patients. In comparison, the doctor whilst experiencing medical uncertainty, copes with it by developing his/her own idiosyncratic practices and expects the junior doctors and trainee doctors to conform to this way of practising.

Both Katz (1984) and Light (1979) report other coping mechanisms that Fox did not identify. Both suggest that medical students are more devious than Fox implies, and suggests that issues of power and rank are important issues. Essentially, both authors imply that medical students work out what their instructors want them to know and do. They subsequently use this information to control any of the problems that might arise from their instructors. For example, if a medical student did not know the correct answer to a question, they work harder at making sure they know the next time. They learn to act professional and competently and clarify expectations by getting to know their instructors better. They quickly learn that there is no right way of doing things for a patient, but that, within a medical team, the 'right way' is that of the consultant to whom they have been assigned.

Charles Bosk's (1979) ethnographic study examined the work of surgeons in a US hospital. He found that physicians use eight key strategies to manage uncertainty: hedged assertions such as guessing how a clinical undertaking would turn out; probabilistic reasoning; a focus on uncertainty as a research problem; requests for consultations; Socratic teaching; deciding not to decide; gallows humour and hyperrealism. These rituals are part of rounds and conferences, and they assist physicians in managing uncertainty, making treatment decisions, and evaluating outcomes. Clinical experience and scientific evidence are used in treatment decisions, and the manner in which decisions are made at rounds allows physicians to dramatize the seriousness with which they take their responsibilities to patients. Two major rituals for evaluating outcomes of treatment decisions, grand rounds and the mortality and morbidity conference,

provide a forum for dramatizing success and failure, and enable physicians to discuss their problems.

Ethnographic work about doctors as undertaken by West (2001), and Cassell (1992) for example, whilst not related to maternity care, offer a much needed perspective that provides an understanding through personal biographies, of the emotional context to work. In departing from traditional psychological approaches to their work, they have been able to take account of the social context and the changing nature of medical practice. For example, Cassells' ethnographic studies of male surgeons' (Cassell 1991), and female surgeons (Cassell 1998) working in the USA enrich our understanding about doctors attitudes to uncertainty. Cassell observes that uncertainty is an issue among surgeons, as it is in other aspects of medicine generally. However, Cassell argues that surgeons have adapted macho tendencies, such as stories of 'daring' and 'fighting against the odds' as part of their coping strategies to deal with uncertainty. At the operating table, surgeons must manifest certitude, control and decisiveness. Doctors' who do not exhibit these qualities, and who are not willing to take risks, are eased out of the speciality at an early stage.

On a similar theme, West's (2001) research focussed on the role and wellbeing of twenty five general practitioners' working within inner cities. He illustrates the changing roles and expectations of the G.P in the context of growing concern during the 1990's about their performance and levels of accountability. West (2001) argues that their medical training teaches doctors to detach themselves from subjective thought and feelings. Doctors' who do not 'successfully' manage this detachment become disillusioned about their effectiveness as a healer. Doctors' imbibe the myth of omnipotence during medical training. They feel that they must always be competent and knowing, beyond weakness, vulnerability and doubt. As West (2001) points out reality disappoints with many doctors' becoming untreated 'patients' themselves.

There is little time that I delude myself that I am treating people, or curing people, or making dramatic interventions but I think that I am in the river with them rather than watching from the bank. But I am hoping that my head may be a few inches higher above the water than theirs (West 2001:12)

These comments illustrate how doctors' acknowledge the limits of medical power and confirm the detrimental effects on a doctor's health and well being which result from working within socially deprived areas with high rates of social and emotional problems among their patients, managing with very limited resources and coping with the uncertainty inherent in medical practice and the risk of litigation if they mis-diagnose.

4.9 Conclusion

In this chapter I have explored a range of ideas which contribute to an improved understanding of the social and cultural context of biomedical knowledge in relation to the impact of uncertainty on the decision-making of obstetricians' and midwives'. In relation to ideas of uncertainty, the first approach that I have discussed shifts the focus of attention to a generalised account of medical uncertainty. Second, within the context of local biomedical practice and inter professional relations I discuss physicians' quest for certainty so as to provide context to the current state of medical decision-making.

Finally, in the third approach the focus has been on the coping mechanisms that health-care professionals' use to manage uncertainty. The review of the literature specific to uncertainty in this area highlight's a range of methods that doctors deploy. However, it also uncovered a paucity of information relating to how midwives actually manage uncertainty, an area that needs to be explored further. In particular, the study needs to address whether the coping strategies of midwives' are different to those of doctors', and, if this is the case, how differences can be accounted for. In the next chapter, I argue for a methodology that can flexibly encompass the many processes that continually flow through the clinical work of doctors and midwives. That methodology needs to be able to

address the complexity of uncertainty in its many forms, as well as to embrace the biographical context within which the various possible trajectories of decision-making around caesarean sections take place.

CHAPTER FIVE
PARTICIPANT OBSERVATION IN A MATERNITY UNIT

5.0 Introduction

In chapter four, I explored the significance of a range of theoretical positions that may contribute to the analysis of the socio-cultural context of decision-making in conditions of uncertainty in relation to the rise in caesarean section rates. I made the case for a move away from structured survey methods which simplify the complexities involved in the decision-making process. I argued that an ethnographic approach involving what Denzin (1970) describes as a 'curious blending of methodological techniques,' would allow for a full exploration of the uncertainty phenomenon and its impact on decision-making.

This chapter reviews the ethnographic research methods that I used during the period of field work, which was undertaken in a six month period from June 2000. The chapter highlights the complex and problematic nature of the research process. I review the process involved in the negotiation of access, and discuss my approach to becoming accepted as a researcher in the field. Throughout the chapter, I provide a reflexive account of my experience as a researcher. Such analysis, as Kleinman and Copp (1993) point out, helps the researcher make sense of their field experiences by considering how the relationship between researcher and researched impacted on data collection. Finally, I discuss how I recorded, interpreted and analysed my field notes and other artefacts in order to eventually develop an understanding of the decision-making process from the perspective of health professionals.

5.1 Aims of research

The main goal of the present research was to explore the impact of uncertainty on decision-making, and its role as a contributory factor to the continued rise in the proportion of births involving a caesarean section. The research aimed to address the following questions:

1. What social, structural and organisational contextual factors are involved in the process of decision-making about undertaking a caesarean section?
2. How do doctors and midwives make decisions that results in a caesarean birth outcome, and what impact does uncertainty have on this process?
3. What coping strategies do obstetricians and midwives adopt when faced with clinical uncertainty?

5.2 Methodological considerations

As stated in chapter one, previous studies exploring caesarean section rates have focussed on two main areas. The first area is the clinical and psychological outcomes for women (Josephs 1996; Fisher *et al.*. 1997; Creedy *et al.* 2000). The second area is comparative outcomes and risk management, a concern underpinned by rising litigation rates, and indicated by research studies such as the term breech trial (Hannah *et al.* 2000). Research has also explored and tried to explain the practice/evidence gap in health care (Wood *et al.* 1998), and has attempted to examine how health-care professionals' make decisions (Cioffi and Markham 1998; Dowding and Thompson 2001; Thompson and Dowding 2002). This body of research has focussed on categorical outcomes, and has failed to take account of the dynamic processes involved in decision-making. These formally controlled studies, such as The National Sentinel Audit (NICE 2004), do not consider processes which vitally affect the environment in which decision-making occurs. This thesis offers an alternative to the structured methods which have predominated in this clinical field, and outlines a methodology which can encompass the variety of factors which impinge on the decision-making process concerning childbirth outcomes.

The methodology selected provides a deeper understanding of the impact of uncertainty on professional decision-making, and the methods that clinicians' use to cope with uncertainty. I considered an ethnographic approach that combined observation and various forms of interviewing to be the most appropriate way in which to explore these phenomena, for reasons which will be discussed below. The methods used were primarily based on participant observation over a six month period, from June 2000 to December 2000. Data collection also included 16 semi-structured interviews with doctors and midwives, as well as ad-hoc

discussions with a further 20 midwives and doctors. Moreover 22 weekly doctors' meetings were observed, as were 5 unit midwifery meetings and 20 weekly multi-disciplinary meetings of various types, such as morbidity and mortality meetings over the 6 month period. The field work was situated predominantly on a labour ward in an inner city maternity unit, but I also observed the hospital maternity 'day assessment' unit on three occasions, and the ante-natal and post-natal clinics and wards on four occasions.

5.3 Ethnography

Ethnography provides a set of methods which involve the ethnographer participating overtly or covertly in peoples' daily lives for an extended period of time (Fielding 1995b). These methods include watching what happens; listening to what is said; asking questions and collecting any data which is available to throw light on the research problem. Ethnography is flexible enough to allow the researcher to follow up leads and re-adapt the focus of the research as appropriate. In order to achieve the aim of ethnography, namely understanding the world from the perspective of the research participants, the researcher must adopt the perspective of those s/he is studying, and learn the language in use among the group being studied in an effort to see things as they do (Fielding 1995). Hamersley and Atkinson (1995) argued that all social researchers are participant observers, and that, therefore, the boundaries between ethnography and other research methods such as formal interviewing are unclear. Furthermore, the validity of ethnographic research is problematic, because the outcome of the research is reliant upon the ability of the researcher to identify what is important and discard that which is not. The methods that were used to provide an account of the process of writing and reflexivity is discussed in section 5.9, and validity of the research is discussed in section 5.10.

The beginnings of modern forms of ethnographic fieldwork are located in shifts by late nineteenth and early twentieth century anthropologists towards collecting first hand data about the social and cultural characteristics of existing primitive societies. (Atkinson and Hamersley 1998). The initial work by the anthropologist Malinowski (1844-1942), who documented the everyday social life of the islanders of the Western Pacific in 1922, is considered to be the most significant

turning point in the field of ethnography. Essentially, for any complex social phenomenon to be explained, many interrelated factors have to be considered, for example data about economic and political processes, social relationships, and cultural belief systems. The above point is demonstrated, for example, in the ethnographic study undertaken by Hunt and Symonds (1995), who explored the culture of midwifery work in two maternity units in the U.K. They found that in order to understand the way midwives worked it was important to take account of historical, political and social structures. This background provided an understanding how and why childbirth has changed over the last century and helps to explain the poor relationship that existed between women in childbirth and midwives, and the relationship between midwives and doctors.

Because social processes are affected by many inter-related processes which need to be explored in different ways, researchers often combine participant observation with interviews and review of other data sources. For example, Goffman (1968) combined information on the structure and organisational context of institutions in his research on asylums. This multi-method approach to data collection gives confidence about the validity of the findings. In general, ethnographic methods are only applied after some time has been spent mapping the field (Denzin 1970). The process of observation aims to gather data on everyday life in order to provide a social context in which the researcher can understand the constitution of routine activity (Adler and Adler1998). It provides an important background that also helps facilitate the interpretation of interview data by distinguishing social from individual behavioural patterns (Hunt 1989; Lofland and Lofland 1995). Quantitative methods fail to encompass the wide range of variables and data that, as indicated above, are needed if the framework in which decision-making in conditions of uncertainty takes place are to be adequately understood.

Ethnography provides a valuable tool for understanding clinicians' and the clinical setting. As Lipsky (1980) observes, social organisations within hospitals profoundly influence the behaviour of patients and health-care professionals. Moreover, government bodies and policies which exist beyond the context of the

hospital setting also impact on healthcare and the way it is managed and carried out.

5.4 The location of the study within ethnography

The present field-based study aims to understand and explain the influence of uncertainty on the clinical behaviour and decision-making of obstetricians and midwives, and to explore the potential contribution of this influence on variations in the rates of caesarean sections being performed. The present study contributes to the theoretical and empirical understanding of medical decision-making under conditions of uncertainty. Silverman (2001) argues that, without the addition of a theoretical and analytical basis for the researcher's account, the phenomenological richness that ethnography provides amounts to nothing more than a piece of journalistic reporting. Thus, Silverman argues that in order to avoid ethnographic studies being dismissed as being merely descriptive, the researcher must highlight the ways in which ethnography is theoretically motivated. By drawing on sociological theories of medical uncertainty and empirical research undertaken in this area the ways in which uncertainty impacts on the decision-making of health-care professionals can be better understood in the present study.

Much current ethnographic research focussing on UK medicine is concerned with cultural systems, technical working and other aspects of health care in hospitals (Sinclair 1997). For example, in his study of haematologists', Atkinson (1995) has observed the practices of doctors' and has interviewed them about their work and what they considered to be the most important aspects of their job. Atkinson's findings indicate that medical certainty and control is emphasised in medical training and work, rather than medical uncertainty. He cites several case studies whereby doctors' were more likely to take action in ambiguous situations, rather than do nothing at all. Direct observation of practitioner-patient interactions has become an important methodological focus, as researchers seek to investigate more precisely the interactions that occur in therapeutic encounters. Exploring what actually happens when health professionals' and patients' interact necessitates that the social world is studied in its natural state, the primary aim being to describe the setting and the context within which the

action takes place (Atkinson 1995; Sinclair 1999; West 2001; Silverman 2001). Thus, as I have previously argued, it is important to understand the social and cultural context within which decision-making under uncertainty takes place. Ethnography is more effective at addressing the dynamically changing processes involved in decision-making.

5.5 The midwife as participant observer

Lofland and Lofland (1995:18) describe participant observation as a process in which an "investigator establishes and sustains a many-sided and relatively long-term relationship with a human association in its natural setting for the purpose of developing a scientific understanding of that association". In chapter one, I outlined my formal biomedical knowledge of childbirth and my relative "insider" status. Thus, the hospital setting in relation to childbirth was already familiar to me, as were many diverse aspects of the organisational culture, such as the language clinicians used in obstetric and midwifery settings, and the role played by other medical practitioners who were not directly taking part in the decision-making process around child-birth for example, paediatricians and haematologists. As Dougherty and Tripp-Reimer (1985) note, this situation not only benefits the health-care professional undertaking the research because they profit from sociological theories and research findings. Sociological enquiry also benefits from the understanding of health care delivery that clinicians bring to the research process. For example, I avoided many of the problems encountered by other researchers, for example, understanding medical terminology, who joined a culture with which they were unfamiliar, or who had problems with gaining access (e.g. Cassell 1988). Medical settings have been noted as being particularly difficult areas for research, in view of their hierarchical organisation and the marginal roles ascribed to non-medical people (Cassell 1988). However, as Cassell observes, this low status can work in the researcher's favour when seeking access, because the presence of the researcher can often be seen as being unthreatening, particularly where qualitative data is being used as a tool.

Nonetheless, research within one's own culture can be problematic. In their work on the culture of midwifery, Hunt and Symonds (1995) note the danger of not being able to stand back and treat the familiar as unfamiliar, arguing that

there is a real risk that the researcher might miss or overlook data which may be important to the research. For this reason, as Fielding (1995b) has stressed, it is important to record field notes about everything, no matter how inconsequential the noted events may seem at the time. This process also requires considerable reflection on the differences between the researcher's beliefs and those of the group s/he is studying.

As a midwife doing research, like Hunt and Symonds (1995), I was aware that the potential validity of the research was threatened by my own ideas of what maternity care should be like, and that I needed to be able to separate professional opinions from the process of doing and recording field work. The hospital in which I was undertaking the research was sufficiently far away for me to feel an 'outsider', in that I was unlikely to come across anyone I knew personally. Nonetheless, my background as a midwife was at times a significant issue that needed to be dealt with. For example, issues of professional accountability had to be considered, such as whether it was appropriate to intervene in clinical situations which I felt had become unsafe. My professional code of conduct meant that, even as a researcher not practising midwifery, I was duty bound to draw attention to what I felt were problems, such reacting to recordings of fetal heart rates CTGs that were, in my view, a cause for concern.

At the start of the period of fieldwork, midwives would ask me whether I could check drugs such as pethidine, or sign off CTGs with them. These were duties that I declined, because I was there as a researcher, and not in my capacity as a midwife. Nonetheless, my participant observer role meant that there were many situations in which I could help out, such as getting a resusitaire for imminent deliveries of babies suspected of being compromised, and seeking additional assistance when situations demanded it. For many researchers, these are natural trade-offs which can be offered in exchange for being allowed to watch and observe the setting (Fielding 1995b). The factors that I have identified, such as a blurring of boundaries between my professional role and the purpose of the research could be a deterrent to undertaking research within one's own culture. But, as McHaffie (1998) points out, the processes involved in relative insiders

undertaking sensitive research of this nature can substantially increase knowledge and may be of great benefit to the study area.

In the next section, I describe the process of negotiating access into the field site.

5.6 The process of negotiating access

My field site was a large, very old teaching hospital situated in an impoverished and socially deprived area of SE England. The hospital had been amalgamated with other hospitals in the surrounding area as a result of the reforms that took place in the 1990's, and now forms part of an NHS Trust. The women who are referred to the maternity unit come from a wide range of social and cultural backgrounds in the local area, as well as from a wider geographical area. There are approximately 3000 births at the maternity unit each year. The services of the maternity unit are principally provided by hospital midwives and by a small group of G.P. based community midwives who offer ante and post-natal care and a home birth service for women.

The aim underlying data collection was to seek to achieve an ethnographic understanding of the biomedical context in which maternity care is situated, and thus elucidate the cultural context, expectations and values which drive and constrain it. The unit is representative of many others nationally in one significant respect, namely that it has had a steady increase in the numbers of caesarean sections, from 10% in 1980 rising to 18% in 2000 (appendix b). As I have highlighted in chapter one, the vast majority of births in the UK take place within a similar setting.

In chapter one, I outlined my midwifery background. I very much saw myself as a partial insider, and hoped that this background. combined with my contacts at the hospital, would facilitate entry into the maternity unit. Access was made easier through these contacts, who had extensive working knowledge of the unit, and therefore knew which central staff to approach. My first contact with a key person was facilitated by my supervisor in February 2000. This contact was with Brown, one of the senior consultants working at the maternity unit. This initial meeting was crucial 'to getting in' and getting others 'onside'. It was also an

essential component to my application for ethics approval. Fortunately, my research interests mirrored those of Brown. As Fielding (1995b) notes, the process of gaining access is enhanced where the 'gatekeepers' believe that the research can help them to manage issues of concern to them. Access givers can also serve as the initial informants. In order to maximise my chances of being accepted, I was careful to ensure that I was familiar with Brown's interests in this area, such as in-house audits. The initial meeting went better than I anticipated. Brown shared some of her ideas with me, and provided some background information about the workings and problems of the unit.

Having successfully engaged Brown's consent to my undertaking the study, I found that subsequent access interviews with other key people, such as other consultants and midwifery managers, went relatively smoothly. With gatekeeper support, I was able to proceed with my application for approval from the local research ethics committee. The approval process took considerably longer than the four weeks that I had somewhat naively expected. In all, it took almost eight weeks before an initial response from the ethical committee was received. Six simple amendments had to be made to my original proposal before permission was granted two weeks later, as shown in appendix c.

Getting the senior consultants and managers onside was just the beginning of the process of gaining access. I had achieved what Cassell (1988) has termed 'physical access' into the world of doctoring and midwifery. In my application for ethical approval, I also had to indicate how I intended to show consideration to those being researched. This meant that I should never take my position as a researcher for granted. I always asked for permission to observe staff at work from the labour ward coordinator on duty, and ensured that the women they were caring for did not object to my shadowing individual doctors and midwives. I had been aware of the potential for this study to be a threat to those being researched. In particular I was concerned that the current media attention on 'bad doctoring' resulting from the Alderhey and Bristol scandals and the recent events surrounding Dr. Harold Shipman, discussed in chapter three, might make doctors feel particularly vulnerable to scrutiny and reluctant to participate in the study. Numerous research studies have criticised obstetricians for medicalising

childbirth (e.g. Scully 1980; Murphy-Lawless 1988; Jordan 1997). I was concerned that doctors might view my study as yet another attempt at 'doctor bashing'.

Against this backdrop, I had to communicate the value of my research in order that health professionals might feel motivated to take part. I did not expect that everyone would be willing to participate, but was determined to do my best to win over as many people as I could. I wanted to show that I had no hidden agenda or 'axe to grind', that I simply wanted to understand how doctors and midwives managed uncertainty in clinical practice.

In order to achieve the above objective, my supervisor suggested that I should undertake a presentation about the research at one of the Trust's weekly morbidity meetings, and should produce information leaflets for health-care professionals about the study and what I hoped to achieve from it. These information leaflets were distributed through the hospital posting system to each doctor and midwife employed by the Trust. In addition, I had designed a colourful poster about the study which I put up in prominent places, such as noticeboards and the toilet areas around the maternity unit, in order to ensure that I reached as wide an audience as possible. Ward notice-boards were subject to frequent changes of information. Although the ward notice-board poster was taken down relatively soon after the study started, the others remained affixed elsewhere on the unit. They served to remind people that the study was still ongoing.

Prior to giving my presentation, I had made a point of familiarising myself with the weekly 'morbidity' meetings. These meetings were intended to be multidisciplinary, but, having been present at several prior to my presentation, I noted that few midwives attended them. I realised with some dismay that I would have to undertake a separate presentation for the midwives at another time. I arranged a date with the secretary of one of the senior consultants to undertake the presentation at one of these meetings, but the meeting did not proceed as planned. Consultant Steel, who was going to introduce me to the group, forgot to do so. The meeting was brought to a close after the case

presentations and everyone filed out of the room. I felt deflated that the consultant had forgotten me, especially as I had been in regular contact with both herself and her secretary in order to set the presentation up. Moreover, I had spent a good deal of time preparing my presentation, and was keen to get it out of the way. After this incident, my supervisor reassured me that what had happened was not personal, and sent me out the following week to do it all again. As Cassell has emphasised:

> *"The researcher needs a thick skin and a certain imperviousness to rejection" (Cassell 1988: 96-7).*

Developing a thick skin took some considerable time during my period of field research! At the next meeting, I approached the lead consultant with a reminder that I was in the room armed with my acetates, and ready to go. I felt confident this time around, and knew that there would be no going back. The consultant got up at the end of the case reviews and introduced me to the group:

> "*This is Belinda Green. She is doing some research with us and is going to tell us all about it now*".

With this introduction, she smiled, and the nervousness that I felt dissipated as I started talking about my study. This consultant became a key source of support throughout the period of my research, allowing me access to many teaching sessions that she had organised for the medical staff. Without her involvement, my presence at the meetings would not have been so easily accepted. Thus, without realising it, I had inadvertently made an ally who proved to be valuable in the process which Lofland and Lofland term "opening the doors to understanding" (Lofland and Lofland 1995:61). For example, Steel encouraged junior doctors to take part in the study, and frequently enquired into the progress of the research. I soon stopped feeling like an outsider at the meetings that she led. After my presentation, the reception I received was generally warm, and there were no awkward questions to deal with. I thought, then, that things were looking up, and felt pleased with the way the presentation had gone. I was really starting to feel that I had made a start! However, these feelings of elation and

confidence did not last long, as the group that I expected to have the least problems with, the midwives, proved to be my stumbling block.

I had arranged with one of the midwifery managers to talk about my research at a midwifery unit meeting. This meeting was less formal than the morbidity meeting. Everyone was seated in a circle, and I was expected to simply talk about my study, as opposed to formally presenting it. The group were not particularly welcoming when I came in, so I felt more nervous than I expected. The meeting was controlled by a midwifery manager. Once the meeting got underway, I was introduced as a midwife researcher from the university. As there was already a great deal of research being carried out at the unit, I had to clarify that mine was a separate project. Within a few minutes of starting to talk about my research study, I was interrupted by some senior midwives, and these interruptions continued throughout the discussion. Questions amassed about the numbers of people that I was going to interview, whether the interviews were going to take place in work time, how I planned to observe decision-making, and, significantly, why I wasn't involving women directly in the research. I answered these questions but it was difficult to get the midwives to accept that the research was concerned with the particular problems that uncertainty caused for health professionals. Later, when I was reflecting on this situation, I wondered whether there were other issues at play that I was unaware of. I came to realise subsequently that I should not have taken any of this personally. At the time, the unit was undergoing some significant changes, which I describe in chapter six. A new head of midwifery had been appointed, and there was some concern about the impact that this might have on the unit. Clearly, then, the last thing that the midwives needed at the time when I started the research was to feel that they were being watched. I realised that I would have to work very hard to get this group on-side because they were so critical to my research study.

5.7 The labour ward: getting on and the presentation of self

Having achieved physical access, I now had to 'get on and along with members' (Lofland and Lofland 1995), 'Getting in' was only the first step in starting the data gathering process, as the following extract from my field notes on my first day 'in the field' indicate:

0750 hrs "I arrived early at the unit, and had to get through an intercom system in order to get onto the ward. I wasn't sure what to say, and was rehearsing it in my head when I suddenly had to speak to the person on the other end. What I said was incredibly and unnecessarily long-winded, and I felt foolish. What if they thought it (my study) was a waste of time. Walking down to the main desk, I felt really sick with nerves, I suddenly wasn't sure about anything at all. And although there were lots of people around, no-one made any verbal or eye contact with me, making it hard to say hello. I smiled in order to try and hide my sense of awkwardness. I lingered outside the open office door listening to handover from the night staff, waiting for an opportune moment to make verbal contact with someone, and, all the time, wishing that I wasn't there".

This extract reveals the sense of anxiety I felt about being in a new environment, and at being cast in a new role, as a researcher rather than a midwife. I had concerns about what I should do or say, what they would expect from me and even about what I should wear. I was keen to try and achieve a balance between appearing professional and avoiding 'power dressing'. As Armstrong (1993) succinctly puts it:

"The presence of the researcher can be an enormous problem in itself and how to behave in such a milieu certainly is. Quite simply how does one conduct oneself when being a participant observer" (Armstrong 1993:15).

I expected that these feelings of insecurity would subside as I settled into my new role, but they ebbed and flowed, depending on what I was doing and whom I was with, throughout my period of field observation. Furthermore, I was acutely aware as Kleinman and Copp (1993) point out, that I was entering:

"the field as more than a researcher. Our identities and life experiences shape the political and ideological stances we take in our research" (Kleinman and Copp 1993:10).

Using Lofland and Lofland's (1995) typology, I classed myself mostly as a 'participant observer'. This process involves the "*interweaving of looking and listening*", and of "*watching and asking*" questions from the group being observed (Lofland and Lofland 1995:19). My time at the unit was spent in a variety of different settings and activities. I spent a lot of time being a participant observer on the labour ward, but also spent time in the ante and post natal clinics, the day assessment unit and the ante and post natal wards. On the recommendation of my supervisor, I had linked with a key support person on the midwifery unit, someone whom I could talk in confidence with about any professional matters that raised ethical concerns. Initially, I found this helpful because I had been very concerned about my role as an observer in potentially difficult situations of professional practice. The link person provided security for me, someone to talk to, and in those early days, acknowledgement of my existence on the unit when I arrived in the morning. However, having confided what I considered to be a small matter (I was merely seeking clarification regarding issues of midwife and doctor referral routes) to the link person, I was dismayed to find that the midwife involved in the matter had been approached by the link person, and asked to explain her actions. Because other people had been involved in the incident at that time, it was not obvious that I had been the unintentional instigator. Nevertheless, I felt that I had done a terrible thing. I was concerned, firstly, that I had betrayed a trust bestowed on me by the midwife concerned, and, secondly, that my credibility as a researcher might have been damaged. Moreover, this incident made me very aware of the ethical difficulties inherent in being a midwife researcher. I took the weekend off after the incident in order to gather my thoughts together and review my situation.

On my return to the unit the following Monday, the link person was, as always, pleasant and welcoming. However, I had decided that our relationship had been irrevocably changed. There would be no further confidences shared with anyone other than my supervisor. I did, within a relatively short period of time, forge some new friendships with people who worked in the unit, and this got me through those early days. However, I found that the type of support that I needed was really the listening ear of other colleagues and friends who were

detached from the unit, but who also had experience of ethical dilemmas in the research process.

I bore in mind that much of the practice of maternity care is subjective, for example the decision to instigate pharmaceutical pain relief in labour, and clinicians' attitudes towards their individual patients. Therefore, I had to be careful not to form opinions about what clinicians did or the way that they did things. To do anything different would be considered to be judging them. This was not an easy or straightforward process. There were many occasions when other ethical dilemmas presented themselves, for example a clinician discussing a patient's positive HIV status within earshot of other patients, or a doctor discussing a sensitive case involving a 'fresh' stillbirth with a consultant in the hospital shop. As Lofland and Lofland (1995) point out, these difficulties are often an inherent part of the research process, whether one is familiar with the setting or not. I learned not to get caught up in moralising about such events, but simply to record them as they occurred. Had I done otherwise, I would not have been able to move on in my research.

I began my field work by observing what was happening on the labour ward. Each day, I would check with the unit coordinator that it was alright for me to be there. No one ever objected to my sitting around and watching in those early days. However, I think that on some occasions, they might have preferred not to have me there. Sitting around and observing what was going on allowed me to see how the unit functioned in general. I would position myself in a chair by the midwives' and doctors' workstation with a notepad and pen. This was where a great deal of verbal interaction occurred between and among midwives and doctors, and where their phone conversations with consultants and other health-care professionals about women in their care took place. Such discussions were not always work-related, but also involved personal matters. For example, a midwife was due to get married soon, and discussed plans for a night-out, and a doctor tried to organise holiday plans over the phone. These discussions reminded me that everyone had other lives beyond the hospital.

'Desk sitting', as I came to call it, enabled me to tune into the many issues that were of significance to my study. For example, one registrar finishing a night shift was handing over to another registrar for the day shift. The registrar who had been on call was discussing a caesarean section done during the night on a known breech presentation. The woman was under the care of Consultant Brown, and had been earmarked for a vaginal delivery. The consultant on call for that night had overturned this decision, and the registrar was vocalising her sense of anxiety at having to tell Brown what had happened. Brown was notorious for having a temper when such events occurred. These issues are discussed in greater detail in chapters six, seven and eight.

I wanted to understand why Brown might act in this way, and why doctors and midwives feared confrontations of this type. I also realised that junior doctors could be caught between the 'devil and the deep blue sea' in such situations. As Light (1979) and Katz (1984) noted, doctors coped by 'learning the tenets of the game', as discussed in the previous chapter.

Desk sitting enabled me to meet a large range of people. They enquired what I was doing, and would regularly ask how things were progressing. I was also aware of all the coming and going of staff, managers, and patients. During my note-taking, I would write down peoples' names, and note things about them. For example when someone had recently had a new hairstyle, I would comment positively on it. Or, if someone had been feeling unwell or tired the previous day, I would ask how they were feeling today. I drew out a plan of the labour ward so that I could locate activities spatially after I had completed my fieldwork. In time, I came to know the staff who worked regularly on the labour ward. I also observed that, because of an overall staff shortage at the unit, there was a heavy reliance on agency staff. On some days, they constituted the bulk of the staff on labour ward, apart from the G grade labour ward clinical coordinator. I got to know them very well too because they were 'regulars' at the unit.

There were times when the staff were so busy that I found myself feeling guilty for just seeming to sit around. At such times, I found myself clearing out rooms when women had vacated them, fetching things for staff from cupboards,

collecting sandwiches for lunch, and making tea and coffee for the midwifery staff. When I shadowed doctors, my helping activities tended to differ to those I undertook for midwives. As well as making tea and coffee, I would fill in blood bottles for them, assist them when they were taking blood from women, and answer their bleeps for non-important calls. Some of this was done out of the genuine desire to help out. But I also wanted to show appreciation for being allowed to be there with them. I recognised that helping out in this way was a very necessary and reciprocal part of being in 'the field'. Bosk (1979) and others (for example Light 1979) have clearly documented the importance of such 'trade-offs'. The researcher is able to give something back to the group being researched. Lofland and Lofland (1995) argue that not partaking in trade-offs brings the risk of being shut out by the group altogether.

I got on with some staff better than others, with good relationships based on offering such simple forms of support. I became accepted very quickly by the doctors' and senior midwives' at the unit. But there were still some midwives' who remained sceptical of my role. I continued to work hard at being 'nice' and cheerful. This was difficult because it wasn't always reciprocated. I found myself bringing in biscuits and their favourite, doughnuts, on a regular basis. At the time, this seemed like a form of 'bribery' but it was also a way of saying thank you for them letting me be there with them.

I eventually ceased feeling awkward when doctors and midwives stopped asking questions about what it was that I was doing. I no longer felt that I was in the way. Being accepted, I could move on in my observational role. I knew that I was 'in' because people started to ask me if I wanted a drink when they were making themselves one, or to invite me down to the coffee room when they had their break. Even more significantly, in terms of the local organisational culture, I was asked to place my orders for lunch on the brunch bus list, which we all took it in turns to fill. Staff began to ask me when I would next be at work or whether I had been aware of an incident that had happened on the previous day, and so on. I would be thanked by the coordinator if I had been particularly helpful during the day, and I no longer had to go through the routine of introducing myself and what I was doing via the intercom system.

Staff did not know how I felt about having to come in and engage in what I considered to be a small daily battle to win them over. As I moved on in my observer role, my confidence grew to the extent that I was then able to ask midwives and doctors whether I could shadow them for the duration of their shift. I was surprised to find that none of the doctors objected to this. I had only been at the unit for two weeks when I felt able to approach one of the registrars about this. However, some midwives objected to my shadowing them despite all my efforts to become accepted. It would always be made clear to whomever I was going to shadow that they were able to decline or put a stop to any observation that I was doing with them, and, on two occasions, this did happen. As I found out later, the midwives involved declined to give consent because they felt uncomfortable about being observed when significant problems developed during the course of the labour they were managing.

As discussed earlier in this chapter, I ensured that pregnant women were informed that I was shadowing a midwife or doctor. It was necessary for obvious ethical reasons to ensure that their verbal consent was gained prior to my observing their interactions with health-care professionals. None of the women expressed concern about my presence, perhaps because I was always introduced as a midwife doing research. Many of the women seemed interested in what I was doing, as indicated by the questions they asked. (However, as I have already highlighted, many women were from ethnic minority groups. Although their verbal consent to observe the midwife or doctor who was caring for them was sought through an interpreter present on labour ward, it was difficult, and sometimes impossible, to exchange polite conversation with them because of the language barrier.)

I also had to be careful not allow my midwifery role to compromise my role as a researcher. Initially, midwives would ask me whether I could check drugs such as pethidine or sign off CTGs with them. These were duties that I declined, but I would assist by getting a resusitaire from the corridor for them or by calling for help, if requested to do so by a midwife. When I worked with newly qualified midwives, I would sometimes offer to perform such mundane tasks for them

without being asked. Once I had made it very clear that I was unable to undertake any hands-on midwifery duties, research life started to settle down as everyone knew what my role was.

In addition to taking notes in the field, I regularly undertook some informal ad-hoc discussions during break-times with staff about events which had occurred during the shift. In total, I undertook around 20 such discussions with midwives and doctors, which lasted, on average, about 15 minutes. I also completed 16 semi-structured interviews which lasted around an hour, as discussed in the next section of this chapter. I learned to be persistent, and always tried to follow up cases with the midwife or doctor that I had shadowed during the course of their work. I would also ask questions about cases which I was not directly observing, so as to maximise my information gathering. I made sure that I never abandoned a case I was involved in for one that seemed to be more complex and apparently more interesting. I felt that I might lose credibility as a researcher by 'jumping ship'. When I shadowed doctors, this was never an issue because as I simply went where they went, and thus did not have to worry about missing out on complex cases. Fox (1989) has noted that:

> *"the unending activity of a hospital with its organised shifts, rotations and rounds takes place within a highly structured and regulated temporal order. The distinguishing characteristics of its time frame are closely related to the social and cultural as well as the practical and technical nature of a hospital" (1989:153).*

In order to experience the time-related differences which Fox describes, I worked in the unit at varying times. The shifts midwives worked generally lasted twelve hour, starting and finishing at 0800 and 2000 hours. Many of the midwives were on rotational shifts, whereby they would undertake a period of night duty once every four or five weeks. Some days, I would start my day before the 0800 changeover from night onto day shift, and leave at around 1700 hours, or I would start later in the day to see through the changeover of staff from day to night shift. Because of personal commitments, I was not able to undertake any periods of observation on night duties. However, I did work late into the evening, on

many weekends, and on some bank holidays. The running of the unit differed noticeably when managers had gone home and other hospital services had closed down. Staff would often comment that they preferred these times because they did not have to deal with unit politics, and did not feel guilty for about relaxing when the unit was quiet, and there were no meetings to attend. On average, I attended the unit for three days per week in my participant observer role. In total I spent 98 days in the field.

5.8 Semi-structured interviews

As noted earlier in this chapter, ethnography encompasses a variety of data collection techniques. Denzin (1970) and Adler and Adler (1998) argue that the validity of observational data is improved when it is combined with other methods. The present study included 16 semi-structured interviews with doctors and midwives from a wide range of ethnic and cultural backgrounds, coming from countries such as Africa, the Caribbean, China and India, as well as from the UK. Table 5.8 provides a breakdown of the numbers of interview participants. According to the staff list on the unit, approximately 40% of staff were from ethnic minority groups.

Table 5.8 Interview Participants

Interviewees	No.
SHO's	2
Registrars	4
Consultants	2
F grade midwives	4
G grade midwives	3
Midwifery managers	1
Total	16

Of the eight midwives interviewed, five were Caucasian, and, of these five, one was a male midwife. Only two male midwives employed at the unit, and two other male midwives regularly worked at the unit on agency contracts. Although

there were four male midwives at the unit, male midwives only represent 0.3% of practising midwives in the UK (NMC 2003). Of the eight doctors interviewed, three were Caucasian, and five of the doctors interviewed were female. Three of the midwives and two of the doctors interviewed were staff whom I had shadowed and who had agreed to participate in follow-up interviews. The other interviewees had consented to be interviewed although they had not been shadowed. I would usually choose to approach doctors and midwives who had been involved in a case that I had been interested in. Four midwives and two doctors declined to be interviewed, although they agreed to my observing them during the course of their work.

My primary goal in carrying out the interviews was to gain an understanding of a range of individual perspectives and experiences of clinicians working with clinical uncertainty. Additionally, I also sought to compare the data gained from the interview with my observations from the field. I began the interviews about two months after commencing the observation process. This timing also enabled me to develop an interview guide which included questions based on my observations in the field (appendix e). As suggested by Lofland and Lofland (1995), I asked myself questions about observations from the first weeks of observation that had puzzled me.

Lofland and Lofland (1995) stress the importance of obtaining narratives in the respondents' own terms. To this end, the interview guide questions must be supplemented by a set of probes. The importance of using probes cannot be over-stated because it allows the narrative to be clarified in detail. As recommended in many accounts of undertaking interviews (for example Fielding 1995b; Denzin and Lincoln 1998), a small pilot of the interview guide was tried out with one doctor and three midwives known to me all from another hospital. Piloting was used in order to ensure that any misunderstandings of the wording of the interview guide could be identified and rectified. Piloting also gave me some much needed experience of being an interviewer.

Participants were informed of the purpose and nature of the study, and were given assurances of anonymity and confidentiality. I have deliberately avoided

the use of any names which would reveal the gender of a midwife, because of the small numbers of male midwives in the study. Staff were informed that they were under no obligation to partake in the interview, and that they could refrain from answering any question they felt unable to comment upon. I asked permission to tape-record interviews. Initial apprehension about the potentially inhibiting impact of using a tape-recorder proved unfounded. I found that the participants were open about their own personal views and experiences. Many reflected upon particularly emotional clinical experiences they had had in the past. I found that this was very much in line with other researchers' experiences of the interview process. As Cassell (1998) puts it:

> *"With many of the woman surgeons I achieved the ideal research relationship: they became collaborators, as interested as I in the issues under investigation. Several displayed tremendous empathy and thoughtfulness." (Cassell 1998:30).*

The interviews lasted about an hour, and were generally undertaken during lunch breaks, at the end of a shift, or during a lull in the day's work. The majority of interviews elicited rich data which provided context for the study as a whole.

5.9 Field notes : the process of writing and reflexivity

Fielding (1995b) recommends that, in order to produce full field notes, it is necessary to gradually develop one's powers of observation. Observation is indeed a skill, as Fielding argues. In my first week of mainly 'desk sitting' in the field, my notes were simple ramblings, and very fragmented. I was acutely aware that the writing of field notes is the observer's *raison d'etre* (Fielding 1995b:161). I kept writing, on the assumption that some good would have to come out of my notes. I would take note of who spoke to whom, and who was involved, and record the order of events. The process of shadowing midwives and doctors was a highly interactive process, which involved me asking frequent questions. Logging data from these events was very time-consuming. Initially, I would forget to log some attributes of events such as where they occurred, wrongly assuming that I would remember them later. I was often concerned about what I should be writing, whether I was missing some important detail

which would contribute critically to the whole picture, how I should be writing, and whether it was appropriate to write in front of people. On many occasions during those early days of openly writing on my note pad, midwives would ask what I was writing about. I would be honest about this, but felt embarrassed. It is possible that they too felt awkward about being watched, and perhaps wondered who would be reading my notes.

In response to such incidents, I began to follow Fielding's suggestion of writing at inconspicuous times and in inconspicuous places. I too found the toilet an ideal place to do much of my note jotting. I had invested in a collection of very small note books which were always to hand, but hidden from view. I did, however, continue to write notes at the many meetings which I attended, and no one ever passed comment on this activity. This was invaluable because, I was able to record talk verbatim, in the order that it occurred.

I initially typed up some of my field notes, but this was a very laborious task. I came to rely on my hand-written notes, which I later photocopied for purposes of cutting and pasting. I presented some of my field notes to my supervisor to read. Much of what I had written was based on the observations which I had made, but my notes included personal accounts about how I was feeling. My experience of this process was similar to that of Coffey (1999). She wrote of using field notes as a 'textual space' for the recording of emotions and personal experiences. I found that sharing my field notes with my supervisor, and being told that they were "fine", "detailed" and "interesting" helped me to develop my confidence about my ability to undertake fieldwork.

Another problem which I encountered was pushing myself to write up my detailed field notes. There were times when I needed to do this after particularly long days. Sometimes, there were delays in the train services, or there was standing room only, so that I couldn't get on with any writing up in the hour that it took to get home. This meant that I would have to write up in the morning, over breakfast, and on the way back in to the city, again on the train! It was not an ideal situation, but my note pad always served as a good memory jogger on these occasions. I was also honest in my note taking about vagueness on my part

over events which I perhaps had not followed up as well as I should have done, often because the midwife or doctor had not appeared to be particularly welcoming towards my intrusion into their space. As Bruyn (1966) notes:

> *"It is important to record a failure so that it becomes a part of the data and our understanding of the nature of human conflict "(Bruyn 1966:106)*

Despite these initial problems, I enjoyed this aspect of research after getting used to field note writing. I learned to 'roll with the punches' as Fielding (1995b) called it by organising some days shadowing staff and other days simply sitting quietly observing all that was going on around me, or attending meetings and teaching sessions for staff. Thus, my field notes offered a chronological diary of my observation of events, and of my feelings of inadequacy and then growing confidence. They were, in their hand-written form, mainly private and personal, but I was eventually going make this data public through analysis and writing up.

5.10 Validity

As Fielding (1995b) points out, making critical assessments of the reality of some unknown area of social life places a heavy responsibility on ethnographers. Because the participating observer can never be detached, his/her knowledge of that environment is introspective. The process of reflexivity, which is evident in this thesis, (Kleinman and Copp 1993) enables the researcher to question how their presence impacts on the setting, and whether feelings of being un/comfortable in a setting influences the questions which the researcher chooses to ask. Ethnographers have also been criticized for failing to look beyond the descriptive. Their work can read like journalistic enquiry (Fielding 1995b; Silverman 2001). Ethnographic methods can be viewed as producing weaker levels of evidence about the phenomenon under study than more formal approaches. However, many would argue that all research, no matter how scientific, and detached is open to some level of researcher bias. In order to minimise bias, the qualitative researcher can a number of procedures for the validation of their research methods, both in the field and during the analysis of data. For example, by using multiple observers, researchers can cross-check each others findings. Or, as I did, researchers can seek to cross-check their

observations and interview transcripts. They can check to see if similar actions are repeated by the same people on other days in the same place and at different times. I found that this latter process lent greater credence to the validity of data collection and analysis, as other qualitative researchers have found (Adler and Adler 1998).

During the stage of planning my field work, I investigated using Bales (1950) 'Interaction Process Analysis' method. I felt initially that this method would enhance the validity of the observational method because it would enable me to analyse interaction processes more formally. As Bales states:

> *"It is a way of classifying face to face interaction as it takes place act by act and a series of ways of summarising and analysing the result data so that they yield useful information" (Bales 1950:5-6).*

However, after trying out this method I abandoned it because it was too complex to use in the field, and because I found that I missed out on recording other events that were going on at that time. Because it was necessary to write up my field notes daily, I found that I had developed a natural writing pattern similar to that advocated by Lofland and Lofland (1995) for use in the field. I found that, in most cases, it was possible to systematically analyse the context for an event by asking about:

- The condition under which it appears
- What facilitates its occurrence
- What are the circumstances in which it is likely to occur
- In the presence of what conditions is it likely to be an outcome
- Upon what factors do variations in it depend
- Under what conditions is it present, and under what condition is it absent

5.11 Analysis: Making it all come together

> *"Making it all come together...is one of the most difficult things of all. Quite apart from actually achieving it... it is hard to inject the right mix*

of (a) faith that it can and will be achieved (b) recognition that it has to be worked at and (c) that it isn't like the solution to a puzzle but has to be created and (d) that you can't pack everything into one version" (Atkinson quoted in Lofland and Lofland 1995:181)

Atkinson's comment suggests that analysis is the most demanding element of ethnography. What complicates this process further is that there is no one single way to set about the analysis (Fielding 1995b). My data analysis involved a blending of a number of techniques which I outline below. This process took a considerable amount of time, and I found some aspects of it easier to achieve than others. When I was inspired by a particular aspect of data, analysis would come easier to me. I would be able to write, analyse what I had written, and go back into the field to look for supporting evidence for ideas that I was starting to generate. The progress of early coding waxed and waned. At times, interpretation seemed obvious, but at other times this was not the case. In the early stages of analysis, I would give some extracts of my notes to my supervisor to read through. They would be returned with a range of thoughts and ideas which I could work on, and I would wonder why on earth I hadn't seen what she had spotted straight away.

The essential first stage of any analysis involved condensing and making sense of the copious amounts of data collected. It is, as Wolcott (1990) asserts, an attempt to move beyond a descriptive account to the systematic explanation of the key issues and the relationships between these issues. As Atkinson (1990) has pointed out, the researcher needs to believe that they can generate theories and concepts from the collected field data. To help me in this process, I enacted procedures described by Lofland and Lofland (1995) Atkinson (1990) and Fielding (1995b).

My first step was to photocopy my field notes, enabling me to cut and paste, as I looked for and developed themes, whilst still keeping the original copies intact. I also found it particularly helpful in the early phases of analysis, when looking for how uncertainty might impact upon the decision-making process, to crudely split

all relevant field data into the three areas that I was specifically addressing, as specified in my research aims:

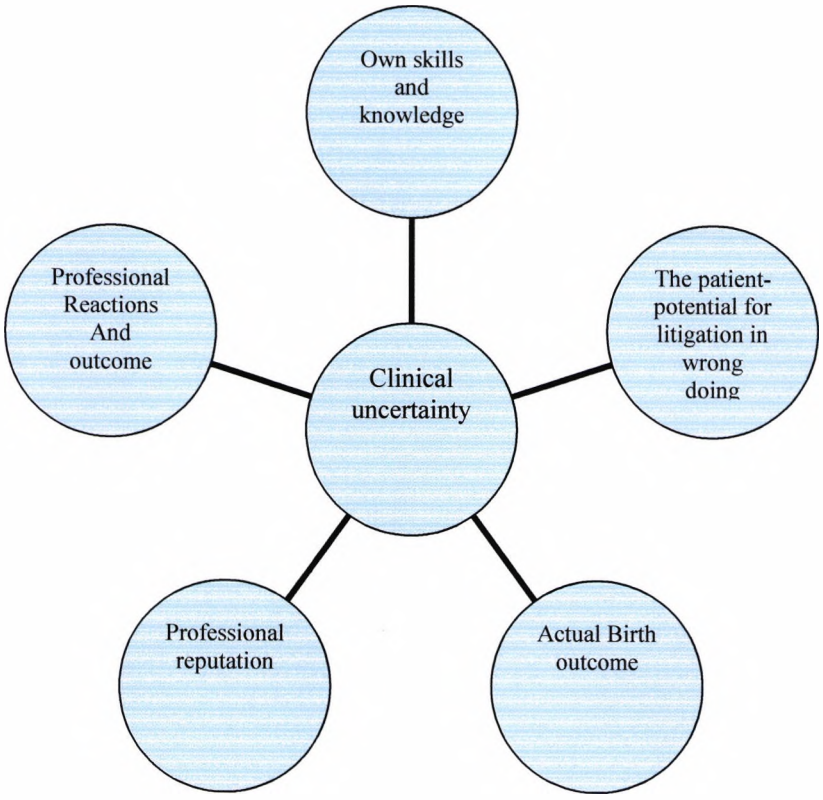
- How uncertainty affects decision-making
- What sociocultural factors are involved in the management of uncertainty
- How do doctors and midwives cope with uncertainty

This grouping process made my data much more manageable in the first instance, giving me some perspective on the subject and a way to cope with the sheer volume of data. As a method of analysis, it may be criticised on the grounds that I was making my data fit specific areas. However, working from a pre-existing classification enabled me to pick up on any uniformities or irregularities in the data that I collected. As Atkinson has argued, all analysis has to be worked at, refined and then refined again, as I show in the following extract of a coding exercise from my data. The extract below refers to an interview I undertook with a doctor who described his recent experience of a vaginal breech birth:

CODES	INTERVIEW STATEMENT
	Doctor talking about delivering breech baby with experienced midwife. Woman was an undiagnosed breech who came in at eight cms, she had two previous normal deliveries
Unpredictability Potential loss of control	The midwife seemed really keen to let this woman continue, and I think that it was partly down to having confidence in her abilities and down to the fact that the woman progressed so rapidly that we had to let her get on with
Anxiety Keeping an open mind	but I have to say I was feeling really anxious about the whole thing I said to the midwife the slightest thing and we are off to theatre ,
Mechanism of coping	if things hadn't have happened so quickly then I would have gone to theatre, without a doubt in my mind
Concern about adverse events	that's the only way to remove all the worries of something awful happening

The process of coding involves what Coffey (1996) and Lofland and Lofland (1995) describe as methods for the development of categories from which themes will develop which will help explain the phenomena under investigation. A number of themes emerged from the interview overall, some of which I have identified in the left hand column from the interview extract. Figure 5.11 shows how these themes were then subsequently grouped together in a concept chart (Lofland and Lofland 1995) derived from the interview extract on the previous page.

Figure 5.11 Concept Chart



Many manifestations of uncertainty relating to clinical practice were identified. Clinicians' accounts included descriptions of feelings engendered by clinical predicaments such as that described by the registrar quoted above. In this case,

the registrar identified uncertainty about his clinical skills and knowledge. More specifically, he identified uncertainty about outcomes, his concern with his professional standing and reputation, and the conflict inherent in practice at the unit with regards to doing the "right thing" according to which consultant happened to be on call for that shift.

The midwife involved in this case, who had worked in maternity care for 20 years, explained in an interview that she had had considerable experience in undertaking vaginal breech births before *"research and attitudes changed all that"*. The themes that emerged from her interview data revolved around her uncertainties about support, structure and organisational issues, rather than about her clinical ability to manage a vaginal breech birth. Of concern to her were the repercussions that would result if processes which were beyond her control went wrong, as she describes below:

> *"I don't worry about my skills as a midwife. What does worry me is that if something had gone wrong in the breech delivery, through no one's fault, it would have been my head on the block ..."*

Thus, in summary what emerged from this provisional analysis are themes relating to subsets of clinical uncertainty, such as those described by Fox (1957) and discussed in chapter four. At the heart of this and other accounts are the difficulties of putting protocols and guidelines into practice, difficulties which arise because many birthing situations are both unpredictable and fast moving. Furthermore, one has to consider what might have happened had the midwife not been clinically experienced in delivering vaginal breech births, and to take into account the needs of individual women.

Further exploration of other interview and field data reveals general patterns of decision-making processes, and the range of coping strategies that clinicians use in order to cope with uncertainty. The creation of coding leads onto the generation of discovery. As my data analysis will show, close examination of field and interview data provides information about how decision-making is affected by uncertainty in real life clinical situations. Lofland and Lofland

(1995) suggest that personal intuition and knowledge of a subject area interact with the process of data analysis. My research aims kept me focussed in my analysis, whilst not constricting me from coding and moving certain themes from one place to another, and back again if necessary. Richard and Richard (1994) describe this process as building 'the web' of analytical relations.

5.12 Leaving the field

As recommended by other researchers (Atkinson 1995; Coffey 1999), I had specified a clearly delineated time frame in which to complete my fieldwork. I had informed all the participants of this time frame, in the information leaflets which I had distributed before commencing the study. This meant that I did not have to deal with difficult goodbyes or other problems of withdrawal. Departing just before the Christmas season also assisted this process by providing a natural break in the research proceedings. I had decided at the outset that six months would be sufficient time in which to familiarise myself with the unit, to get used to becoming a researcher, and to access relevant research data. Although I enjoyed my period in the field, I have to confess to being ready to leave at the end of the six month field work period. On the whole, I did not feel strong ties with any particular clinician, although I maintained contact with a few staff members for a short time after I left the field. I learned a lot about myself as an individual and as a professional through completing and reflecting on the fieldwork. This was, after all, my rite of passage into the world of research life. Without the cooperation of those whom I researched, this study would not have been possible.

5.13 Conclusion

Many studies have attempted to understand the processes behind increasing caesarean sections and regional variation in the rates through retrospective analysis of risk, events and outcome. Whilst such studies help to identify why women have caesarean sections, they have failed to take account of a range of sociocultural factors, and of the complexities arising from the interactive nature of the decision-making process. I have shown how observation in a variety of clinical settings and the use of multiple sources of data collection can enhance understanding of the complexities involved in this process.

I have also discussed how being a midwife has been of benefit to me both in negotiating access and enabling me to draw on prior knowledge of the midwifery culture. A comment often made to me by people, when they discover what my profession is, is that being a midwife or an obstetrician 'must be a lovely job'. This view, however, ignores the reality that many professionals also have to deal with a variety of traumas in their work. Dealing with such events can have, and did have, a profound effect on staff. It is only by engaging in a research methodology which enables the researcher 'to roll with the punches' that insight can be gained into how these and other events might affect the way professionals make decisions and cope with their work.

The next three chapters will hopefully demonstrate the value of using an ethnographic approach to understanding the complexities of decision-making in its organisational context. I will explore the sociocultural factors that influence clinician's emotional responses to uncertainty. I will also analyse the ways in which clinicians have learned to cope with uncertainty.

CHAPTER SIX
THE CONTEXT OF MATERNITY CARE: ACTORS, SITES AND SETTINGS

6.0 Introduction

Childbirth takes place within the context of intersecting networks of both professional and lay people. The majority of births occur within the confines of a hospital environment. Obstetricians, midwives, and women move between different sites and settings within which evaluations of the woman's pregnancy is an ongoing process. During this process, many different considerations are brought to bear on the pregnancy and birth process. Who is involved, and at what stage intervention and management of pregnant women begin, are not only conditioned and influenced by the beliefs and ideals of the health-care professionals involved, but also by organisational and political factors. Thus, understanding how uncertainty affects decision-making requires consideration of the wider organisational context in which decisions are made.

In this chapter, I will explore the physical and spatial context of the hospital within which the management of childbirth takes place. I will begin with a narrative about the hospital and some of the key spaces in which these management processes occur. I will also describe some of the key players and their activities within the environment of the hospital, thereby setting the scene for chapters seven and eight.

6.1 The Maternity Unit: Setting the scene

Prospect hospital is a large institution, and typical of the architectural period of the 18th century. The site has been built on over the years to accommodate the growing population and the demand for health care services in the area. The imposing main entrance is situated in the original building. Inside the main entrance is a large central lobby area with a shop selling newspapers and sundries, a cash dispensary machine and a large reception desk for visitor enquiries. From the lobby, corridors to the main wards, other floor levels and departments fork off directly to the left and right. The main hospital building is located over four floors. The walls of the corridors that lead off from the central

lobby area are adorned with large paintings, whilst various signs fixed to walls or suspended overhead denote the whereabouts of different departments. Walking straight ahead from the central lobby leads directly outside of the main hospital building where a range of other departments are situated such as the special care baby unit, Schools of Medicine, Dentistry, Nursing and Midwifery, linen services and canteen services.

The maternity unit is situated over two levels of the hospital, all accessed by a large well worn staircase, or by the lift system. It shares each floor with other medical and surgical specialties, but remains quite distinct and separate from them. Thus, the staff who work in the maternity unit are fairly isolated from the rest of the hospital, rarely coming into contact with anyone else other than ancillary staff such as porters and domestic personnel. The labour ward and theatre are situated on the same floor. The theatre is some distance away from the labour ward and, although devoted to the maternity unit, was only staffed from Monday to Friday between 9am and 5pm. At other times, women who required an emergency caesarean section would have to be transferred to general theatres situated on the floor below. There were plans afoot to build a new theatre within the labour suite, but during the period of my study, a specific date for when this was going to happen had not been set. The floor below the labour ward contained antenatal and post-natal wards. The day assessment unit and scanning facilities for pregnant women are on the basement floor. In another building outside, located in a large central outpatients department, are the ante and postnatal clinics.

At the time of the fieldwork, the maternity wards were in a very poor state of repair. The walls were chipped, with paint peeling off them. The labour ward rooms had blinds hanging off their rails, and I observed that in some there was dried blood on the floors, ceilings, beds and equipment. It was widely recognised that the maternity unit was in need of considerable modernisation, and had suffered too long, in the words of one obstetrician, from "*dirt, neglect and poor attitudes of staff*". The unit was dogged by high rates of sickness, low clinical standards and low morale. A review of the unit by a local audit

Consortium in 1999 confirmed this assessment, identifying the following factors as a cause for concern and in need of urgent action:

- Cleanliness
- Food
- Attitude and interprofessional relationships of staff
- Lack of facilities
- Rising caesarean section rates
- Patient advocacy
- Lack of staff
- Poor breast feeding rates

These issues were being addressed by senior obstetric and midwifery managers. For example, a midwifery breast feeding advisor had been employed to raise the profile of breast feeding among local women who birthed at the hospital. For many staff, the changes were, as one senior midwife who was serving her notice commented:

> *"slow in coming, and certainly are not enough to encourage me to stay."*

Another midwife stated that:

> *"we are so short staffed that we simply don't have the time nor the energy to build up any relationships with the women we have to deliver. We just get them in and out as quickly as we can."*

As Lipsky (1980), and more recently West (2001) have observed, the laudable aim of government to provide an equitable, efficient and effective service for all patients is compromised in the clinical setting, where resources are frequently inadequate and unpredictable. Moreover, the demand for maternity care is subject to considerable and rapid fluxes which further compound pressure on resources. The dilapidated state of the unit and its fragmented layout are not conducive to good operational practices, and do not benefit staff, women or their

families. Many midwives felt that improving the environment in which they worked and the facilities that were provided would, as this junior midwife explained:

> *"make all the difference to every one. It would just make the whole place nicer to be in."*

As discussed in chapter four, uncertainty created by internal and external sources has contributed to health-care professionals being more likely to suffer more stress than any other professional group. Firth-Cozens (1999) observed that this stress has a knock-on effect on patients who will receive a lower standard of care, and be subjected to increased risk of morbidity and mortality. These factors, combined with the new ethos of health care policy, which requires decision-making to become more explicit, have increased the pressure felt by staff working at the unit. However, I also found that some of the interprofessional relationship problems at the unit stemmed from the continuing dominance of an aging medical hierarchy which still reigns at the hospital, the history of which I briefly discuss below.

6.2 Past dispositions of maternity care

Prospect has strong links with history, status and medical tradition, having been a major teaching hospital since it first opened. Its links with history, and the enduring powerful status of the medical profession, are reflected in various artefacts on display around the hospital. Maternity inpatients were accepted at the hospital during the latter part of the 19th century, making obstetrics at the hospital a relative late-comer, in relation to the other medical specialties that were already firmly ensconced there. Obstetrics was initially introduced to facilitate the training of medical students, making Prospect one of the largest outpatient maternity services providers in the surrounding region.

Both medical students and midwives were considered to have relatively menial status in the hierarchical structure of the hospital. They worked extremely long hours, with the majority of their work unsupported by experienced personnel, and during the early period of maternity provision, undertaken mostly in the

home environment. Diaries kept by medical students up to early part of the 20th century depict extreme exhaustion, lack of experience and fear of the unknown. For example, one medical student described how he had undertaken 54 deliveries in two weeks (Marks 1994). Marks notes that many medical students and midwives learned by trial and error in the field, which had disastrous consequences for some women. The old adage 'see one, do one, teach one' outlined a common way in which students learnt, and through which medical students were deemed 'competent' to work on their own by junior residents. An internal investigation of such practices took place at Prospect in 1919. This investigation was linked to rising national concern about the high rate of maternal mortality.

Wishing to improve on the situation, the hospital board at Prospect decided that the only way in which medical students and midwives could gain adequate training under supervision was to increase the numbers of women birthing in hospital. This shift should have led, in theory, to a more senior doctor usually being on hand for training, and to assist in difficult cases where necessary. The above move provided the impetus to further increase the specialisation of childbirth. At this time, specialisation within medicine was argued against by many in the medical profession, perhaps because of concern that some specialities, such as surgery, would accrue more funding than others. However, some doctors argued that specialisation should be regarded as a positive move, as the following comment made by a doctor of the time illustrates:

> *"For the good of the patient, the better advance of science and the convenience of both teacher and learner."(Hutchinson 1867:125-6)*

Thus, women's health became a specialist topic to be explored in much greater detail, not least because of the high rate of maternal mortality, but also for the advancement of obstetrics. As Hutchinson implied in the above quote, there was a genuine belief among the profession that the work they undertook was for the greater benefit of patients as a whole.

Historically, doctors had a prominent role in hospitals, either by being financial benefactors to the hospital themselves, and therefore having a senior position, or else by knowing and being able to influence members of the hospital board of governors. In consequence, obstetricians took a leading role in managing childbirth, whilst the midwife's role within the hospital became more marginalised compared to that of midwives working in the community. Many women readily agreed to go into hospital because it meant that they were away from the dirt and squalor of their home, and had the chance of using analgesia to help them cope with painful labour. As Kirkham (1998) notes, women's apparent willingness to give birth in hospital, based on the belief that they would receive a better service, further increased the power of the doctor to define the situation. Meanwhile, the role of the midwife in both the community and the hospital continued to diminish.

6.3 Hospital in Transition

As I have previously indicated, the maternity services at Prospect serve a diverse and economically disadvantaged population. This population includes a high proportion of women of Bangladeshi and Black African origin. The area is one in which poor health is associated with high levels of poverty.

The hospital operates as part of a Health Care Trust comprising two main teaching hospitals and various community health services. The other hospital, The Royal, is an even older and equally historic building. Obstetric services are provided at Prospect and gynaecological services at the Royal. The Royal has considerable research expertise alongside excellent financial resources. Because of these differences, staff at the Royal feel some hostility about and a sense of superiority at being associated with Prospect, creating what one obstetric consultant stated is a:

"them and us situation with differing priorities and perspectives."

The culture of health service management has changed radically over the past three decades, and reflects a growing concern relating to the cost-effectiveness of the services provided, and to a rise in litigation, particularly within obstetrics, as I

have described in chapter three. As West (2001) points out, management structures have to be more proactive and interventionist in the new health service climate:

> *"which part has been in response to the introduction of more explicit standards and measures of performance and greater emphasis on output controls with weight given to results as much as to procedures" (West 2001:20)*

The Government has placed increasing emphasis on making NHS Trusts more aware of the cost implications of poor decision-making by health-care professionals. In turn, NHS Trusts have had to ensure that the clinician is aware of risk management strategies, for example through the production of various in-house documents such as *"Safe in our hands"* (appendix H), and through emphasising the use of clinical guidelines. At the Trust which hosted the present research, frequent sessions focussing on risk management were held in order to increase awareness of litigation in the Trust. These sessions were provided through a conjoined effort of one of the consultants responsible for the clinical training of junior doctors and the hospital litigation team, which included a lawyer. These Trust initiatives have come about as a result of Department of Health concerns about the rise in litigation. In response, the Department issued guidelines to Trusts requiring them to establish risk management protocols (Department of Health 1993). At the same time, the Department of Health set up a risk pooling scheme known as the clinical negligence scheme for trusts (CNST) in which the NHS Trusts had a shared responsibility for funding the costs of litigation for medical negligence. As Walshe (1999) has observed, there are now important incentives for NHS providers to put risk management systems into place as the size of financial contributions that NHS providers must pay to the CNST is linked to their use of risk management. Moreover providers are likely to monitor the use of such systems among practitioners through detailed attention to complaints from patients and their outcomes.

In line with these recommendations, Prospect has put in place a risk management team that includes a risk management midwife. In consequence, the risk

management midwife works within an established formal system of incident reporting for any adverse incidents that occur on the unit. Part of this task involves checking to see whether health-care professionals have followed standard procedures when an adverse incident has occurred. However risk management is integrated into other aspects of clinical activities such as in-house training sessions on managing obstetric emergencies, manual handling and, as will be shown in chapter eight, the conduct of perinatal and maternal mortality and morbidity meetings.

It has been argued that this gradual proceduralisation of care has not had the desired effect, because there has been a failure to achieve the right balance between standardising practice and allowing professionals to use clinical judgement (Lawton and Parker 1998). Furthermore, Prospect's problems are compounded by the disjointed way in which the maternity services are provided in the locality. Overall, maternity care is managed by the Community Trust with obstetricians maintaining considerable control of childbirth management. At the time of the study, the provision of this service was currently under review, as was the choice of provider. A move towards Primary Care Trusts, which many doctors were in favour of, was being considered. However, some midwives were concerned that the balance of power would simply be shared between the obstetrician and the general practitioners (GP), thereby strengthening their relationships, but doing nothing to enhance the already poor relationships of both with midwives, or their professional status at the unit.

The particular problems identified by the Community Trust concerned the continued dominance of the medical model of care at the unit, and poor relationships between obstetricians, midwives and GPs. Obstetricians continue to be the lead professional responsible for women, although most of the ante- and postnatal care is undertaken by midwives and GP's in the community. Furthermore, the maternity unit has encountered difficulties with respect to adequately responding to the recommendations of Changing Childbirth (Department of Health 1993), because of inadequate funding and an insufficient number of staff.

The recommendations of Changing Childbirth, previously discussed in Chapter three, were mainly concerned with shifting responsibilities for women's care between midwives and doctors. Its intent, amongst others, was to give midwives greater autonomy, and thereby improve continuity of care for women. This proposed shift of responsibility from obstetrician to midwife was met with a defensive response by the Royal College of Obstetricians and Gynaecologists (RCOG 1993), who claimed that there had been an overemphasis on home birth, and that much of the content of the report was based on inadequate research evidence (Dunlop 1993).

These reservations about 'Changing Childbirth' were shared by some of the obstetricians and paediatricians at Prospect, as became apparent when team midwifery was introduced into the unit. However, the scheme was disbanded after 18 months, because of a shortage of midwifery staff and financial constraints. Implementation of the scheme had not been helped by an in-house report by the paediatric and obstetric services which suggested that many midwives were not skilled or experienced enough to deal with emergencies. The report concluded that the increased rate of admissions to the neonatal unit following childbirth was a direct result of this lack of skill and experience. This report contributed further to the deterioration of relationships between doctors and midwives at the Trust. Although some midwives viewed the demise of team midwifery with sadness, many midwives expressed relief that the scheme had been terminated. Maintaining the required on-call commitments in addition to managing the extra work load resulting from staff shortages had progressively resulted in increased anxiety, stress and exhaustion among midwives. Furthermore as a senior midwife observed:

> *"In many ways it would have been better had we concentrated on other things and sorted them out. There were already a lot of problems here before team midwifery started, and it led to a lot of resentment and bad feeling. And now it looks like we have come full circle... team midwifery is seen as some sort of solution to our current staffing issues, you know. They think it will bring in more midwives and that sort of thing, but no one wants*

to take on board what we think, what we want. And there are other more pressing issues to sort out before we go down that road again".

The problems that Prospect has encountered are similar to those experienced with other national team midwifery schemes that were in operation at that time. For example, a survey of 80 NHS midwifery units concluded that only 18% of them had the organisational capacity to provide continuity of carer (Wraight *et al.* 1993). Other UK studies have found that this approach, as compared with the more traditional ways of working within the community, has led to high levels of burnout among midwives (Sandall 1998). One of the biggest problems for maternity units in many areas, and particularly in inner cities, is the recruitment and retention of midwives. Staff turnover at Prospect is high, and staff shortages were a day to day occurrence during the period of my own fieldwork. Concern about staffing levels was a frequent source of uncertainty for service providers. The impact of this type of uncertainty for midwives is discussed further in chapter seven. These shortages meant that work had to be prioritised, with inductions and elective caesarean sections often having to be delayed, particularly if there was a higher than average number of women in labour on the unit. Thus the unpredictable nature of the work load, in addition to frequent staff shortages, was another source of workplace uncertainty. Inevitably standards of care for women were affected, as a senior midwife explained:

"Sorting out staff is probably the worst aspect of this job, because it can be so time consuming. Half the time I come on duty not knowing how many staff I am going to be working with. And in the end you learn to make do because you have just got to get on with it. But if something goes wrong, well no one will take account of what the staffing was like at the time. They just want to know why something wasn't done when it should have been done. And although you do your best, you are made to feel like you should have done better"

The RCM (The Guardian 2000) has documented the problems of midwifery retention. The RCM stated that the chronic shortage of midwives and the huge variations in maternity services lead to mothers' needs are being neglected and

lives put at risk. Similar problems are found in general nursing (RCN 1998). The Royal College of Nursing suggest that the turnover rate of nursing and midwifery staff in inner cities is about 25% per annum, significantly higher than the national average for all occupations. The shortage of midwifery staff at Prospect at the time of the study is illustrated by a comparison of the ratio of midwives per birth at the unit and elsewhere. There were approximately 42 births per midwife at the unit compared to the national average of 32 births per midwife (The Good Birth Guide 2001). The above comparison provides one indication of the high work load carried by midwives at Prospect.

In summary, staff working at the unit were experiencing continued staff shortages, changes to the management and organisational structure of the unit, and a lack of equipment and suitable surroundings in which to work. All of the above contributed to the low morale among staff at the unit. Moreover, these factors contributed to the sense of unease and uncertainty about the future which many staff felt.

6.4 The labour ward: Private and Public Spaces

The labour ward is the central focus of the present research study. It is accessed by a small passageway which turns off from the main hospital corridor. Admittance to the labour ward is gained through a locked intercom system situated to the right of the door. Once into the unit, and just past these doors, is the ward clerk's desk. Next to this, tucked away through an alcove, is the staff room.

The staff room is large, light and airy. It is generally used by the midwives although some doctors frequented it as well, to watch the small colour T.V., or to prepare and eat a meal or snack. There is a microwave, fridge, cupboards, a coffee table, a kettle and some soft chairs for staff to relax in during their breaks. On the wall, there is an information board offering information on courses, such as in-house mandatory resuscitation and obstetric emergency updates, and manual handling, which midwifery staff are expected to attend once a year. The room also doubles as an informal location for midwifery meetings. During my

period of field observation, I would sometimes use the room to talk with staff members during their breaks.

Towards the end of the corridor, beyond the work station and labour rooms, is the junior doctors rest/on call room. Unlike the midwives staff room, this could only be accessed via a key code system which midwives had no right to use. This was very much the doctor's personal place, and apparently offered them the opportunity to study without any distractions, if the unit was otherwise quiet. It is laid out as a small flat with a short hall and a sleeping room to either side, the hall leading on to a central sitting area. It is often used as an informal meeting place for medical staff. The room is in need of decoration and smells heavily of stale cigarette smoke. For both obstetric and midwifery staff these rooms provided what Goffman (1987) described as a place:

> *"Whereby the individuals attempt to buffer themselves from the deterministic demands that surround them." (Goffman 1987p.116)*

The labour ward consists of eleven birthing rooms on either side of the long corridor, with the last one some three-quarters of the way down the ward. This end room marks the last part of the clinical area, and the beginning of the managerial area, which consists of a range of small offices. The midwives' work-station is situated about half- way down the clinical area, on the left hand side, and is set within a large recess. The work-station comprises of a large 'u' shaped desk, which all the staff, including doctors, use as a central point for writing up their notes, computing women's details, using the phone, and general liaison with other staff members. A closed circuit television (CCTV) system, situated just above the desk, enables midwives to see who is entering and leaving the unit. The central station is also where women would come to when they are admitted, either on foot by themselves/with partners, or in a wheelchair pushed by the porter. On the desk are two computers, and five telephones, all of which are frequently in use. Behind the desk, on a shelf, is a printer, cupboards and shelves which housed stationery and folders. On the walls are a variety of 'informational' notices. Many of those displayed at the time of the fieldwork referred to research projects currently underway at the unit, for example the

National Caesarean Sentinel Audit which has been discussed in chapters one, two and three. Other notices related to monthly obstetric, anaesthetic and paediatric duty rotas as well as contact bleep and telephone numbers. There were other notices in the office situated behind the desk area. These tended to be of a more confidential nature. For example, there is a regularly updated list from social services notifying midwives of women on the 'at risk' register (women whose babies and themselves may be at risk of violence or other adverse events). More detailed information about these women would be held in a folder kept in a drawer in the office. In addition, notification of morbidity and mortality meetings, discussed in chapter eight, are also posted here.

The office is small, and contains a few comfortable chairs and filing cabinets housing women's medical notes, as well as ward stationery, unit guidelines and policies and a water drinks machine. There is a computer with access to Cochrane, a computerised information database providing clinical research evidence, and the internet. The office differed from the central work station, in that it is a partially secluded and private place, in which confidential or private matters can be discussed by both doctors and midwives.

Essentially, the hospital is an urban, academically orientated and tradition-conscious institution. Women are referred to the unit from a wide range of social and cultural backgrounds and a wide geographical area. The care that they receive is provided by a number of specialist professions which I discuss in the next section.

6.5 The Obstetric Team

Obstetrics' is a sub-speciality of medicine. Its focus is anatomically and physiologically bound up with not one life, but two. The clinical gaze concentrates on the potential for pathological changes in pregnancy, labour and the post-natal phase, in order to prevent adverse outcomes. Many of these outcomes are deemed to be largely unpredictable. Despite being enclosed within its own world, obstetrics is not isolated from political or social and economic pressures, which are inherent parts of the wider institution. As Allsop and Mulcahy (1996) have observed, formal and informal systems of control operate,

as do implicit and explicit rules of behaviour, traditions, rituals language and hierarchies, all forming part of the framework of everyday activities in the hospital.

Women are admitted to the labour ward through a number of routes, for example from the ante-natal wards, through the accident and emergency route, through a referral from another hospital, or from a G.P. or community midwife. For the most part, women self-refer themselves directly from home, either when they are in labour or if they experience a problem which causes them concern, such as feeling generally unwell. As Kirkham (1998) has argued, the woman is on the professional's territory, and her pregnancy links her to a range of professionals, treatments and technology which only the clinicians can interpret. For women attending Prospect, the pregnancy establishes an association with the hospital which lasts at least until shortly after the birth. The frequency of visits to the hospital varies from individual to individual according to whether they encounter problems in their pregnancy, but is by-and-large determined by hospital doctors. Decisions are discussed with the woman in the clinic, or within the confines of the wards, as well as 'backstage' in her absence, at clinical meetings and ward rounds. As discussed in chapter 3, the interactions between differing members of staff go beyond what is usual in many other work environments, not least because they frequently make decisions that encompass life and death situations in a fast-moving environment. In consequence of the above, the relationships between different members of staff, and the woman, are invariably complex, and subject to conflict and a range of differing opinions.

The team of obstetricians at Prospect comprises of six consultants, the numbers of which falls just below the recommended guidelines of one consultant to every 500 patients (RCOG 1999). Each consultant heads a team of doctors (senior registrars, junior registrars and senior house officers, with the latter two groups 'in training') for whom they are clinically responsible, as well as having formalised teaching commitments which are delivered both on and off the wards. Senior and junior registrars diagnose and treat individuals, and ensure that appropriate liaison with their respective consultants about particularly troublesome cases is maintained. Senior house officers (SHOs) undertake what

one SHO described as "*peripheral tasks*", such as taking blood samples, compiling the medical and obstetric histories of women admitted with an underlying medical disorder, and writing up medication. At the time of the study, shortened doctors' hours were in the process of being introduced (reviewed in chapter 3), as were changes to the career pathways of obstetricians, leading to there being fewer clinically experienced middle-grade obstetricians working at the unit.

Registrars and senior house officers work rotational shifts at the unit, and generally manage to work no more than the recommended maximum working hours of 56 per week (Calman 1993), by being strict about their time-keeping. All doctors maintain work-based diaries in which they document the tasks that they have undertaken. This diary also represents a time- based account of time spent in the clinical work area and the teaching environment.

The teams generally rotate between gynaecology at the Royal, and obstetrics at Prospect. From consultants down to senior house officers, the doctors represent a diverse range of cultural backgrounds, including Caucasian, Asian and African groups. Midwives, obstetric anaesthetists and paediatricians are also part of the team, which is headed by a professor who is the director of the gynaecological and obstetric services, and based at the Royal.

Consultant Brown is one of the senior consultant obstetricians' at the unit. Her clinical experience spanned over twenty years at the time the fieldwork was undertaken. Until recently, Brown's responsibilities had included formal teaching to junior doctors at the hospital, but due to increasing work load, this role had been passed onto another colleague at Prospect. Like other consultants at the unit, she fulfils research and audit commitments outlined in the White Paper 'Working for Patients' (Department of Health 1989). Brown was perceived as quite an intimidating figure by both midwives and doctors, and was described by one midwife as "*stuck in her ways and quite fearsome*". Other midwives considered that her 'heart was in the right place' and described her as *"a great advocate for women's choice*". Her relationship with some of her medical

colleagues, however, was tenuous. Many junior doctors admired her for her commitment to clinical teaching both on and off the ward.

Brown's practice style, which is more women-centred than that of other consultants, is perceived by her colleagues and midwives as being subject to controversy. Furthermore, and her mannerisms towards her colleagues is seen as being overtly aggressive. The aggression is perceived to be a result of friction arising from her practice style. She has offended her colleagues, because of her style of work-place interaction, on many occasions over the years, generating long-standing tension between herself, her medical colleagues and some midwives, as documented in chapters six and seven.

Consultant Steel is in her forties and had been appointed approximately a year before the commencement of the fieldwork, in a specialist post as a peri-natologist at the unit. Her responsibilities include the education of junior doctors, which is a role she inherited from Consultant Brown. Steel had attempted to incorporate midwives into some of these education sessions in an attempt to improve working relationships between doctors and midwives. However these attempts had met with little success. The reasons for this failure will be explored in chapter eight. Steel is often to be seen undertaking clinical work alongside midwives and junior doctors. She is perceived by both junior doctors and midwives as an amicable consultant, who is also authoritative and respected. Steel maintains these good relationships by having an open door policy, which allows clinical staff to come and discuss any clinical issues concerning women on the unit. Her relationship with Brown and her male colleagues was one of professional courtesy.

Mr. Baker is in his fifties, and had recently taken up employment on a short-term contract at the unit, at around the time that the study started. He described his main role as being a "*visible figure*" on the labour ward, whose role was to advise and assist junior doctors and midwives when complications developed. This, he saw as part fulfilment by the medical team of some of the joint working party of the RCOG and RCM (1999) recommendations for the management of maternity labour units. Initially, his enthusiasm for his new post was welcomed

by staff. But after a short period of time a discernible tension developed between him, some of the senior midwives and several of his colleagues, with regard to his practice style. This tension is documented in chapters seven and eight. His lack of fit to the unit became apparent when, prior to the completion of this study, his contract was not renewed, despite his wishing to stay on at Prospect.

Consultants Scott, Reid, and Ellis were the remaining consultants at the unit. They, like Brown, had undertaken some of their early clinical training at Prospect. Scott, Reid and Ellis were seen infrequently on the wards, other than when they had to undertake ward rounds, unlike Steel, and, to a lesser extent, Brown. They did, however, participate actively when they attended maternal and perinatal mortality/morbidity meetings.

The analysis of relations between Brown, Steel and their colleagues in chapters three and four highlights some problematic issues such as differences in practice styles relating to the management of the uncertainty inherent in clinical practice and decision-making. However, as Cassell (1998) has argued, whilst women doctors have been socialised into the same milieux as men, woman's bodies are frequently seen by their medical colleagues and nursing staff as *"out of place in a position of power"* (Cassell 1998:82). Furthermore, Turner (1987) has argued that men are socialised into a lifestyle emphasising the importance of reason and restraint, whereas women are encouraged to adopt a more emotional frame of reference. My field research produced evidence of these differences in style in various clinical situations, and in medical forums and meetings, as discussed in chapters seven and eight.

My fieldwork showed that, despite the potential influence of such gender differences, the obstetric team as a whole emphasised what they saw as an objective rational approach to their work, a perspective which underpins biomedical approaches to problem solving, as described in chapter four. Any other approach to problem solving, such as the reflexive decision-making displayed by Brown and Steel, were seen as an unwelcome transgression from what was widely regarded as the "norms" of the medical profession, as chapters seven and eight will show. Given the emphasis at Prospect on the more

traditional didactic ways of learning, and its apparent link to future career progression, it was not surprising that junior doctors were more likely to favour this way of problem solving as illustrated by the junior registrar quoted below:

> *"Once you have been allocated to a consultant, one of the most important parts of this job is to learn how they like things to be done. Whether you agree with their views or not is irrelevant since it is technically their case, and therefore the ultimate decision is down to them. If you do something they don't like, then it reflects badly on you, and your ability to fit in with the team"*

West (2001), along with many other writers who adopt an interpretative approach, has argued that human beings are active carriers of a culture, selecting what to believe or say from among its symbols and discourses, consciously or otherwise. West argues that culture and history are played out in individual biographies of what seems possible and what may be silenced or repressed. He notes, however, that:

> *"Biographies can also serve as a site for resistance and radical opposition to myths which have outlived their usefulness and for challenging what powerful others might say and wish us to believe. We are all influenced by context and social affiliation by what is easy or not easy to articulate in specific contexts and power relationships by what is considered respectable on the part of peers and significant others." (West 2001:2)*

The repression of emotion may appear to lead to greater efficiency in production. But such emotions do not necessarily disappear or become excluded from decision-making. They may merely, in Elias' (1978) terms, become 'concealed'. This was evident in the morbidity and mortality meetings described in chapter eight whereby doctors merely report the facts of a case and avoid emotional references.

6.6 The Midwifery Team

The midwife has a distinct role, which is complementary to, but different to that of other health-care professionals, in terms of how s/he is involved in the care of mother and babies in the antenatal, labour and postnatal periods. Midwives provide the majority of clinical care for women, and are usually the first point of contact for women who attend the labour ward. The midwife, as Page (1991) puts it:

> *Is the specialist in normal pregnancy and birth and respects the physiological processes of childbirth. She must be able to diagnose abnormalities, manage the complication and make the appropriate medical referral. In so doing the midwife bridges the perspectives of the mother and the obstetrician to provide a balance in the health care system (Page 1991:251-252)*

However, as Arney (1982) and Kirkham (1998) have argued, the increasing involvement of obstetrics with the 'normal' poses a threat to the role outlined above, which may eventually turn the midwife into the *"doctors handmaiden"* (Kirkham 1998;134)

At the time of the study (June to December 2000) the midwifery team consisted of three clinical midwifery managers, 37 'G' grade midwives and 47 'F' grade midwives. Typically, midwifery grading starts at the lowest grade, which for newly qualified midwives is 'E', with salaries rising in relation to higher grades. However, because of the increased cost of living in the City, and problems with the recruitment and retention of staff, the lowest grade at which midwives were employed at Prospect was 'F', regardless of whether they were newly qualified or experienced. The next level is the 'G' grade, also known as a midwifery sister, rising to the highest clinical post at Prospect, the 'H' grade. This post was classed as a clinical managerial post. In total, 88 midwives were employed at the unit, with an additional 21 vacancies mostly at the junior level grades at the time of the study, which is an indication of the staffing problems at the unit. The

labour ward had the highest numbers of staff allocated to it, but several of the staff were part-time, and some were absent on long-term sick leave.

Trust midwives are managed by the Head of Midwifery, Anthea, who had taken up the post some two weeks after I commenced my research. Anthea had had 14 years midwifery experience in hospital and community settings at the time of her appointment. Anthea stated that her responsibilities would cover the streamlining and integration of midwifery policies and practices and the promotion of teamwork across the Trust. The current problems in the unit, for example staff shortages, identified earlier in this chapter alongside the high work load, made this task extremely difficult. Anthea's office was in the non-clinical area of the labour ward. In consequence, she was frequently seen in the corridor going to and from her office. Her close proximity to the unit made many midwives feel uncomfortable. For example, I observed that, on the rare occasions when the unit was quiet, staff would ask questions as to her whereabouts, and would visibly relax if it was known that she was off-site. Anthea saw "Changing Childbirth" as an important driving force for maternity services, and voiced concerns about scope of midwifery practice at the unit being extremely limited. For example, she expressed concern to me that many midwives did not have perinatal suturing skills, that they undertook routine induction of labours, and that few were qualified to fulfil the role of scrub nurse in theatre. Whilst she acknowledged that a lack of staff and resources contributed to these limitations, she argued that some midwives were reluctant to take on new roles, because "*they do not want to do the extra work*". The labour ward was for Anthea, the *'heart'* of the unit. That this was Anthea's main focus quickly became apparent to midwives working at the unit. One senior midwife commented that this prioritisation of the labour ward led her to neglect the other areas of the unit:

> *She hasn't listened to any of us. Everything else has been put on hold until she has sorted out labour ward and got everyone up to speed on suturing and theatre duties. She has already started talking about team midwifery, which very few of us are keen on having.*

6.6.1 The 'H' grade's

At the beginning of the study, there were three permanent H grade midwives in post, namely Sue, Lisa and Gina. Before implementation the organisational changes that Anthea had set in place, Sue and Lisa shared the management and organisation of the community structure, but their duties were predominantly focussed on the maternity unit because of staffing and organisational problems. Sue had, until recently, been acting up as the Head of Midwifery, prior to Anthea's appointment. Both H grades were popular members of the management team, and could be relied upon to help out when the unit was busy. Gina had responsibilities for the administrative and auditing aspects of midwifery. As she was often away from the clinical area, I had few opportunities to observe her. A fourth clinical manager, Rita, had been seconded from another maternity unit for a total of six months, three months before the start of the fieldwork. Rita was responsible for the overall management of the delivery suite. Many midwives stated that Rita's style of management was autocratic, to the extent that some staff stated that she was a bully. I observed friction between herself and some of the more junior midwives at the unit on several occasions. For example, on one occasion I was witness to a scene in which a junior midwife was reduced to tears in front of her colleagues, having been accused of being incompetent. Workplace bullying is a significant problem among midwives, and, as Ball *et al.* (2002) has noted, an important reason which midwives give for leaving the profession.

The two most recent H grade appointments at the time when the fieldwork was undertaken, Clare and Alison, joined the unit two months into the study. Both Rita and Gina moved on to other hospitals, leaving the unit shortly after Clare and Alison's arrival. Clare was employed as the delivery suite manager, and appeared to get the staff 'on side' quite quickly on account of her personable manner. Despite her management responsibilities, she helped out on the unit when she could, and this willingness to undertake clinical work was valued by the staff working under her. Her style of management differed significantly from Rita's, a change which midwives welcomed.

Alison was employed as the inpatient services manager. She did not have the same outgoing personality as Clare. Although her office was situated on the labour ward, she was seen out on the floor only infrequently. Shortly after her appointment, she had gone on indefinite leave for personal reasons. All of the clinical managers had responsibility for the management of staff in their specific areas, with respect to clinical teaching, planning staff off duty, planning and implementation clinical audits, and were responsible individual performance reviews for midwives.

6.6.2 The 'G' grade role

The maternity unit G grades worked in either the hospital or the community. A few of the experienced community midwives could be relied on to come and work on the labour ward when the unit was short of staff. The roles of the 'G' grade varied significantly. For example, one was a clinical risk midwife, several were designated labour ward coordinators (LWC's), two were breast feeding counsellors, and one was a high dependency midwife.

Unlike the H grade midwives, G grades had no financial or direct managerial responsibilities for the unit, but were responsible for ensuring that an adequate number of midwives with a range of experiences were working in each area alongside those with less clinical experience. This was often difficult to achieve. They therefore had the additional responsibility of contacting nursing agencies to get more staff into the unit when necessary, although, if they were very busy, the task was passed onto one of the H grades. They were considered the first point of contact for midwives concerned about a woman in their care, and doctors would also seek them out at different times of the day to find out what was happening on the unit. This group of midwifes, most of whom had been qualified from five to twenty years, had a wide range of clinical experience. Four of them acted as key informants during my period of field work. Stella, Gillian, Margaret and Josh allowed me to 'shadow' them going about their work.

During the process of participant observation, I was able to access a wide range of individuals, sites and settings. I quickly became aware of a range of work-related problems, some of which are explored in the next two chapters. The G

grade midwives believed that there was a lack of good communication and consensus about work related issues between themselves and the senior managers. For example, as Stella stated:

> *"We are no longer being asked what we think of any proposed changes. We are being told that this or that is going to happen, and we are being asked to support these ideas so that everyone else will take them on board"*

As the above quotation demonstrates, some midwives felt aggrieved that they were infrequently consulted about proposed changes at the unit. They resented what they saw as an autocratic approach to management, although they had initially hoped that the new management structure, (the new head of midwifery and the employment of three new clinical managers) introduced at the time of the fieldwork, would enable them to participate more fully in decision-making in issues that concerned their working environment.

6.6.3 The 'F' grade role

The level of experience among F grade midwives ranged from that of newly qualified midwife with little clinical experience to that of those with a wide variety of clinical experience. Some of the newly qualified midwives whom I observed were finding the transition from student to midwife to be daunting. There was little time for working with a mentor to ease this transition. In consequence, they described their experience when the unit was busy as "*drowning,*" "*a baptism of fire*", and "*being dropped in at the deep end*". Both the inexperienced and experienced midwives felt the stress arising staff shortages in the unit. As one midwife depicted her situation:

> *"There are some days I ask myself what am I doing in this job. There are plenty of other things that I could be doing without putting up with all this crap, day in and day out, where no one appreciates you.*"

During my time in the unit, a number of midwives gave notice of their intention to leave. I also heard some junior midwives discussing whether they would stay on in midwifery. The issues that seemed to come up frequently related to

uncertainty in the clinical field and a lack of support, as exemplified in the following comment made by a newly qualified midwife to her colleague. It concerned a woman who had recently given birth to her sixth child:

> *"Last night was such a bad shift. I was really left to get on with it on my own. Then, after the birth, everything went pear-shaped. The woman I was with ended up in main theatre, and had a hysterectomy. It was just awful. I just don't know that I am cut out to do this job."*

The midwife involved in this case had omitted to put up a syntocinon infusion immediately following the vaginal delivery of the woman's sixth baby. This is routine practice designed to minimise the risk of haemorrhage in multi-gravid women. The junior midwife could not know whether her omission resulted in the ensuing haemorrhage and subsequent hysterectomy. This had been seen by her senior midwife as a serious error on her part. Additionally, the issue of a lack of support indicated by this narrative reflects one of the findings of a recent study exploring why midwives leave (Ball *et al.* 2002). The report argues that the issue of midwives supporting each other is crucial to the retention and ongoing professional development of midwives.

The work of midwives in the unit was supported by agency midwives, health care assistants (HCA's), foreign language interpreters, needed because many of the pregnant women were of Bangladeshi origin and could speak little or no English, and a ward clerk who sourced and organised women's notes for the midwives and doctors. Agency midwives were frequently used to make up for the shortfall of staff. Three agency 'regulars', Della, Sam and Alex, were frequently allocated work on the labour ward because, as Gillian informed me, they were "*well known, experienced and reliable midwives*". Because they generally worked full-time at Prospect, their views were included in my study. The capabilities of many other agency staff were a considerable source of uncertainty, as work particularly on the labour ward, was considered intensive and high risk. The labour ward coordinators felt that they were:

"constantly checking up on what they [agency staff] are doing, on top of everything else." (Josh)

Such concerns have been voiced elsewhere (DOH 2000) because of the range of the abilities of temporary staff who register with agencies. There have been calls to regulate these services more closely, or for the NHS to award specific contracts to those agencies whom they consider more reliable.

HCA's were indispensable members of the team, working the same shifts as midwives. Like midwives, they too were in short supply. If one was off sick, then midwives would find themselves having to take on extra tasks such as getting women up for baths following delivery and clearing the rooms. Other work that HCA's undertook included minor theatre duties during caesarean sections, ward to pharmacy/laboratory errands, making beds, providing refreshments for women and cleaning equipment. This undertaking of tasks saved midwives considerable time, and enabled them to concentrate on their clinical workload. However, concerns have been raised about the variation in skills and training of health care assistants, and there have been calls to standardise the ways in which they work, through appropriate registration (DOH 2004).

6.7 Conclusion

This chapter has argued that over the last decade, levels of uncertainty experienced by staff working in maternity unit environments has increased as healthcare organizations deal with changes in the broader external environment, such as those that have resulted from the reforms of the NHS. Managing the day-to-day lives of pregnant and labouring women whilst coping with organisational uncertainties impacts on the way clinicians perform their work, and on their working relationships with their colleagues. A more supportive workplace underpinned by appropriate resources, such as adequate and consistent staffing levels and good systems of communication, can protect against the impact of social and organisational uncertainty. Although very much aware and sympathetic to problems arising from inadequate midwifery staffing levels and the lack of adequate resources, junior doctors are, by-and-large, more concerned

with making biomedical judgements intended to produce favourable birth outcomes than in organisational issues. When doctors were unable to proceed with inductions or planned caesarean sections at allocated times because of the above factors, relationships between the two professional groups become strained. Thus, whilst midwives would wish to provide a good and equitable service for all pregnant women, the type of care they can actually provide is subject to a range of structural and organisational uncertainties, which can have significant impact on both the birth outcome and the maintaining of good professional relationships.

The next chapter discusses my observations of professional staff working in the labour ward setting. I offer a more comprehensive account of their day-to-day experiences, focussing particularly on their dealings with clinical uncertainty.

CHAPTER SEVEN

MIDWIVES AND OBSTETRICIANS: THE CONTEXT OF CLINICAL UNCERTAINTY IN MATERNITY CARE

7.0 Introduction

In chapter six I explored the physical and spatial context of the hospital, within which the management of childbirth takes place. This wider context impacted on the decision-making of clinicians in conditions of uncertainty. The present chapter focuses on the second aim of the study, which is to explore how midwives and doctors take decisions that result in a caesarean birth outcome, and to assess the impact that clinical uncertainty has on this process. The chapter will show that decisions frequently have to be made in fast moving and potentially life threatening situations. On these occasions, clinicians often have to make decisions and take action without adequate knowledge of the problem or senior support. The chapter will demonstrate that clinicians' decisions leading up to a caesarean section are influenced by their awareness of the risk of an adverse outcome, and of the personal impact that such an outcome might have on them as professionals.

7.1 Private spaces: changing shifts and midwives

The workload, staff shortages, and the complexity of coordinating patient care, in addition to managing the general upkeep of the unit, impact on the day-to-day care that women receive on the labour ward. These factors were subject to considerable change, and were often unpredictable. The high numbers of women in labour in relation to the low numbers of midwives on duty frequently caused concern at Prospect, and was often mentioned in change of shift reports. My period of observing the production of the change of shift report allowed me to analyse the behaviour of a group of midwives brought together by the time honoured ritual of reporting on the occurrences of the previous shift. The change of shift report did, as Robinson-Wolf (1988) observed of nurses, hold moral significance for midwives. It is the only period of time during the shift when all the staff gather together. As Lipsky (1980) puts it, such settings provide a necessary basis in which:

"to understand how and why organisations often perform contrary to their own rules and goals, we need to know how the rules are experienced by workers in the organisation and to what other pressures they are subject"(Lipsky 1980:xi).

Change of shift reporting began at 0800hrs and 2000 hours, with staff members arriving some five or ten minutes before these times. The report was given in the labour ward office by the labour ward coordinator (LWC) as his, or her, night shift ends and the day shift began. There was time for staff to get a hot drink and have a preamble chat whilst waiting for handover. These brief minutes of talk, as both Leap and Hunter (1993) and Hunt and Symonds (1995) point out, contribute to the bigger picture of midwives' working lives, providing a behind the scenes account of some of the underlying tensions and relationships which exist in such units. One way in which these interpersonal processes became apparent was through midwives comments as they were checking to see which manager, consultant and /or registrar was on call for the shift. Some midwives perceived that the personalities and behaviours of these individuals were largely unpredictable and felt that this uncertainty could make for a difficult and unpleasant shift. For example, the midwives would make a number of derisive comments about Rita, one of the midwifery managers, when she was on duty. The midwives felt that her management skills were poor, and that she frequently focussed on matters which the midwives considered inconsequential, such as dress code.

Other talk involved social events like the forthcoming wedding of one of the midwives, an interesting birth event that had recently happened, or endemic problems of the unit, for example staff shortages. The high level of sickness was mostly accepted as an inevitable consequence of stressful working conditions, as the senior midwife, Stella, outlined:

"Its no wonder we have so many people off sick here what with the stress of working in this place".

Wondering whether there were going to be adequate staff on duty was a perpetual source of uncertainty. Considerable stress for senior midwives arose from having to source staff, if possible, from the bank and agencies. Maintaining adequate staffing levels is widely recognised by the Royal College of Midwives to be an important area of concern, because work overload is associated with litigation and staff demoralisation (Firth-Cozens 1999).

The handover enabled information about women on the unit to be passed on. In so doing it provided a framework based on the care already provided by the previous shift. The report was given in sequence according to which rooms were occupied from room one to eleven. The woman's name, stage of labour or other notable feature along with any other significant medical information would be given by the LWC. The following extract illustrates a typical report handover:

> *LWC: "Sorry lots of primips and problems for you today. Right, room 1 - Mrs. Begum has delivered, needs bathing and transfer. Room.3 Sarah Green – delivered. Can someone do bloods for kleihauer please? Room 4, Mrs. Smith, 41 weeks, primip, 9cm. Della thinks the baby is O.P. and that her contractions are tailing off. Room 5, Mrs Ghandi, 37 weeks, another primip, not doing so great really, they are going to be starting her off on synto because she has really dragged this out. Whoever has her will be off to theatre, I bet. Oh, and another little gem is Chandra in room 7..."*

The report is full of what Hunt describes as *"obstetric shorthand"* (Hunt and Symonds 1995:62). These authors argue that such accounts perpetuate the notion of childbirth taking place on a factory production line, and can suggest that midwives are indifferent to the women they care for. However, although the emphasis in the report was on whether a woman had made adequate progress, it also provided a demonstration of the importance attached to keeping control of the birth process. Midwives could also reflect on the way in which a case had been managed by doctors. My observations of the report handover revealed considerable variation in views about the appropriateness of they way in which a particular childbirth was managed. Views differed, for example, about whether medical intervention had been instigated too early or too late in a woman's

labour, or whether another doctor might have taken different decisions, and perhaps produced a better outcome.

Furthermore, the handover report, as illustrated by the extract from my field notes given above, provides evidence of a conflict in the midwife's role. The distancing function of humour, for example describing a clinically problematic case as *"another jewel"*, contrasts with the closeness and empathy expressed by the LWC when she depicts a woman as *"not doing so well"*. The LWC thereby communicated a culturally liminal position, as both a woman empathising and a professional required to process women *en masse*. The role of the handover report is multi-functional, as it not only describes the situation on the ward, but also transmits an actively interpreted culture.

Thus, midwives started their shift by being exposed to a range of clinical information and subjective opinions about the ways in which women's labour was progressing. Some of these subjective opinions also focussed on the personalities of women whom the next shift would be caring for. Women could be described as being "*really nice*", "*demanding*", or "*difficult*". Occasionally, midwives were warned to be wary of "*that one*". Whilst the use of such terminology about women may be viewed as derogatory, and lacking in understanding of the potential anxiety the woman may be going through, it also serves to alert midwives to the possibility of 'patient' unpredictability.

The patient as a source of uncertainty has been a theme in Light's (1979) and Fielding's (1995) work. They found that even when it appeared that there was a good relationship between doctor and patient, doctors still viewed the patient with scepticism. Doctors maintained an attitude of wariness because the issue of litigation could always manifest itself at a later date if, for example, an operation did not turn out in quite the way it was expected to.

The LWC was also responsible for determining whether the neonatal intensive care unit (NICU) was open or closed. This question was frequently a great source of contention for the midwives and doctors as closure meant that a woman might have to be transferred out of the unit if she went into premature labour.

Midwives felt that priority should always be given to women in the unit rather than to 'outsiders'. Additionally, NICU staff on NICU frequently touted for business, as Gillian, a LWC, stated in frustration:

> *"They want to know who we have got as potential customers for them, but they don't actively look at keeping a cot back, so that when a woman needs to be delivered we find we have to transfer the woman out to another unit that has an available cot and that seems crazy."*

However, in general, the NICU did their best to accommodate the unit on these occasions. As I have pointed out in the previous chapter, the NICU provided a large referral centre with specialist expertise in delivering very premature babies, that few other units could offer. The availability of this facility led consultants to accept very premature babies into the unit if a cot was available, thereby removing any spare capacity, as the paediatric consultant, John, quoted below, pointed out:

> *"I couldn't turn a baby away when we have a cot left. You can't keep one back indefinitely for the unit just in case they might need it. That's ludicrous, and I think that when push comes to shove we always bend over backwards for them when needed."*

The transfer of women out of the unit is a complex and frequently long drawn out process. It entails the registrar phoning around different hospitals, some geographically distant, to try to gain paediatric and obstetric agreement to accept the neonate 'in utero' (i.e. to agree that a woman could be transferred undelivered to another unit). However, even when agreement with the paediatric speciality at another unit is obtained, it is by no means certain that this unit can accept the transfer of the woman. The labour ward at the unit might be unable to accept the woman, often because they were too busy or short staffed. When the transfer is finally arranged a midwife accompanies the woman, which can leave the unit even more depleted of staff.

During the fifteen minutes or so in which the report was given, the incoming LWC was not only made aware of resource problems, but was also told which women were on the unit and which posed the most immediate problems. On many occasions, the LWC's would also find themselves caring for women in labour. This situation was not ideal because the LWC role of support and liaison with other staff could be compromised. In addition, the LWC would also have to be free to attend the doctor's ward round, and to be consistently aware of any problems that might develop among women in labour. The frequency of ward rounds, up to four per day at the unit, was not popular among midwives. One LWC compared this arrangement to the one in operation at her previous place of work:

> *"It's like they can't trust us, and have to check up on us. We never had to put up with all this crap at Singleton. The doctors saw who they needed to see and that was it. This is just so intrusive" (JOSH LWC).*

When I asked why they never questioned the frequency of ward rounds, they indicated that it would, in their view, be pointless, because as Stella, another LWC, commented:

> *"It's been going on here since the year dot, and it's not likely to change now."*

However, as the next section shows, doctors saw the process of doing rounds as involving much more than a traditional medical ritual.

7.2 Obstetric Rituals: Changing shifts and doing 'rounds'

As discussed in the previous section, ward rounds had a long history at Prospect maternity unit. This history is associated with a long-standing medical tradition (Bosk 1979; Atkinson 1995; Sinclair 1997). Whereas midwives confined their report to the inner sanctum of the office, doctors undertook their shift handovers as part of the ward round at the bed-sides of the women they were going to be reviewing that morning. This procedure is widely recognised as the traditional way that consultants keep in touch with their 'patients' and conduct informal

teaching sessions. At Prospect, as elsewhere (Bosk 1979; Atkinson; 1995; Sinclair 1997), the production and use of medical knowledge depends on the competent employment of a wide range of skills. Atkinson (1995) observed that these skills include the physical manipulation of diagnostic and scientific instruments and the use of technology and techniques of investigation of the patient's body. Many of these competencies are tacit, indeterminate and largely rhetorical. In relation to the current culture of evidence-based medicine, these components defy codification, prescription or explicit instruction.

The ward round involved obstetric staff, medical students and occasionally paediatric and anaesthetic doctors, and was led by a consultant. They took place each week day morning, starting at around 0830-0900hrs on the labour ward. During the weekend, ward rounds were carried out by the registrar and LWC, without a consultant being present. The consultants undertook ward rounds on specific days. They involved a handover of 'patients' to the oncoming team, and a transfer of responsibilities, just as the change of shift report did for midwives. Furthermore, rounds provide the impetus for junior staff to engage in anticipatory thought and action, a process highly valued in obstetrics, and in medicine as a whole. The following extract from my field notes provides an account of one of these rounds:

> *I arrived on the labour ward at 0800 hrs, and, by 0830, the doctors who were due on shift for that day, in addition to those that had been on all night, were assembled, waiting for the consultant to arrive for the morning ward round. The team consisted of the obstetric registrar and senior house officers, a paediatric registrar who had decided to stay around because he was keen to get an up-to-date plan of management for a woman who was possibly in premature labourer at 29 weeks, and an obstetric anaesthetist. Some doctors had donned their traditional white coats over their theatre clothes for the rounds. Consultant Baker breezed onto the ward, arriving at 0845hrs wearing a suit and tie. He was quite a small man, but commanded an air of authority by his mannerisms and the way he appeared to take control of the round. He greeted the team with a cheerful good morning, had a brief breakdown*

of what was going on in the ward from the labour ward coordinator before proceeding on the round. The team, led by the consultant, with the labour ward coordinator in hot pursuit, moved quickly down to the first labour room near the entrance to the unit. Knocking on the door, the consultant, the LWC, the obstetric registrars and one SHO entered the room. The rest, including myself, remained outside the room because the room was too small to accommodate everyone. The door remained slightly ajar. A very large woman was sitting up in bed having a CTG done. The midwife in the room provided them with a brief breakdown of events to date concerning Mrs. Seale, who was in labour at 38 weeks gestation. She had been assessed previously at 0600 hrs, and was found to be 2 cm dilated, and the baby was believed to be [in] *a direct occipital posterior position. Completing her assessment, the midwife stated that she suspected the woman was progressing well, but had not examined her to confirm this. The consultant palpated the woman's abdomen and replied that she wouldn't know until the woman has been examined. He concurred with the midwife's assessment of the position of the baby and stated that it had a high head. The registrar reading through the notes provided further information about a scan done at 36 weeks suggesting the baby was a good size. The consultant suggests that the midwife might want to undertake a vaginal assessment when they have finished, so they know how dilated she is. He then proceeds to ask those in the room what were the main risk factors for Mrs Seale. Position and size of the baby are mentioned as potential problems, whilst monitoring the growth of the baby in pregnancy was identified as another. The consultant then turned to the woman and reassures her, mentioning that it will be important to keep a close eye on her labour. Then, having left the room, he explains the importance of active management on occipital posterior position babies which he believed minimised problems later on in the labour process, saying that "these poor women get exhausted from long labours having made little progress and end up with caesarean sections. I think that it doesn't do to sit back and let labour run its natural course".*

This account provides examples of several noteworthy features that were typical of the consultants' ward rounds, and which have been identified in other studies (Bosk 1979; Atkinson 1995; Sinclair 1997). From the consultants' perspective, the ward round provided a forum for teaching, and for putting the consultant at centre stage as an authority figure. The influence of their personal clinical perspectives on the judgements which they made during these rounds cannot be understated, and is associated with the lack of consensus that surrounds much of obstetric management. Diagnosis and decision-making on the labour ward can vary considerably in similar cases. In consequence, issues of control are emphasised throughout the management of the birth process. The above extract shows how the midwife's hedged assertion that the woman was making good progress was devalued. A vaginal assessment undertaken after the round showed that the woman had progressed to 7cm dilated. Thus, the midwife was correct in her summary of the woman's labour. However, the consultant had asserted his authority through denoting what needed to be done, and emphasising the importance of 'knowing'.

Each ward round was affected by the idiosyncrasies of the individual consultant who was conducting it. Variations in practice style became apparent to junior doctors and midwives attending the round. Consultants exuded what Baumann *et al.* (1991) have described as "micro certainty". They were highly confident in their decision-making choices, whilst being very aware of the range of differing opinions among other consultants about managing the same problem. A typical example is the management of breech position babies, and is discussed later in this chapter.

Thus, the act of doing ward rounds illustrates how the organisational work of the unit is accomplished and how, in the process, the patient is transformed into a case. I would concur with Atkinson's (1995) view that the:

> *"Patient is merely the pretext for a great deal of talk much of it at one removed from the patients" (Atkinson 1995:6).*

The process of clinical teaching on rounds teaches junior doctors to look for definite signs and symptoms that labour is progressing, and to diagnose and manage those which are not. Furthermore, the round also teaches them about the nature of medical authority. However, as the next sections indicate, this was by no means a clear cut process.

7.3 Uncertain beginnings: Defining the onset of labour

The assessment of labour was a task that was mainly performed by midwives because they were the professionals most likely to assess women who were admitted with contraction pains to the labour ward. Predicting when labour was likely to move beyond the latent phase was a complex and uncertain process for midwives. This uncertainty is aptly summarised in the following quotation from William's "Obstetrics":

> *"The greatest impediment to understanding normal labour is recognising its commencement. The strict definition of labour – uterine contractions that bring about demonstrable effacement and dilatation of the cervix – does not easily aid the clinician in determining when labour has actually commenced, because this diagnosis is only confirmed after the event." (Cunningham et al. 1993:475).*

When women were admitted to the labour ward, the midwives usually carried out an assessment routine that involved checking the woman's blood pressure, pulse, temperature and urine. This procedure was usually followed by the undertaking of a CTG of the fetal heart, whether or not the woman was considered to be high or low risk, and then a vaginal examination which would assess dilatation of the cervix. The necessity of undertaking such routines has been asserted in midwifery (e.g. Sweet 1989) and obstetric (e.g. Cunningham *et al.* 1993) teaching manuals. The rationale for their necessity is that any deviations from the normal parameters of labour as defined by the obstetric model I described in chapter 3 can thereby be detected and acted upon. However, practices such as CTG's as part of routine admission procedures for women in labour who are low risk, have since been discouraged by the 2001 NICE Fetal monitoring guidelines.

If a woman experiencing her first pregnancy was contracting, but the dilatation of the cervix on vaginal examination was found to be less than 3cm, she would be encouraged to go home. Decision-making regarding whether a woman should stay in hospital or go home, became more complex, if the pregnancy was not her first one. Several midwives described cases where women had been sent home, and had either delivered at home, or delivered on-route back to the hospital because labour had progressed more quickly than anticipated. Occasionally, even women undergoing their first pregnancy could make rapid unexpected progress, which would become a prime topic of conversation on the labour ward. Predicting the course of labour was difficult, and a source of questions which midwives were frequently asked by women, as one F grade midwife, Joanne, explained:

> *"Everyone always asks how long is it going to take. And the answer is, 'How long is a piece of string?' We can only act on the information we have at the time. If we kept every multip that came in with contractions on the assumption that they might deliver quickly, then we would have no beds left."*

This comment reflects a recurring issue for midwives and women attending the labour ward. Midwives have to balance risks in conditions of uncertainty, whilst women focus mainly on their own situation. This tension was caused by resource constraints, although it is virtually impossible to provide enough capacity for randomly varying contingencies, including fluctuations in the volume of women in labour and the number with specific problems. However, knowing what to do with women who did not want to go home when they were considered to be in early labour was problematic as Josh, a LWC, explained:

> *"When women come in, and they have been assessed, and they aren't really doing anything, most of them will take your advice and go home. But sometimes, some women just aren't coping with things at all, and expect that you do something to help them, like giving them pain relief. And you can't really turn them away, you can't say no. But by keeping them in, well, they are much more likely to have some form of*

intervention if they are just sitting around and waiting. But what else can you do?"

Thus, midwives appreciate that their decision-making involves dilemmas and can have real consequences for the patient. In one case, a woman had been admitted with painful contractions which she had been experiencing over the previous twenty four hours, because she could no longer cope at home. The midwife undertook a CTG, followed by a vaginal assessment of the woman. This examination indicated that the woman was not yet in established labour. The midwife explained this to the woman, and advised her to go home and take some paracetomol, advising her that a warm bath would help to ease the contractions. The woman became upset, refusing to leave, and demanded help with the pain she was experiencing. She was given pethidine, and transferred to the antenatal ward. The woman stayed on this ward until the next day, when she was moved back to labour ward without having made any more progress in labour. Because she was not coping, and was exhausted, she was given an epidural. After this, the membranes were ruptured, and later an infusion to stimulate stronger contractions was started. The woman eventually had a caesarean section later that day for what was considered to be her *'failure to progress'* in labour, when in fact a range of factors that may have contributed to this outcome.

Decision-making about when labour begins has significant impact on the birth process, as Cartmill and Thornton's (1992) study, which was reviewed in chapter 3, has shown. The occurrence of a long latent phase can lead to the erroneous diagnosis of dystocia (protracted labour) necessitating intervention, which can, in turn, frequently trigger a cascade of further interventions. Ultimately, this process can result in a caesarean section being performed if the woman has not reached full dilatation within a specified period of time. The incident described above typifies many other similar cases that I observed, and illustrates an issue which midwives face when they make clinical decisions about the care of women waiting to give birth. There is no clearly defined evidenced-based set of rules for midwives to follow in cases of protracted labour. The midwife seeks to make the woman comfortable, and aims to transfer her out of the labour ward as soon as possible. In this way, the woman could be 'forgotten' about by the labour ward

midwife, thereby allowing him/her to get on with what Hunt and Symonds (1995) describe as 'real work' from the midwife's perspective. This principle is illustrated by Della, an agency midwife:

> *"The last thing you want to do is to admit someone too early on in labour because they take up unnecessary resources, and you can usually guarantee that they end up with the works because everyone gets fed up of seeing them hanging around."*

Decisions about who is in, and not in, established labour must take place in the absence of clear-cut criteria. Nor is it easily compartmentalised. The decision is frequently surrounded by uncertainties associated with determining the best course of action for the individual woman concerned.

7.4 Clinically managing uncertainty in labour: Knowing when to intervene

Managing uncertainty in order to achieve accurate diagnosis and effective treatment, and pre-empt problems which might affect the mother or baby, was a key feature of the work of midwives and doctors. As discussed in chapter 4, the process of decision-making does not take place in a compartmentalised way. Not only are such decisions based on the clinician's individual perception of the situation at that time. They are also affected by discussions with professional colleagues, and draw upon background knowledge of the patient's past and current medical history, and of interventions that have occurred up to the current point of the birth process. In addition, doctors and midwives involved in a delivery will consider their own professional needs, as well as their obligations to the woman and baby.

As I have previously highlighted, women attending Prospect will usually see a doctor at some time during the course of their labour, regardless of whether they are considered to be low or high risk cases. The exceptions to this rule are women who are admitted to the labour ward and deliver very shortly afterwards. The unexpected speed of the birth process can temporarily throw midwives off course. But, as Linda, a midwife, exclaimed after one such birth:

"That's what is so great about this job, you have always got to expect the unexpected."

One of the most common reasons for referral by a midwife to a registrar is slow progress in labour. Progress in labour is assessed using a partogram, as discussed in chapter 3. There is a wide consensus about the desirability of using partogram's at Prospect, as this comment from Steel to some junior doctors illustrates:

"Always check the partogram for yourself. If it's up to date you can see in an instant how labour is progressing."

And, similarly, Gillian, a LWC, commented that:

"Once a woman is in established labour, then they are started on the partogram. It helps us make decisions about when we should intervene. You know if everything has slowed down, for example, from the previous v.e. [vaginal examination]."

As argued in chapter 3, the emphasis on the importance of partogram's is not specific to the Prospect. Their use is endorsed by the World Health Organisation, and more recently in the NICE consultation intrapartum guidelines (NICE 2006). Their use codifies a process in which, once a woman has been assessed as being in labour, the countdown to delivery begins, with interventions occurring if she has not reached the required dilatation levels within specified time frames.

A diagnosis of labour which has been 'slow to progress' is made when a vaginal examination indicates that there has been little or no progress in dilatation of the cervix since the previous examination. These findings are then plotted on the partogram, alongside Freidman's curve, which was discussed in chapter 3. Any apparent irregularities in progress are displayed visually on the partogram. According to the definition of normal progress built into the Friedman curve, a woman's cervix should dilate approximately 1cm per hour in labour. If this does not happen, the woman will be informed that intervention, for example artificial

rupture of the membranes (ARM) is required. However, this process is fraught with considerable uncertainty, as the case of Sophie, outlined below, illustrates.

Sophie was 38 weeks pregnant and was induced with a drip containing syntocinon, a synthetic hormone which stimulates contractions. Sophie had had a spontaneous rupture of membranes (SROM) around 24 hours previously. She had been assessed on the ante-natal ward. Although an SROM had not been confirmed or excluded by the investigation, Sophie was asked to return to the labour ward on the next day if her labour had not started of its own accord. There is a general consensus among clinicians that the risk of infection to the fetus increases as the period in which a woman with SROM has not gone into labour increases. This risk is further increased by the number internal examinations which a woman is given (Imseis *et al.* 1999). However, there are varying medical opinions as to when labour induction should be started, and about how SROM should be diagnosed (Gibb 2001). Thus, considerable uncertainty exists about the most appropriate way in which to manage women with a possible SROM. The recent NICE consultation guidelines suggest that most women will go into labour spontaneously within 24 hours without any intervention (NICE 2006).

Whilst on the syntocinon regime, Sophie's baby's heart rate was also being monitored continuously. This is required because of the risk of hyper-stimulation of the uterus as a result of using syntocinon, an outcome which could cause severe repercussions for both mother and baby. Regular and frequent contractions had started around four hours after syntocinon was first administered, but a vaginal examination indicated that Sophie was not yet in established labour. Julie, the midwife who was looking after Sophie, reported the findings to the on-call registrar, who came to review Sophie's case. The registrar decided that, as there were no apparent problems with either the mother or baby, Sophie was to continue on the syntocinon regime for the next two hours, by which time the registrar would review her again.

At the next internal examination Sophie had made little progress, and, significantly, the forewaters were found to be intact. This would imply that either the hind water's had come away, or perhaps that SROM had not occurred

in the first place. Nonetheless, having started down this course of action, the registrar had to rupture the forewaters, and some fresh meconium was evident in the liquor. Its presence can indicate that the baby might have already been compromised in the course of the labour. The fetal heart rate was within normal limits, so Sophie was left to continue in labour for another four hours unless problems developed before this time.

After this time, Sophie had still not made any progress, but there were no apparent problems with the baby. Sophie told the registrar that she was feeling "*very fed up*", and that she didn't really want to carry on with the labour process not knowing whether she would end up with a caesarean section or a vaginal delivery. The registrar felt that a caesarean was probably going to be the eventual outcome, and Sophie readily agreed to this. The registrar stated to the midwife looking after Sophie:

> *"There isn't any point carrying on. We might as well get this over and done with now because we will only end up doing it later on. I will have to liaise with Reid* [consultant]*."*

The registrar spoke with Reid, the on-call consultant, over the phone, who agreed with his assessment. The registrar, when pressed further on this case by myself, cited cases of women who developed high temperatures in "*protracted labours*", and described the effects that this had on the baby. The midwife concurred with the registrar, stating that Sophie was simply:

> *"Not getting anywhere fast. It's difficult to know whether we should ever have started down this path, because sometimes there may be some doubt about whether the membranes have gone or not. But we did, and this is where we are at now. And, right now, there really aren't any other viable options left open to us."*

Such decisions, whilst seeming to take account of the woman's preferences, nonetheless pose considerable risks. For example the woman may haemorrhage, resulting in a subsequent infection affecting her and her unborn baby.

Alternatively, the baby may begin life with respiratory problems as a result of the operation, or suffer laceration from surgical instruments during the incision made to the uterus.

NICE guidelines in 2004, and more recently the 2006 NIH conference in America, recognise that indications for a caesarean birth represent a continuum ranging from an absolute medical need such as placenta praevia, to women who request a caesarean section for no identifiable medical need. These important reviews of the research evidence make clear that interventions should only occur if there is clinical evidence of benefit to the woman and her baby. Whilst this study was focussed on looking at clinicians' decision-making under conditions of uncertainty, it is important to identify that there may have been significant subsequent morbidity consequences of performing caesarean sections on women and their babies, which have not been identified. Therefore, when exploring decision-making of health-care professionals and the effects of their decisions on them as an individual and a professional, one must also recognise that there are considerable potential consequences to women, arising from their actions, which have not been explored in this research.

As Paget (1988) concluded from observations on medical work, as discussed in chapter four, the labour process too can be seen as a process of discovery. The physiological process of labour and the clinical response to it, occur simultaneously, as each tries to affect the other. The doctor or midwife must make inferences based on what they observe happening during the course of labour, as well as making assessments - '*best guessing*' as once expressed by Steel – of things they cannot know for certain. Thus, management of women's labour is very much a trial and error process, constrained by a biomedical model that stipulates tight adherence to partogram rules. In chapter 4, I drew attention to the process of labour as being a time in which the mother is considered to be vulnerable, and at risk of a range of problems developing during the course of her labour. Jordan (1983) has noted that this has led to the development of a range of policies and practices which health-care professionals believe helps deal with the "existential uncertainty associated with birth". As Simmonds (2002) has put it:

"As medical 'experts' increasingly incrementalize women's labour time, they may gain a sense of structural neatness, fulfil a desire to accomplish order and perceive a sense of control. Labouring women are the ones who whose perceived control of events decreases." (Simmonds 2000 562)

The partogram is one such tool used by midwives and doctors to manage the process of labour, which, as Davis-Floyd (1992) found, provides staff with a sense of order and control:

"W*hich will safely and inevitably crank the individual right on through the perceived danger to safety on the other side."* (Davis-Floyd 1992:14).

There are occasions, albeit rare, when the consultant may not agree with the registrar's assessment, as happened in the above case. The consultant might suggest waiting, with a view to the woman being reassessed within a specified time frame later. Whilst some registrars' were taken aback by such decisions, most of them accepted the consultant's advice without further discussion. However, some registrars were unwilling to accept the increased uncertainty they were being expected to work with, and would request that the consultant come in to review the woman themselves. This, more often than not, resulted in further lengthy discussion with the consultant on the phone, who would then agree to the caesarean section, on the grounds that the registrar was unable to manage the situation any other way. As one female registrar, Fiona, stated:

"Once you say that to them they usually change their mind. They just don't want to have to come in after hours."

As Fiona's statement indicates, some registrars felt confident enough to enter into a game of wits with the consultant on-call. By requesting the consultant come into the unit, several registrars found that they could manipulate some situations to achieve the outcome that they genuinely believed was in the interest of the woman and her baby. Although it appeared that most women I observed agreed with decisions to intervene during the course of their labour at Prospect,

this was not always the case. Some women did not want to be constrained by biomedical time frames. This challenge to the usual pattern meant that health-care professionals felt all the more exposed to highly uncertain outcomes over which they had little or no control.

One such example which I observed, involved a woman who had been transferred in from the community. She had been planned as a home birth, but had been making slow progress in the later stages of her labour. In consequence, the community midwife had arranged for her transfer into hospital. The G grade midwife, Stella, took over her care. The woman was assessed, and found to be 9cm dilated on admission. The woman continued in labour for the next six hours, declining syntocinon and any medical intervention, which also includes continuous fetal heart rate monitoring. However she did let the midwife listen to the fetal heart rate at regular intervals during the course of her labour. The registrar had informed the woman of the usual protocols at the hospital, and had stipulated that they could not be held responsible for any harm that might come to the baby. The registrar commented to the midwives at the work-station that the woman:

> *"Is clearly determined to do her own thing regardless of what anyone says to her, and, in the main, that's fine, it's her choice. But there is a baby's life involved here, that, at the moment, appears to be okay, but there isn't any guarantee that things will stay that way."*

With this, the registrar departed from the labour ward, leaving the labour ward coordinator, Gillian, vocalising her sentiments about the whole situation. It was evident from her conversation that she felt that Stella, the G grade midwife who was frequently in the role of LWC at other times, was perhaps not being forceful enough in persuading the woman of the things that could go wrong with a prolonged second stage (which in the end lasted for four hours).

> *"The problem with Stella is she is just too laid back, she's too inclined to let women's choice cloud her view. And I just know that if it was someone*

else that had met the woman when she came in we would have had her delivered by now."

Gillian's assessment of Stella's practice is by and large correct. Stella did resist intervention, when in her opinion it was not necessary if, clinically mother and baby were well, and would frequently argue this point with registrars on the unit. Thus, when Stella was in charge of the unit, it was not uncommon for her to be seen encouraging midwives to continue with women in the second stage once the 'hour' had passed, providing she was happy about fetal position and overall progress. Stella stated that on some occasions she has had to justify why some of the women whose care she was responsible for had long second stages of labour. This was most likely to happen where women did require medical assistance to aid delivery. Stella believed that women should be given as much encouragement as possible to achieve delivery on their own, so being called to account did not detract her from the way she practiced. Because of her experience which spanned over twenty years, however, she did receive considerable respect from doctors and many other midwives. Nonetheless, such situations did cause some doubt about the eventual outcome in Stella's mind. After the birth as described above, Stella spoke of her own particular anxieties about the case in the presence of several other midwives:

"It's so difficult, stressful, just sitting back and doing nothing because the clock is ticking, even my second stages aren't this long! You have to support the woman, but at the same time you think that if this is all going to go horribly wrong, then it's going to come down on me regardless of the fact that the woman has declined all medical aid. But in the end everything, thank God, was okay."

Gillian, the labour ward coordinator, responded:

"Stella, she got lucky."

Gillian had worked in rural areas of Africa. She described being very much reliant there on clinical experience and skills supplemented by intuition, because

the technological basis on which maternity care is based in the U.K. was not available. However, she made a distinction between the two types of practice arguing that you have to adapt to the environment that you are working in:

> *"Whilst babies will die whatever we do or don't do, it is not acceptable when it happens in this country. Therefore, everything you do has to be backed up by research and guidelines which will support you in the event something does go wrong."*

Thus, the risk averse style of management was the rule, rather than the exception at the unit. Stella wanted junior midwives and midwifery students to not get so "*hung up on the partogram,*" and focus more on the whole picture. Stella argued that there was simply too much emphasis on:

> *"Being in control and pre-empting problems before they have even developed. There simply isn't enough emphasis on careful observation, letting nature take its course within reason and traditional supportive midwifery skills to get women through labour."*

Parsons (1951) emphasised the significance of uncertainty to the role of the physician and linked this to the limits of control that physicians continually encounter. Thus, the concept of ritual and routine, as in the use of the partogram, to make birth happen in an orderly way, is particularly relevant to the management of labouring women. As part of the process of attempting to retain control, the woman's body is shaped by medical practices and knowledge.

7.5 Monitoring the fetus in labour

Routine tests which are considered essential in determining maternal and fetal well being during the course of a woman's labour may reveal suggested or actual problems. A variety of tests can be undertaken during this period of time, but one of the most commonly performed non-invasive tests is that of cardiotocographic (CTG) monitoring.

Its routine use for women in labour at Prospect was a frequent source of contention between some midwives and consultant Brown. At the time of this study, NICE had not published guidelines with respect to fetal monitoring, which I have discussed in chapter three. Nonetheless, Brown had already initiated her own stipulations regarding the use of CTG's for low risk women in labour. Browns practice was based on the findings of Thacker and Stroup's meta-analysis of CTG's that I discussed in chapter 3. Brown did not want any low risk women, who were under her care, to have routine CTG's done either on admission or during the course of their labour, unless a problem developed. This served to irritate many midwives as Gillian explained:

> *"I think as midwives we are perfectly capable of deciding who should and shouldn't have CTG's."*

Thus, despite Brown's efforts to minimise the number of women under her care having routine CTG monitoring, there was considerable opposition by some midwives to implementing this policy. It became apparent from my observations and talks with midwives that their unease at not performing CTG's could be attributed to a heightened awareness of recent litigation cases at the hospital, and an overall sense of 'covering their backs.' For example, one midwife spoke of her experience some considerable time ago, of a stillbirth. The woman had come in, and having been assessed, was found to be in early labour. The midwife explained that she had listened to, and heard the fetal heart rate using a small hand held sonic aid. The woman had subsequently been sent home until her contractions became more regular and painful. When the woman returned in the early hours of the following morning contracting strongly, no fetal heart rate was detected and the woman went on to have a stillbirth. Such events like this have far reaching consequences not only for the woman and her family, but also for the health-care professionals involved in the care leading up to and after the birth. For example, case conferences and risk management reviews follow such events. This process is a painful one for all staff involved. As the midwife went on to explain:

"You wonder whether you missed anything and what will happen afterwards. I always wondered that if I had undertaken a CTG maybe something could have been picked up, and we could have done something to have prevented it from happening."

Such tragic incidents did lay heavy on the minds of midwives and doctors. Other research supports this finding suggesting that staff are much more susceptible to emotional scars where they are expected to move on quickly from a traumatic incident, such as a stillbirth, to deal with another women in labour (Kirkham 1999). Kirkham argues that scant attention is given to the guilt and self-blame many staff experience in such scenarios. However, this may in turn have detrimental effects for labouring women because of subsequent possible unnecessary intervention and over adherence to rule following that results from both midwives and doctors experiences. It is therefore understandable that for many clinicians the pictorial evidence from the CTG, provided reassurance that everything was indeed 'normal'. This finding has been reported elsewhere (Symon 1998; Bassett 2000). A CTG that was cause for concern provided the rationale for intervention, as the following F grade midwife, Sarah, explained:

"Without it [the CTG], I can not say or show for certain that the fetal heart rate was normal. If I ever have to stand up in court, then I can say that everything was fine at this point in time because I can prove it. I have covered myself."

Additionally, some midwives stated that women found the CTG reassuring as the G grade midwife, Margaret, explained:

"Women like to hear the fetal heart rate and they like to see it being printed out – some women even ask if they can have a little piece of the printed paper as a keepsake."

Thus, for midwives and doctors at Prospect, the CTG is an important aspect of labour assessment regardless of whether women were in a low or high risk category. The CTG, as Bassett (2000) suggests:

"captures a specific piece of real time in which obstetrical decisions are made and are often a critical element in legal reconstruction of clinical medical events at trials"

The fact that the CTG is valued by some staff and women may explain why the NICE guidelines (2001) on monitoring the fetus in labour has been so difficult to implement successfully. Decision-making about intervening with an operative delivery in cases in which fetal compromise were diagnosed was a complex and difficult process, fraught with uncertainties as to the actual condition of the fetus. During my period of field observation, this was perhaps the most troublesome and anxiety provoking type of decision-making that I observed. An exemplar of this involved a woman who was 38 weeks pregnant and in her first pregnancy.

The registrar had been asked to review a CTG that a midwife was concerned about because of some occasional variable decelerations in the fetal heart rate. The woman's cervix was, at this time, 6cm dilated. The registrar looked at the CTG, and was not unduly concerned, but wanted CTG monitoring to continue. Within a half hour, the registrar was called back to the labour ward again because there were some significant decelerations in the fetal heart rate during each contraction. When the woman was not having a contraction, the fetal heart rate was considered to be within acceptable limits. The registrar then examined the woman whose cervix was found to 7cm dilated. The registrar remained on the unit so as to monitor the situation more closely. The woman was evidently making quick progress, but the decelerations were becoming more frequent and more pronounced during contractions. The registrar contacted the on-call consultant, Steel, for advice. Steel had stated that she would come in to assess the situation, recommending that a fetal blood sample should be taken. However, before she arrived, the registrar became more concerned about the fetal heart rate and the woman was taken to theatre for a caesarean section. Because the condition of the fetus was considered to be life threatening a fetal blood sample was not obtained as the length of time to undertake the procedure would take too long.

Later in the shift, the midwife relayed back to me that, once in theatre, the baby's head was so low that she had to push the fetal head back up through the birth canal, to aid its delivery through the abdominal route. From undertaking this procedure, the midwife had found that the woman had progressed to full dilatation. The baby was born in good condition, despite the previous concerns about the fetal heart rate.

As Steel noted later when she came in, the CTG was typical of rapid progress in labour. The caesarean section probably could have been avoided had a vaginal examination been undertaken in theatre prior to undertaking the operation. This would have meant that a vaginal delivery could have been performed with the aid of a ventouse or forceps. Steel recognised that this had not been done due to the inexperience and heightened state of uncertainty in the inexperienced registrar about compromised fetal outcome at the time stating that, it was *"a valuable lesson learned for next time"*. This incident is typical of what Fox (1957) has described as the troubles and stressors of the unknown, and what Paget (1988) described as part of the trial and error process of becoming and being a doctor that I have previously discussed in chapter four. As Gibb (2001), a highly regarded expert in CTG interpretation, observed:

> *"There is no grade A recommendation for the use of an admission CTG but neither is there for taking a history or performing an examination. There is logic and sense in undertaking such a test. Most women find an admission CTG reassuring, providing positive support for them at the start of labour" (Gibb 2001:173)*

Nonetheless, arguments for undertaking CTG's such as this, contravene NICE (2001) guidelines which emphasise that CTG's should not be undertaken as part of routine practice on low risk women. These examples indicate that the use and interpretation of CTG's are frequently complex and difficult. The appropriateness of the decision to undertake a caesarean section based on the interpretation of the CTG were frequently questioned at multi-disciplinary meetings. For example, in one meeting Brown voiced concern that

misinterpretation of CTG's were contributing to the increase in caesarean sections for fetal compromise at the unit. Without the addition of a fetal blood sample she argued that the CTG, on its own, did not provide adequate evidence of fetal compromise. Some registrars and consultants disagreed with Brown, but it was the latter group who voiced their opinions openly in the meeting. Baker, for example, argued that there were going to be situations where CTG's necessitated immediate action. He argued that, although current evidence recommends the usage of fetal blood samples to confirm fetal compromise, he doubted its absolute benefit because the levels of oxygen and carbon dioxide can be influenced by that of the mother. Significantly, a fall in the Ph value tends to be a late sign of fetal hypoxia, meaning, in other words, the damage had *"already been done"*. It was his view that a CTG alone was a *"perfectly adequate way"* in which to diagnose fetal compromise, thereby:

> *"Getting on with the delivery instead of wasting precious time trying to get the FBS done and ending up with a brain damaged baby."*

Such views may well be influenced by previous poor outcomes as chapter 8 indicates, and were echoed by many of the doctors present at the meeting, and have been born out in research findings that I have discussed in chapter 3 (for example Gibb 2001). Brown, however, disagreed strongly with Baker. Using a recent 'in house' audit that she undertook with various other clinicians to emphasise her point, she retorted that:

> *"Judging by the audit findings and the increasing numbers of caesarean sections at the unit, we are a long way off being able to decide whether there are suitable grounds for undertaking caesarean sections based on the CTG alone."*

Although fetal blood sampling is recommended by the NICE caesarean section guidelines, in Thacker and Stroup's review of electronic fetal monitoring based upon the results of RCT's that included 58,855 women, it was acknowledged that, even with fetal blood sampling, the incidence of caesarean section remains higher than with intermittent auscultation. They concluded that the perceived

benefit of its use with EFM was not supported from the RCT's which they examined. This finding continues to be supported by the recent Cochrane review which reported that access to fetal blood sampling did not appear to influence the difference in neonatal seizures nor any other pre-specified outcome

The uncertainty associated with what may or may not be a life threatening situation is clearly unsettling for clinicians. Typically for the neophyte registrar and for the midwife, who are working on the front line, anxiety and concern for maternal and fetal wellbeing are uppermost in the decision-making process. But also, significantly, structural and organisational concerns discussed in chapter 6 particularly with the emphasis on keeping any potential for litigation to a minimum, also impact on the decision-making process.

7.6 Uncertainties associated with professional competencies

There were a range of uncertainties associated with midwives' and doctors' individual skills and knowledge base. Issues concerning uncertainties in these areas were predominantly associated with midwives, senior house officers and junior registrars. Obstetric consultants, on the other hand, whilst recognising the uncertainty inherent in childbirth, did have a range of idiosyncratic practices which, by and large, they relied on in their process of decision-making. Bosk (1979) reported in his study that junior doctors had to quickly become familiar with, and not question, the idiosyncratic practices of consultants they worked with. Junior doctors quickly became aware that even in ambiguous situations, it was the experience of consultants that mattered and not what research identified as appropriate or inappropriate treatment of patients. Consultants did recognise the impact uncertainty had on the decision-making of their junior colleagues. As Scott, a consultant, made clear:

> *"I think that uncertainty does affect the judgment of junior doctors, but as they gain more clinical experience they will develop their own ways of dealing with it, and eventually they will be able to act with more decisiveness."*

At Prospect, the SHO's primary role is to assist in caesarean sections, 'clerk' women, site venflons, and take blood from women who are admitted to the unit

and who required obstetric input. Importantly the SHO had to refer all women seen onto the registrar. The SHO was also expected to gain experience in interpreting CTG's, an activity which they usually undertook with the midwife involved in the care of the woman in labour.

However, there were many occasions when there was a failure on their part, and the part of midwives, to recognise the limitations of their own competency as this example from a review of a woman's notes by Steel exemplifies. I had also been able to observe some of the events discussed below during my period of field observation on labour ward arriving in the unit early that morning. A woman, 36 weeks pregnant with twins, had been admitted onto the labour ward with mild and irregular tightening's at 2 o'clock one morning. The SHO had been requested to assess her. In the SHO's opinion the woman was not in labour, and therefore a diagnosis of an irritable uterus due to her over extended abdomen, as a result of carrying twins, was made. The SHO decided not to disturb the registrar, who was asleep, because the SHO did not think that there was anything of significance to report. The CTG had been discontinued. The woman was given some pethidine to relieve her pain and was left to settle for the night. At 0730 hours the woman rang the call bell distressed. The midwife responded to the call bell, and it was clear to her that the woman was in an advanced stage of labour. The registrar was called. It was evident that the staff involved in her care was unprepared for the rapidity with which her labour had progressed. There was considerable panic, evident in the rushing around and shouting which was taking place. The woman went on to deliver the first of the twins vaginally, but had a caesarean section for the second twin under general anaesthetic. There were concerns about the fetal heart rate, and it was in breech position. There had been no time to administer a spinal anaesthetic which would have meant that the woman could have remained awake during the caesarean section, or time to contact the on-call consultant.

It is the consultant's preference at Prospect that women presenting with twin births have an epidural for labour. This is because the risk of complications is increased in twin births. If problems do develop, it is considered that they can be

managed in a more effective, controlled and orderly manner if the woman has been given an epidural. As Steel explained to a group of junior doctors:

> *"When managing a twin birth, everything has to be perfect. When one thing goes wrong, other things usually follow. That's why it's important to plan ahead and get that epidural in if she will let us, because it helps make everything else run smoothly. It helps us to manage things better."*

The above example highlights the problems of the limited experience and knowledge of junior doctors and their ability to recognise this, as described by Fox (1957), and discussed in chapter 4. These factors have frequently been cited as a cause for concern in both the medical and lay press (for example Vincent 1999; Vincent and Walshe 2001) and the CESDI reports (2003) and CEMACH (2004; 2006). The findings of these studies have consistently indicated that there was a failure to involve more senior and experienced personnel in complex cases. Drawing on these findings Steel angrily commented:

> *"How many times does it have to be said? SHO's should not be making decisions about high risk cases. The registrar should always be contacted. The senior midwife in charge should ensure that this happens, and the consultant must be made aware of any problems as soon as they present. You don't know what's going to happen. That's why you must be prepared for any eventuality. This is not only for the woman's protection, but for your protection as well."*

Typically such cases reinforce what is expected of doctors and midwives, and emphasises the need to be in control, to expect the unexpected. It was evident that Steel, and less often Brown (because she was frequently away from the unit), did get involved in the clinical field with junior doctors, for example teaching them how to undertake ventouse and forcep deliveries and manage breech births. However, my observations showed that this was the exception rather than the rule. Whilst Steel put an emphasis on liaison with other consultants and senior colleagues, junior doctors spoke of the pressure to be seen to be capable of getting on with their work by their more senior colleagues. Whilst SHO's

generally informed the registrar on call of all women they had seen, referrals of all the women they reviewed could be interpreted as implying an inability to cope, as one SHO commented:

> *"Providing everything turns out well you get a pat on the back if you use your initiative and get on with something. But if it doesn't, and there isn't really any way of knowing how something will turn out until afterwards, you get it in the neck for not checking it out with someone more senior."*

The issue of when to refer, and requests for assistance or advice from their respective consultants also affected registrars. I observed one occasion when a junior registrar had requested assistance from the on-call consultant, prior to undertaking a caesarean section of a particularly obese woman. He was concerned about the risk of complications and of problems related to the woman's size. The consultant implied that the registrar should be able to manage the case with the SHO, concluding with, *"call me if a problem develops"* before leaving the unit. On the same topic, another registrar stated in an interview:

> *"I think they forget that this is, for some of us, our first post as a registrar. They expect that we should just be able to get on with it, and on the whole we do. But there are times when it would be good to have more clinical training and input from consultants on labour ward."*

Although my observations showed that junior doctors frequently experienced situations such as those I have described, many of them came through, fortunately, without any significant problems. Learning by doing was seen as part of the professional learning curve in medicine. The old adage of "*See one, do one, teach one*", as Sarah, a registrar, described, was a common method of teaching among some older consultants. It was something that junior doctors learned to accept, and, Sarah concluded that it was a "*part of training which no one enjoys*". However, such views were not publicly expressed. Indeed, one senior registrar, Joan, stated that to complain or vocalise opinions contrary to those of one's consultant could account for "*difficulties in career development*". Of course, as I have already indicated, consultants varied considerably at the

unit. In general, as Friedson (1970) notes, doctors during their clinical training, develop a basis in specialized medical knowledge, and an ethical commitment to the patient, but more importantly to the profession itself. This was an issue that Fox (1957;1959) failed to address in her research, but was a consistent finding in Bosk's (1979) research. Bosk found that senior doctors emphasised the importance of conformity and collegiality to junior doctors. For example junior doctors became aware of the importance in taking part in medical team sports and social events. This instilled in junior doctors the importance of team work. Failure to consider ones colleagues or to pass the 'buck' by failing to complete ones work load before the next shift came on, was often considered a much more serious error than those of a clinical nature concerning patients.

Midwives also felt that they were expected to get on with their work and to know beyond doubt what they were doing. They too experienced problems concerning their skills and knowledge base. For example, problems arose in relation to managing women who required more specialised care, such as women who had insulin dependent diabetes. Some midwives did not feel that they had the necessary skills to provide such care. Occasionally, some midwives found the process of estimating dilatation of the cervix problematic. For example, in one case, a junior midwife had, having examined a woman, estimated the cervix to be fully dilated. The woman had been experiencing urges to push, and was encouraged to do so. An hour later when the woman was reassessed by another midwife, the cervix was found to be eight centimetres dilated. The woman had a caesarean section a little later, because of problems associated with the position of the baby. The midwife involved in the labour expressed feelings of inadequacy, blaming herself for the outcome.

Many midwives spoke of feeling considerable pressure to conform to guidelines, as Joanne, one of the junior midwives outlined:

> *"There just isn't any room for individualised care. Everyone is so caught up in risk management. They are worried that something awful will happen if we let women dictate the pace at which their labour proceeds."*

Stella. one of the labour ward coordinators, expressed her irritation that guidelines were "*quite simply guidelines. They are not rules that have to be followed*". However, she was concerned that if midwives did deviate from guidelines, or if the woman refused intervention, then it often reflected badly on the midwife concerned when things did not go well. The midwife then becomes a "*scapegoat*", if problems subsequently develop. Thus, I agree with Fox who argued that it is difficult for clinicians to differentiate whether the uncertainty they encountered was "*their fault or the fault of the field*" (Fox 2000:410).

7.7 Uncertainties about women's responses to labour

For some pregnant women awareness of their own body can be in conflict with decisions made by doctors' and midwives'. Such conflicts can result from the clinician's tendency to rely on normal bodily parameters and objective scientific criteria, whilst ignoring the psycho-social context of problems. The voice of medicine is characterised by medical terminology, objective descriptions and classifications of physical symptoms within a reductionist biomedical model (Davis-Floyd 1992; Atkinson 1995). In contrast, the woman's voice is characterised by non-technical discourse about the subjective experience of pregnancy within the context of social relationships and her everyday world (Jordan 1983). Thus, at times, midwives' and doctors' can be perceived as uncaring and lacking in understanding of the woman's needs as the following case exemplifies.

Mrs. Tilly had been diagnosed with HELLP syndrome at 32 weeks of pregnancy. She was a large black woman of Caribbean origin, who had strong cultural beliefs in the natural healing powers of the body. This was her second pregnancy, having previously had a caesarean section of a baby at 27 weeks gestation because of life threatening pre-eclampsia. That baby died shortly after the delivery, and according to the agency midwife, Della, (who remembered her from the first pregnancy), Mrs. Tilly had suffered terrible misgivings and guilt about the birth. In this present pregnancy, after a range of blood tests undertaken at the hospital and a physical assessment which confirmed the diagnosis, Lilly, an obstetric registrar (having liaised with the consultant on call) was advising Mrs. Tilly that she needed to have an emergency caesarean section. This was

because her condition was such that doctors feared for her life again. Mrs. Tilly, however, did not accept their prediction of events because she did not feel at risk of the problems that had been described to her. She had routinely attended ante-natal clinic where her blood pressure had been found to be high, and she had protein in her urine specimen. She explained that she did not feel unwell She therefore declined the caesarean section, much to the dismay of Lilly, the registrar, who described her as:

> *"A nutter, an absolute nutter. What the hell has she come in for if she doesn't want to be treated?"*

This opinion of Mrs. Tilly was generally shared by the majority of those working on the unit that day. Lilly, was, though, particularly vexed by the situation, angrily stating:

> *"I just don't believe it. I simply don't have the time or the inclination to deal with this. What the hell can we do to make her see sense? She doesn't seem to understand that she could die. The baby could die"*

Thus, rather than sit, listen and identify Mrs Tilly's concerns, Lilly asked a hospital psychiatrist to come and review her state of mind. This was done in order to ascertain whether she could be coerced legally into having a caesarean section. The psychiatrist, having seen and assessed Mrs. Tilly, said that he could not find any grounds in which to pursue this course of action. Lily was incredulous about this assessment, arguing:

> "So *we just let this pregnancy carry on as if nothing is wrong, if she dies we just say, 'well that's what she wanted'?"*

Della, who perhaps had the closest relationship with Mrs. Tilly as a result of knowing her in the first pregnancy, attempted to diffuse the situation:

> *"I think she will come around to it, but in her own time. She needs to feel confident that it's the only way forward, and at the moment she doesn't*

feel that. She needs to feel sick enough to understand that there isn't any other choice. She doesn't want anything to go wrong. She just needs to feel sure that the time is right."

Lilly responded as follows:

"And maybe she won't have the opportunity to make that decision because events will overtake her when its too late and she's in intensive care, or dead"

The above extracts reflect a dilemma between a timely response to real risk and being patient-centred. It is clear that Lilly and Mrs. Tilly evaluated the risks differently. From Lilly's perspective, all necessary tests had been carried out which enabled her to confirm the diagnosis. Lilly was quite certain of an adverse outcome if appropriate treatment was not enacted. However, knowing this information, and relaying it to Mrs. Tilly did not allow Lilly to gain control of the situation, as she might have wished. Rather, it was Mrs. Tilly's non-compliant behaviour which had created the uncertainty in the decision-making process. The question of how Mrs. Tilly would respond to her disease, and how long the medication would keep the problems at bay, were difficult to determine. Furthermore, there was also uncertainty in the role that health-care professionals would be allowed to take, particularly if Mrs. Tilly continued to decline treatment whilst her condition deteriorated. It is apparent that whilst Lilly had followed medical procedures, Mrs. Tilly's perspective of her own situation was not taken into account. As Della, the agency midwife, had pointed out, Mrs. Tilly had her own problems to deal with. The degree of uncertainty facing Mrs. Tilly was considerable. These were connected with the outcome of the pregnancy, and rationalising decision-making between the doctor's assessment of her disease and her own rather more subjective perspective based upon how she actually felt. Based upon the fact that she felt tired but otherwise well, Mrs. Tilly opted to come into the hospital on a daily basis for blood tests and CTG monitoring. She did not want to stay in hospital, because it brought back bad memories for her.

As Light (1979) has pointed out, uncertainty is not just inherent in the three medical types of uncertainty identified by Fox (1957). Light (1979) stresses that uncertainty is also associated with not knowing the course of disease or how the patient will respond to the process of diagnosis and treatment. Although patients who reject medical authority are labelled as non-compliant, it nonetheless provokes feelings of vulnerability and anxiety among the clinicians because they feel that their ability to be an effective healer is diminished. Thus, in this case, the registrar, whose primary focus is determining treatment following diagnosis, is thrown into disarray. Medical routines are temporarily broken down because there is a sense of a loss of control. This results in the doctor exploring other avenues, such as psychiatric referral, to attempt to regain control of the situation.

Staff found being unable to force Mrs. Tilly to have a caesarean section through legal means hard to accept. Steel, although not directly involved in the case at that time, emphasised later in a meeting the importance of supporting women and respecting their decisions, stating that:

> *"Once you have explained all the risks in no uncertain terms to the woman, then there is little else that you can do, other than sit and wait and support them. There is no sense in alienating them. Once they have had time to think about things and they feel that there isn't any other option, they usually change their mind."*

Five days after her initial admission and assessment, Mrs. Tilly began to feel very unwell, and it was at this point, as both Della and Steele predicted, that she agreed to have a caesarean section. Mrs. Tilly now felt certain that it was the right course of action for her.

7.8 Unexpected outcomes

Christakis (2000) has observed that a doctor's original diagnosis is subject to change as new information comes to light. Frequently, however, this often comes about through chance events as the following example illustrates.

Mrs. Tuffnell was 37 weeks pregnant when she was admitted to the labour ward with spontaneous rupture of membranes. She was not in labour. This was her second pregnancy, with her first child being born through recourse to an emergency caesarean section for an unsuccessful vaginal instrumental delivery. Following the birth, she had been advised by her consultant, as a result of a pelvimetry (x-ray of the pelvis), not to attempt a vaginal birth in any future pregnancies because of pelvic disproportion. As a result of this assessment, a caesarean section was booked for her 38th week of pregnancy.

Within a half hour of her admission, Mrs. Tuffnell had been reviewed by the on-call registrar, Frieda. As she was not in labour, she was put at the end of the planned theatre list for that day. Shortly after the registrars review, Mrs. Tuffnell began to have contractions. Within another half hour, she was screaming hysterically because of the intensity and frequency of contractions. She sensed that her labour was progressing rapidly, and she was very frightened. The registrar was called back to review her, and Mrs. Tuffnell was quickly rushed to theatre. However, by the time everyone was assembled, the baby was born vaginally in theatre, without any physical harm to either mother or baby. During the time leading up to the transfer to theatre the anxiety of both the registrar and the midwife was readily apparent. Communication with Mrs. Tuffnell was very difficult, impossible even, due to her highly emotional state. The registrar and midwife both commented later that they were worried that something terrible was going to happen, the registrar explaining that she felt:

"Shaken by the whole thing, everything just happened so quickly."

Despite the fortuitous outcome in this example, the experience served as a reminder of the safety in routines and the value of being in control, because as Frieda went on to say:

"God we were lucky that everything turned out okay."

Events such as the one above support Adamson's (1997) claim that many medical encounters fall far short of the ideal where doctors can be sure of the

diagnosis and outcome. In this example, Mrs. Tuffnell had been told that she could not have a vaginal birth, and that to do so could be dangerous to herself and her unborn baby. Although a plan had been made for a caesarean section, Mrs. Tuffnell had gone into labour and progressed very quickly to full dilatation. She had a vaginal delivery that she had been led to believe was not possible. Thus, this clearly puts into doubt the apparent certainty with which some diseases or problems are diagnosed. It was a chance event that called into question the original diagnosis and the certainty with which it had been made. The aftermath of these events leads to some inner soul searching as Stella, the labour ward coordinator describes:

> "*The way we do things now has changed a lot. And, I think, because we are worried about litigation, we are inclined to stick more rigidly to policies and protocols. More caesarean sections are performed because of this, compared to when I started training, when we were a little more relaxed and used our clinical experience rather than hard and fast rules to guide us. Things happen which are beyond our control. They always have done, and always will do.*"

Ultimately, total control over childbirth as this midwife's comments reflect is beyond the capability of biomedicine. The comments made by the practitioners involved in the case illustrate that much of obstetric decision-making rests on imperfect science. As Paget (1988) notes, clinicians will continue to make decisions without complete certainty.

7.9 Conflicts in management

I have noted in chapter one that there is a general lack of consensus in the management of many aspects of pregnancy and childbirth among health-care professionals, and this was clearly an issue at Prospect. Differences regarding management and mode of delivery were very apparent in both multidisciplinary meetings and the clinical work area. An exemplar of this is a case which involved a woman in her second pregnancy who was a carrier of haemophilia factor V111. It was known that she was pregnant with a male fetus, and wanted to have a vaginal birth. In these cases, there are differing views as to whether a

woman carrying a male fetus should have a caesarean section. The argument in favour of a caesarean section is that it lessens the risk of haemorrhage in the baby, when compared to a vaginal delivery which has the potential to result in a difficult and traumatic delivery, possibly necessitating operative assistance. The woman's case was put forward for discussion by Steel in a clinical meeting. Steel had outlined that she and the haematologist had found no conclusive evidence to support a caesarean birth on the grounds that it would minimise the risk of bruising and subsequent bleeding in the baby. Steel argued that there was no:

> *"Categorical right answer as to the best method of delivery because even a caesarean section exposes the baby to the risk of a cut from the scalpel blade, and does not cut out the risk for the application of forceps to the fetal head."*

Given this lack of clear evidence, it was decided that a vaginal delivery should be attempted, but under close supervision. Regular scans were used to give a guide to the overall growth pattern of the fetus and to gauge the fetal weight near the anticipated delivery date. Thus, if the fetus was too big, they would decide not to undergo a vaginal delivery. Steel also ensured that midwives knew to call her when the woman was admitted onto the labour ward. When the woman was admitted, Steel attended for the labour and delivery. In presenting the case which had a successful vaginal birth outcome, Steel admitted that:

> *"All sorts of scenarios were going through my head because there were a few times when things weren't going quite as they should. I don't mind telling you that it was a very anxious time for us all, but she did it in the end."*

Several of the other consultants in the meeting clearly disagreed with this approach as illustrated by Reid's comments:

> *"I wouldn't have taken the risk. What would have happened if there had been shoulder dystocia, or a difficult delivery that necessitated the use of forceps?"*

And on the same theme, Baker replied that:

> *"Nonetheless, without conclusive evidence to support a vaginal delivery then I am not sure that this was a wise choice. Had we have ended up with a baby that had suffered severe haemorrhage as a result then I hate to think where that would have left us legally."*

Changing Childbirth (DOH 1993), The Department of Health Initiative "The Expert Patient" (DOH 2001) and the National Service Frameworks for the Maternity Services (DOH 2004) recommends that the patient, is expected to take joint responsibility for decision-making with their named health professional. As Badcott (2005:173) observes "The overall objective of the initiative is to encourage patients, particularly those suffering from chronic conditions to become more actively involved in decisions concerning their treatment. In doing so there would be (perhaps) an expectation of better patient compliance and (arguably) a resultant improvement in quality of life" However, as Badcott stresses that the potential for success of the Expert Patient venture is dependent on:(a) whether and to what extent a patient can be considered truly to be an expert and (b) full acceptance by the medical and heath care professions of allowing patients a more equitable and positive role. He highlights that whilst the patient is an expert in their individual experience of illness, there is a risk of confusing experience with expertise. Furthermore, Badcott argues that the vast majority of patients do not possess the physiological and pharmacological knowledge to fully appreciate the biological nature of their illness nor the basis, risks or limitations of therapeutic measures. This can result in conflict between the doctor and patient. However, Badcott concludes that the expert patient initiative could have benefits for both patients and health professionals if operated on the basis of an informed collaborative alliance that optimises the potential benefits of medical care. Clearly, in the present study, Steels approach to care and decision-making indicates that there are benefits to the inclusion of the patient in the decision-making process. In sharing the uncertainties with the woman, Steel identified that the woman's needs were a fundamental aspect to the decision-making process, stating:

"Well, we are all different. Life would be very dull if we weren't. But you have to work with the mums and their needs, and I think that as long as you have explained all the risks, and have an alternative birth plan to hand, then you can proceed with caution. Personally I give mum 10 out of 10 for sticking to her gut instincts."

Steel's methods reflect a departure from the traditional passive patient role that I have discussed briefly in chapter 4. As Davis-Floyd (1992) has noted, technology is frequently used as a form of psychological reassurance. It provided the necessary backdrop to Steel's decision-making rationale, as did the relevant support from the haematologist. Unlike her other colleagues, Steel did not view uncertainty as a symptom of failure, but rather as Bursztajn (1990) has observed, as a pervasive feature of medical decision-making.

Considerable conflict between Brown and her male colleagues was also evident at such meetings. She had been in the profession for considerably more time than Steel and the relationship between herself and her male colleagues had been strained during most of this time because of her toleration of higher levels of uncertainty, or, as perhaps some of her colleagues may have viewed it, her propensity towards risk-taking. Registrars were frequently caught in the cross fire between Brown and the other consultants. If Brown was away from the unit (which she frequently was) care plans which had been devised with woman under her care were often disregarded by the on-call consultant. It would be left to Brown's registrar to inform Brown of the change of management at a later date, which was not a relished task.

Vaginal breech deliveries were a contentious and complex issue in the obstetric, midwifery and paediatric arenas at Prospect because of the disparity between consultant views. During the period of my field observation phase the publication of a research study, which I have referred *et al* to in chapter 4, advocated caesarean sections for breech presentations (Hannah et al. 2000). This study gave weight to those consultants who had always argued against vaginal breech birth. Thus, the publication of the Hannah study provoked further contention among

those consultants' who argued that women should be supported in their desire to attempt a vaginal breech birth, and accentuated a long-standing dispute as Baker exemplifies:

> *"At last some decent research to back up what many of us have been saying and doing for a long time. Surely now the only way forward is to implement a policy that will not support vaginal births for this group of women."*

"Decent" was not a word that fell unnoticed by Brown, who stated that there were many flaws in the study. She argued that the study failed to take account of the way breech births were managed or of the level of experience of clinicians involved in the birth:

> *"In fact, it is often the doctor or midwife interfering that causes unnecessary problems, by being too impatient, and not knowing what they are doing. If we take away the choice for women, then we are doing them a great disservice, and subjecting far too many women to unnecessary caesarean sections. Furthermore, there will be far fewer occasions for a clinician to learn how to manage breeches properly, so that when they are faced with an emergency, like an undiagnosed breech delivering at home, they won't know what to do."*

Brown's sentiments have been echoed in other commentaries about the efficacy of the study, and have been discussed in chapter 3.

The current emphasis on patient centred care, the ongoing changes in the NHS, and issues around possible litigation contributed to a sense of unease at Prospect. Junior doctors spoke of a lack of support in their hospital training, some of whom opted for general practice, rather than obstetrics, as a career choice. However, they did not complain openly about these aspects of training for fear of it having repercussions on their future career prospects. Rather, they spoke of such concerns among themselves. Midwives too, particularly those who had been in

the profession a long time, spoke of looking forward to retirement or of leaving midwifery altogether because, as Josh, a senior midwife explained:

> *"Everyone expects to have the perfect healthy baby now because of all the technology that's around and we act as if we can guarantee that to women. But the reality is we can't, so that when a baby dies, and I know it's devastating when it happens, there is such a public outcry about it. But people have to accept that not every baby is going to be perfect, and that some babies will die, which is absolutely beyond our control"*

Thus, workplace conflict, changing research evidence, litigation issues, the requirement to provide care which is appropriate for the woman, but in line with Trust wide and unit perspectives, contribute to the low morale felt among midwives and doctors.

7.10 Conclusion

In this chapter I have described the work of obstetricians, junior doctors and midwives, and the professional interactions and the spatial context within which the uncertainty of a woman's birth outcome is managed. Four key theoretical issues of uncertainty were identified. The first relates to the clinical uncertainty around the intrinsic complexity of childbirth and the knowledge base, expertise and experience of clinicians involved in this process. The second type of uncertainty identified relates to the organisational and inter-organisational culture of the unit. The third type of uncertainty relates to the clinicians responses to uncertainty. The fourth type of uncertainty relates to the translation of uncertainty into risk by health professionals. These findings and their significance to the research study will be discussed in greater depth in chapter nine. The next ethnographically focussed chapter is concerned with the attitudes of doctors' and midwives' towards caesarean sections, with particular reference to coping with the uncertainties involved in childbirth.

CHAPTER EIGHT

CLINICIANS ATTITUDES AND COPING MECHANISMS TO UNCERTAINTY

8.0 Introduction

In the previous chapter I have shown how individual consultant value orientations juxtapose rational scientific forms of knowledge. That is, their knowledge is based as much on their clinical experience and intuitive knowledge, which has been accumulated over many years, of what they believe works best for the woman under their care, as it is upon research and guidelines which are regularly updated. In general the previous chapter indicated that there is a considerable heterogeneity of views about the over-riding importance of research compared to clinical experience. Nonetheless, from the obstetric consultant's perspective, the combination of these different forms of knowledge works to reduce uncertainty in clinical practice. Furthermore, through ethnographic representation, I have also shown how the social context and characteristics of technologies suffuse this process. In contrast, the types of medical uncertainty that Fox (1957) described, for example the indeterminacies of medical knowledge, are apparent amongst junior medical clinicians and midwives. This chapter clearly illustrates through direct observation of clinical meetings and informal junior medical gatherings, as well as information gained through interviews, how midwives and junior doctors manage some of the problems and stressors that they encounter, and the primary means that they employ to deal with the uncertainties of their day-to-day world.

8.1 Reflections on obstetric management

As I highlighted in chapter 5, the caesarean section rate at Prospect during the period of the study was 18%. Although this rate was lower than that found at many other maternity units nationally, Prospect had witnessed a steady increase in the numbers of caesarean sections being undertaken each year. In some of the cases where labour had not proceeded as planned at Prospect, or a particular interesting and unusual case had occurred, clinicians came together to discuss how the care was managed at case conference meetings. During these

predominantly biomedical meetings among clinicians, different sets of assumptions and approaches to cases become apparent. As Bosk (1979) observed, case conferences allow for a more or less full and open disclosure of events and of the decision-making processes from which any errors of judgement are acknowledged. The case becomes an exemplar of good or poor clinical practice from which all can learn.

These meetings had multidisciplinary membership, including anaesthetic consultants, senior and junior registrars, and the senior house officers of these disciplines, medical students, midwifery managers, midwives and midwifery students (although the latter two groups rarely attended in any significant numbers). The main reason for the low turnout of midwives at these meetings was an inability to leave the ward area due to poor staffing levels. However, some midwives' who did attend felt the meetings were dominated by medical perspectives, as Gillian, a G grade midwife explained:

> "*Their accounts exclude the midwife, it's like we just don't feature at all.*"

Gillian's comment reflects a long-standing concern among midwives about the dominance of obstetrics in maternity care, which I have briefly referred to in the literature review chapters of this thesis. Furthermore, her comments are echoed by the findings of the Health Care Commission report on the 10 maternal deaths at Northwick Park NHS Trust (Commission for Health Care Audit and Inspection 2006). One of the findings highlighted in the report attributed poor working relationships between medical staff, senior managers and midwives as contributory factors to the deaths of the women.

8.1.1 Story telling -The maternal and perinatal morbidity meetings

The maternal and perinatal morbidity meetings served the purpose of opening up for discussion particularly difficult or complex cases where the diagnosis, treatment and outcome for the mother or baby, or both, are of clinical interest. The meetings provide one of the primary means for coming to terms with problematic cases. For junior doctors, in particular, they were an opportunity, as

Bosk (1979) has pointed out, *"to be mindful of the consequences of their actions,"* but their senior colleagues "*do not want them to be overly scrupulous, they do not want excessive thought - an over estimation of risk - to inhibit clinical action." (Bosk 1979:143)*

These meetings occur on Thursday lunch times on the top floor of the hospital at 1300 hrs. Those who attended the meeting would bring in their own lunches. The room in which the meeting was held was in a relatively unused part of the hospital, which aided the necessary confidentiality of the meetings. The room was dark and windowless, being between two parallel corridors. At the front of the room were a blackboard, a projector screen, a table and a podium stand. The chairs were assembled facing the front. The size of the room was too small and the chairs too few, for the numbers of people who attended. Many sat on the floor, or collected around at the open door because there was no further space available for them to move closer into the room. Unless something particularly urgent was happening on the wards, for example an emergency on the unit, all clinical work for doctors' was temporarily suspended. However, midwifery activities would continue, so their attendance would be irregular – a reflection of prioritisation of medical perspectives. These were the only occasions in which the different professional disciplines came together.

During my period of fieldwork, I observed that there was a similar format to each meeting. Usually, three cases were presented in the hour given over to the meeting. Because of time constraints, cases were often neatly packaged with the problems clearly identified in a systematic way and presented within a clearly delineated time frame. These case narratives excluded both the midwife and the patient perspectives. Case review meetings, and the way they were organised and structured, serve to reinforce observations, such as those made by Katz (1984), discussed in chapter 4, which *"foster beliefs in the superior effectiveness of treatments prescribed by ones own speciality*" (Katz 1984:188). However, as Vincent (1999) notes, the obstetric case conference is a pragmatic process as there is only time to identify the main deficiencies of each case, rather than get to the deeper causes of other more latent errors which may have contributed to the overall outcome of the case. As discussed in chapter 4, Paget (1988) observes

that the quantification and categorisation of events leading up to the final outcome fails to capture multiple realities about what actually happened. With this in mind, I had been fortunate to have been present at some of the birth events which were discussed at the meetings, and was able to compare my interpretations of these events with their subsequent reconstruction.

The presentations were usually undertaken by a senior house officer or a registrar who had participated in the intrapartum care. I found, as did Atkinson (1995), that the examination of data was done through the process of story telling. The story was presented as if it was a guided mystery tour revealing how events came to unfold and were subsequently managed. In progressing through the case, the presenter would use a piece of paper to cover those sections of the case yet to be revealed in the course of the presentation. This process of 'story telling' was aided by the use of an overhead projector with the medical notes close at hand for referring to if it became necessary to check on any detail. For the most part, doctors prepared meticulously for the presentations in order to give the impression of being competent and knowledgeable about the case.

Case review meetings also served the purpose of making decision-making more explicit. As discussed in chapter 3, this process is in line with the increased emphasis on practicing evidence-based medicine. Nonetheless, idiosyncratic practices of consultants' whose approaches to obstetric management ran counter to NHS guidelines, remained apparent in these case reviews. Even though the results of various tests could be deemed within or out of normal limits, for example blood results, ultrasound reports or fetal heart traces, the criteria determining which action is taken, differed from consultant to consultant as the case reviews indicate. For example, as I have illustrated in chapter 7, Baker relied on his own clinical experience and judgement to supplement decision-making in uncertainty, rather than feeling the need to justify his decision-making processes by quoting research. Nonetheless the shift towards evidence-based medicine has considerable implications for clinical practice for the likes of Baker and others at Prospect, leading to an atmosphere of tension and conflict. Fox (2000) has argued that the move towards a more collective aggregate-based, orientated perspective contributes to the fragmenting and shifting away of

clinical expertise from the "*individually focussed physician-patient dyad of clinical practice*" (Fox 2000;417). Furthermore, other critics argue that evidence-based medicine is being given more credence over clinical expertise and experience in favour of following rules of relevant rigorously controlled trials in the quest for a particular kind of certainty (Hurwitz 1997).

However, although research evidence was discussed and used to supplement some decisions that were made at these meetings, ultimately the way a case was managed was still down to the individual consultant's clinical expertise and preferences. For Brown and Steel the shift towards evidence-based medicine was an exciting opportunity to use the new National Institute of Clinical Evidence frameworks discussed in chapter 3. Both doctors argued that this was a positive step towards formalising practice and decision-making in maternity care.

Like Atkinson, I came to see many cases as "*morality tales, mysteries and cliff-hangers*" (Atkinson 1995:4). Presenters who dwelled too long on any one aspect would be encouraged to "get on with it" amid some laughter from the audience. However, if not well-informed about specific measurements, for example blood tests ranges for pregnant women and their bearing on the case, the doctor would be subject to a series of leading questions designed to make him/her think about what the possible answers might be. If the presenter did not respond appropriately, the question would then be offered out to the audience and another doctor, keen to make a good impression, would usually provide the correct answer.

Despite the heterogeneity of consultant approaches, the meetings were generally conducted in a non-blameworthy manner, so as to encourage honesty about disclosure of how cases were actually managed. For doctors working through a case which they were about to present, preparation allowed them to reflect over the decisions which they made (usually in consultation with the consultant) and to think about the problems associated with the case. As I noted in chapter four, Atkinson (1995) has observed that medical data is not so much uncovered, but reconstructed in the transformation process which makes a patients problem 'solvable'. Thus, clinicians learn from these meetings that any medical action

undertaken is done without complete certainty of process or outcome regardless of the application of evidence-based medicine.

Although the consultant is often invisible in specific cases, each case presented had his/her 'mark' on it. A particularly telling example is how breech births were managed, as discussed in the last chapter. SHO's and registrars were usually well supported by the consultant who was in overall charge of the case, providing that the doctor had followed unit protocol or the respective consultant's preferences. The importance of this support was evident on many occasions. For example in one case a registrar was summing up his case presentation about a baby who was delivered by caesarean section, and, who at birth, unexpectedly, was "*pretty much a moribund baby*". Following his presentation, he was subjected to some close interrogation about the case concerning issues which needed clarification. I was aware from my observations in the field of the particulars of this case. The woman had presented her self to the ante-natal day assessment unit worried because her baby had not moved very much over the past few days. The midwife had undertaken a CTG and subsequently referred the woman to the on-call registrar because of concerns about the CTG fetal heart rate. The registrar undertook a scan, which indicated substantially reduced fetal movements and a reduced flow of blood through the placenta to the baby. A caesarean section was booked for that afternoon after the elective caesarean section list had finished. However, by the time the caesarean took place and the baby was delivered it required extensive resuscitative measures and transfer to the NICU. The baby died later that day.

Clearly at the time the case conference had taken place there was only limited information available about the baby's physiological profile, and thus there may have been other factors such as a major heart defect. If this was the case then this would have been a major contributor to the baby's death. Nonetheless it was apparent in both the presentation of the case and in other occasions as discussed further below, that there was some concern as to whether an earlier caesarean section may have averted the outcome. The sombre tone in which the registrar presented the case suggested that he was still coming to terms with what had happened. Scott, the consultant, reassured the registrar publicly in the meeting

that no one else would have acted differently, and reminded him, and the others in the room, that the unit was extremely busy that day. The other cases presenting were deemed more pressing:

> *"This is of course a sad case, and one that with the benefit of hindsight and better communication, things might have been very different. But on the day in question, the unit was hopelessly busy, and an incident such as this, was waiting to happen. It could have been any one of us".*

The day after this incident I saw the registrar talking with consultant Scott, about the case, in a quiet place away from the main ward area. It was apparent that the registrar was disturbed by what had taken place, because further discussion about the case also took place in the CTG meetings which I discuss later in this chapter. Thus, cases such as this provide evidence of doctor's ability to reflect on their practice. The presentation of the organisational and emotional context of cases, as conveyed in the above case, was relatively infrequent at such meetings, and the presentation of the case was quickly ended.

It has been argued that becoming emotionally involved with a patient's disease and outcome hinders the doctor's ability to be objective and decisive (Katz 1984; Konner 1987). The deliberate repression of emotion among the medical profession has been found in other ethnographies, for example Bosk (1979), Sinclair (1997) and West (2001). In his study of how medical students became doctors, Sinclair (1997) found that emotional detachment from patients was an essential component to this process. However, he did find that displays of emotion from female medical students were more likely to be tolerated by senior doctors and consultants. From his research and other research studies, Sinclair attributed this to the fact that men were taken more seriously than women within the profession, and that the profession has been subject to problems associated with discrimination against women. However, as I have highlighted in chapter four, West (2001) observed that medical training has long neglected the emotional and inter-relational dimensions of medicine, regardless of gender. West has argued that emotional factors play an important part in forming successful human relationships but he argues, based upon his findings, that this

carries the risk of 'burnout' if prolonged or intense. However, other research has shown that burn out is much more likely to occur as a result of alienation rather than engagement (Sandall 1998b).

The unpredictability and deep meaning of childbirth creates high levels of emotion work for clinicians (Davis-Floyd 1992; Kirkham 1999). To prevent this, clinicians needed to adopt strategies to protect themselves. Thus exerting patterns of control and instigating routines within a potentially chaotic environment is one mechanism whereby individuals are enabled to cope with the anxiety their work causes them and to some extent this offers them emotional protection (Menzies 1970). My field observations indicate that maintaining control did appear to help manage professional emotions, and that this was as true for midwives' and doctors'. As Kirkham (1999), Kirkham and Stapleton (2000) and Sandall (1998) observe, personality and the extent to which someone has a sense of control over a situation have been shown to affect levels of perceived stress. However, as I will show later in this chapter, midwives do not have the same channels for coping with the emotional and chaotic aspects of their work in the way that doctors have.

Steel clearly felt that emotional displays were not out of place in these meetings, empathising with the registrar about the terrible loss for the mother and the impact on him as a doctor. Indeed, this sort of behaviour was not unusual for Steel who, herself, frequently displayed concern for patients and junior doctors. For example, another case that was discussed in these meetings concerned a young woman who was 28 weeks pregnant and very ill with cystic fibrosis. As Steel clarified, many women with cystic fibrosis have significantly reduced fertility levels, so, for this particular woman, getting pregnant fulfilled a desire the woman never thought possible. Thus for the woman maintaining the pregnancy became her major focus, even though she was aware that her current poor health would become much worse by putting her own life in jeopardy.

Steel outlined that the woman was aware of all the risks to herself, and that the woman had spent most of her pregnancy to date in hospital. Her care was being managed jointly at Prospect and in a specialist unit at another hospital. Steel gave

regular updates about the woman's deteriorating health and poor prognosis, reporting that:

> *"She is indeed a very brave young lady who is well aware that continuing with the pregnancy beyond this stage is to the detriment of her own health."*

However, despite Steel's attempts to include the wider context of patients' lives, the case meetings mostly focussed on technical and clinical matters. Thus, Steel's approach to patient care and outcomes was obviously different to those of her male colleagues. One possible reason for this may have been because, as I discussed in chapter 6, of gender differences. Cassell (1998) argued that although women doctors have been socialised into the same environment as their male colleagues, women, as doctors, are largely seen as out of place in positions of power. However, some of the differences may also be attributed to the fact that Steel had been more recently trained than her medical colleagues. As Sinclair (1997) observed in his study of medical training during the 1990's traditional didactic methods were gradually being replaced by more reflexive methods of learning. Steel was more willing to acknowledge uncertainty in patient care and outcomes, balancing patient needs with experiential clinical knowledge and clinical evidence where available. In contrast, her colleague's emphasised the objective and rational approaches to medical work, relying heavily on normal and abnormal bodily parameters. Thus, not surprisingly, given the emphasis on biomedical rational approaches to patient care in meetings such as these, junior doctors were likely to adopt this approach to decision-making. The meetings also serve to, as Bosk (1979) noted, communicate that no one is perfect, teaching junior doctors to accept that such incidents are an "*inevitable, unfortunate and intractable fact of professional life.*" (Bosk 1979:144).

8.1.2 The mortality meetings

The monthly mortality meetings occurred in the afternoon of the last Friday of each month, away from the main hospital in the postgraduate centre. This location was set in an old Victorian terraced four storey building. It was a much more pleasant venue than where the morbidity meetings were held. The room

where the meeting was held was on the second floor, reached by a narrow staircase. The decoration in the room was in a good state of repair, and there was coffee and biscuits to one side for all those who attended the meeting. Those who attended the regular weekly morbidity meetings were most likely to attend the mortality meeting. There were some significant differences between it and the morbidity meetings. Firstly, these meetings were more formal and lasted longer (on average two hours), thereby giving more time in order to attempt to address the deeper issues arising from the cases presented.

These meetings were entirely led and managed by consultant Steel, thus the importance and solemnity attached to them could not be underestimated. The attending clinicians of each case reviewed were not called to account for their actions. Rather their actions were scrutinised as part of an anonymous review process by the audience. Nonetheless, many in the room were aware of who was involved in many of the cases. This process differs significantly to that of morbidity meetings, and from the sociologist Bosk's (1979) account of mortality meetings, because the doctors and midwives directly involved in a case do not have an active voice in this review process. These cases were also likely to be reviewed, in an anonymous process, by others, such as the risk management team of the Trust, and a panel that, at that time, represented the Confidential Enquiries into Still-births and Deaths in Infancy (CESDI).

In these meetings, as in morbidity meetings, Steel put forward all the factual details, including a clear and comprehensive chronology of events and all the relevant professional (but nameless) people involved, and to present the key clinical acts that had taken place. Cases were covered in more detail than at morbidity meetings, each step along the way the same question was being asked:

"*Could we have done this better?*"

These mortality meetings remind doctors of the catastrophic outcomes that can and do occur, despite their best intentions. As Rosenthal (1999) and Fox (1957) among others have pointed out, it is not difficult to understand why, in both types

of meetings, that doctors support each other because they all share the experience of:

> *"being surrounded by uncertainty every day and see themselves as vulnerable to accidents."(Rosenthal 1999:222)*

The meetings particularly focussed on ascertaining whether the risks before, during and after the birth had been identified at that time. Moreover, they were a way in which to look at understanding the many competing factors imposing on clinical decision-making. I overheard one junior doctor say to her colleague during one meeting:

> *"I can't imagine what it must be like for a woman to carry a baby around for so long and then, suddenly, to have nothing."*

This quotation again illustrates my earlier assertions as to why doctors need to control the birth process in the belief that they can prevent similar sad occurrences from happening again.

By repeated attendances at these meetings I noticed that there were common themes running through the different cases reviewed. These revolved around issues concerning unfamiliarity with protocols and procedures and the overall inexperience of both midwives and doctors. Thus, akin to Fox's (1957) findings that I discussed in chapter 4, these cases provided examples of professional uncertainties such as the difficulty of distinguishing between personal ignorance and ineptitude on the one hand, and the lacunae and incapacities of the field on the other. Ultimately, these case conferences affirmed the importance of adhering to established protocols which provided a way of dealing with uncertainty, until such time as doctors and midwives were sufficiently experienced to do otherwise.

The meeting also provided a backdrop to understanding why current policies have been enacted. Frequently, new policies were enacted as a result of adverse events that have occurred. For example, all CTG traces had to be signed by two

midwives, whereas previously it was considered enough for one midwife to determine whether a CTG was within acceptable limits or not. This change came about as a result of a risk management review of adverse events where the fetal outcome was poor, and could have been, it was presumed, prevented if the irregularities in the CTG had been identified and therefore acted on. Having two midwives, one of whom had to be a senior midwife, was intended to minimise the risk for the mother and her unborn baby. Of course it also shared the responsibility of decision-making between the midwives. But, importantly, it was perceived that policies such as this also reduced the risk of litigation against the Trust illustrated by consultant Baker quoted below:

> *"I think that when something like a death, or a badly brain damaged baby is born you do feel for the mother. You put it down to experience because you have to go on, but you don't forget it. It will be the mother that bears the heartache afterwards. What can you say? That's why I think we should err on the side of caution in situations where we feel unsure. It's better to look back and say well maybe that caesarean wasn't so necessary, but how could we know for sure at the time?"*

However, as Kirkham (1998) has observed, many such unit policies are not grounded in research evidence. Thus, both the morbidity and mortality meetings reinforce the encultured biomedical model, which serves to provide the attendees with a logical and rational way of understanding events so that they learn not to repeat their 'mistakes' again.

8.1.3 The Friday Breakfast Meetings

The Friday breakfast meetings differed from the others which I have described in a number of respects. Firstly, they were set up specifically to meet the needs of registrars', SHO's, and midwives', and were led by Steel. As in the morbidity and mortality meetings midwives rarely attended, even though the meetings were held in the parent-craft room on one of the maternity wards so as to facilitate access for all clinicians. Teaching on-site, rather than off-site, was a much easier option because junior doctors could slip from service commitments to teaching and back to service commitments without too much disruption to the working

day. This meeting was very much intended to be an informal gathering. Junior doctors were encouraged to bring together recently encountered fetal heart tracings (CTG's) which might be of interest to other members of the group. However, the intended focus of these meetings "the CTG" was in practice often not the main focus, and the scheduled start time of 0800hrs always ran late. The following extract from my field notes relates a typical start to one of the meetings:

> *Steel arrived and was 15 minutes late. She greeted the junior doctors assembled in the room. Steel glanced around the room in irritation because the chairs had not been sorted out. She was carrying in one hand her bulging briefcase, and, in the other, some bread rolls, doughnuts and butter to make this into the breakfast meeting it was purported to be. One of the junior doctors placed a coffee table in the centre of the room onto which Steel placed the breakfast, whilst another was asking her what she would like to drink. A couple of the female doctors started to quickly reorganise the chairs to form the circle Steel liked it to be in, pushing those chairs that weren't being used to the back of the room. It became clear to me that no-one had prepared a case for discussion that morning because the overhead projector was being discretely pushed to the back of the room as well. I knew too that Steel would comment on this later, as she always did if they had failed to get this aspect of the meeting organised when asked to do so. And so the meeting began when everyone had settled down in much the same way as it always did – 'right lets start off with one good thing and one bad thing about your week, Frieda you first'. The doctors no longer new to this game seemed to be able to recount an account of both without too much pre-thought.*

As identified in the extract above Steel opened the meetings by asking the junior doctors in turn to name one good thing and one bad thing about their week. Steel would then pick up one of these issues, which would form the topic for the remainder of the meeting. For example, a 'bad' aspect highlighted by a junior doctor related to being uncertain about having the necessary skill and experience

in being able to manage a vaginal breech. Other topics discussed were issues of consent, legal accountability, and the unpredictability of a high work-load.

Steel's approach to these sessions was very different to that observed in other medical meetings. Most apparent was the informality among the group, and the absence of other consultants and medical specialities. The informality of the meeting was further marked by Steel's revelations about her husband and children, and of the *"hellish morning negotiating traffic"* on her way into work. Discussing her family in a humorous fashion clearly made her more approachable as a senior figure to the junior doctors, as one SHO, Frieda, explained:

> *"I like her, she's really easy going and approachable. She is supportive and we learn a lot from her"*

Steel expected junior doctors to take some initiative to direct these meetings around issues that were important to them. When doctors had gone to the trouble of putting together a presentation about a case which included reviewing CTG's, Steel was very pleased. Steel would shower them with praise when they had finished, and a hearty discussion about the case would begin. Conversely, she would display irritation if no one had prepared anything for discussion:

> *"It really is breaking a leg to get here for this on Friday mornings and for what, I wonder sometimes, when you can't be bothered to put your heads together and find something of interest that we can all sit down and discuss."*

Despite her initial annoyance at the group when nothing had been organised, Steel would turn the meeting around to focussing on the types of problems individuals had encountered over that week. As the following female registrar pointed out, it was for many junior doctors the one time during their week:

> *"That someone takes any real notice of what it's like being out there, and of how we feel."*

Steel managed this successfully, demonstrating by her mannerisms and words that their display of emotions, fears and concerns about their own uncertainties related to competency were a normal part of the training process. These findings are by-products of the experience of medical uncertainty, and are similar to those found by Fox (1957), Bosk (1979) and more recently by West (2001). For example, West (2001) has argued that supportive groups help doctors manage their anxieties and uncertainties constructively, which if left unchecked are a considerable source of strain, impacting on the type of future decisions they make.

Making mistakes, or errors of judgement, and the experience of uncertainty were an inevitable part of the learning process. The important lesson was to recognise their limitations when in the field. Steel therefore stressed that they use clinical guidelines and protocols to guide them in the process of decision-making to help deal with the clinical uncertainties they encountered. Thus, lack of experience, combined with the unpredictability of birth in general created significant stressors for junior doctors. This often meant that when they felt they were losing, or had lost control in the way a labour was being managed they generally looked at how they could regain control. Maintaining control was fundamental to managing uncertainty. For example, one registrar described having to rush a woman to theatre for a caesarean section for her second twin because the baby had turned to lie in a transverse position after he had ruptured the membranes surrounding the baby:

> *"This woman had been really reluctant to have an epidural for her labour, but, after what happened, I am really glad that we managed to talk her into it, otherwise everything would have been much worse. We would have had less control over the situation and she would have ended up with a G.A. [general anaesthetic]."*

Upon hearing this account, Steel covered the management of twin births, focussing in particular on the delivery of the second twin. She stated that a caesarean section for a second twin was, in her opinion, the result of impatience,

and sometimes inexperience, on the part of clinicians who intervened too early. It was important, she stated, that until they have the experience to manage such births they should insist on having senior support. But, as I have identified in the previous chapter, not all consultants' were forthcoming or immediately available to provide such support. Notably, Steel also made clear that they could learn a lot from some of the experienced midwives on the unit who were very proficient in managing twin and breech births. This view was affirmed by the registrar mentioned above, who disclosed his personal account of managing an unexpected vaginal breech birth with one of the senior midwives, a brief account of which I have also presented in chapter five.

Humour was readily apparent in these meetings. On one occasion, the group had been discussing the case of a woman with particularly bad hygiene who had developed problems during the course of her labour. The doctor who had been on duty at the time had been hoping the delivery would be straightforward, and stated that she had "cringed" when she had a call to come and review the woman during the course of her labour. By pulling faces and putting on a show of bravado the incident provided some light relief for the group. Importantly, humour meant that doctors could detach themselves from situations which they felt uncomfortable with, and provided a break from the more serious aspects of their work.

Unlike some of the other consultants at Prospect, at these meetings Steel also emphasised the importance of interacting with patients and including them in the decision-making process. This has been described as a multivariate and dynamic process which brings together personal, professional and social knowledge (Fox 1989). As I have shown in the previous chapter, this method of coping with uncertainty with its more emotional frame of reference did not appear to be reciprocated by Steel's male colleagues, but was by Brown.

Steel's approach to patients and junior doctors was unusual among consultants at Prospect, but, I observed, very much in line with the new approaches to patient care and decision-making which I have discussed in chapter 3. In this way uncertainty associated with medical knowledge of a disease and outcomes during

pregnancy was being shared with pregnant women, and thus decision-making was usually a two way process. This difference of approach to decision-making was illustrated when, on two occasions, the meetings were attended by two different consultants. The tone of the discussion shifted to a clinical frame of reference, where the woman's opinion was not included in the decision-making process. On such occasions the group dynamics changed quite noticeably. For example, Steel's weekly kick off "name one good and bad thing about your week" was abandoned. Although Steel maintained the upper hand in leading the meetings, the other attending consultants' did interject frequently with stories related to their earlier medical training exploits. Steel, it appeared to me, resented the intrusion of the other consultants because there was a discernible tension in the air. For example, on one occasion Baker was, in a light-hearted way, gently but firmly rebuked for interrupting the session too much:

> *"Yes, we have heard enough about you, but let's hear what the others have to say"*

There was clearly a need for sessions such as those run by Steel in which evaluation and reflexivity are encouraged, and in which subjectivity, uncertainty and emotions that result from decision-making are not devalued. These meetings demonstrated that junior doctors suffered differing degrees of insecurities in their roles related to medical uncertainty. It was apparent that they were most concerned about the potential loss of control as a result of increasing uncertainty that arose during the course of a woman's labour. Davis-Floyd (1992) has argued that doctors imbibe the myth of omnipotence during their medical training. Their training ensures that even when they held doubts about decisions they made, doctors must be seen to be beyond doubt and subjectivity. Steel encouraged junior doctors to be reflective and to be open with women and their colleagues about medical uncertainty. However, the reality was much different as evidenced by chapter seven, the example cited above and the morbidity and mortality meetings where traditional medical models of learning remained dominant.

In spite of this, the morbidity, mortality, and Friday meetings provide venues in which junior doctors learn to rationalise and make sense of the uncertainty

inherent in clinical practice. They learn also that, whilst research evidence is important, clinical experience is a crucial aspect in the decision-making process. Ultimately, clinical experience and the acumen gained from it, is something they lack, and from which some of their uncertainties originate. The ability to reflect in an open forum about the successes and failures of obstetric practices, and the collegial support that many doctors gain from attending such meetings inadvertently excludes the midwife. It is to this that I now turn

8.2 Needing someone to talk to

For many midwives, the formal structured collegiality forums which doctors relied on to get them through the stresses of work and decision-making did not exist. Although various meetings specifically for midwives took place, these were primarily concerned with clinical updating and unit meetings to discuss any changes that were taking place at the unit. Even then, these meetings were generally poorly attended because midwives were unable to leave their work areas to attend them. Even for those who were on a day off, coming in to the meetings meant cutting into their own private time away from work. Because of these factors, meetings were frequently cancelled, or shifted to another day.

Although midwives did not have the same outlets as their medical colleagues in which to discuss problems with clinical work and decision-making, they had adapted more personal ways of coping with the problems that uncertainty posed. There were two principal ways in which they managed this: by sharing confidences with very close professional colleagues with whom they were close to socially, and by talking about their work with close family members. Neither approach instilled a sense of professional identity because midwives felt unable to be open about their difficult experiences with other colleagues, other than their friends and family with whom they felt safe. These issues are illustrated by the accounts given below.

Firstly, the relationships between some midwives, rather than among midwives as a whole, was very strong. Usually these relationships were forged during periods of midwifery training together. Sometimes close supportive relationships came about through the development of closeness at work because of some

commonality between them. For example, friendships could be developed through working in the community together as the following 'G' grade midwife Anna explains:

> "*I had a really bad experience in the community, a long time ago now. Totally unexpected, it hurts to even think of it after all this time. I got no support from in the hospital. I had to take some time off because I really found it difficult to cope. But if it wasn't for Sue [another community midwife] who helped get me through it all, I don't think I would have carried on in midwifery. I would have carried on blaming myself, wondering whether I had missed some earlier signs to indicate that there was a problem*"

Having the support of another trusted midwife (past or present) was significant in helping midwives through difficult, as well as happy, times, principally because they understood the day to day work that they all experienced. This point is aptly explained by Anna:

> *"I don't feel that I have to hide anything. I can talk about things that I have done wrong and about things that freak me out, like those days when I have to come in to work on delivery suite, because I know that Lisa understands and in that way we can support each other through the good and bad times"*

Stella, a senior midwife, stated that she believed collegial support among midwives *as a profession* was very weak, compared to when she first did her training many years ago, as she went on to explain:

> *"Midwives don't really support each other the way they used to. We used to help each other out with paperwork and clearing up and that sort of thing. But now I think that everyone is just very concerned with looking after themselves, and doing everything themselves. Because, if something isn't done right, then they will get the blame."*

Stella's comments reflect some of the findings from a study on why midwives leave (Ball *et al.* 2002). Because of what Annandale (1996) has described as a culture of 'watching your back', findings which have been supported by Kirkham (1999), midwives only confided in those colleagues whom they trusted. In general, discussing problems or sharing confidences with a colleague was done in what Goffman (1987) has described as the 'back stage' areas which I highlighted in chapter six. For example, I observed emotional and tactile exchanges between some midwives in the changing room and in the staff room when breaks were shared between particular friends, and issues of concern were discussed.

In addition to close colleagues, midwives also relied on their partners for support, and, as one midwife described, "*a shoulder to cry on*" after a difficult and emotional day at work:

> *"There was one woman who came in a while ago, she was in labour and I couldn't find a fetal heart beat. In a few minutes their world was torn apart. It's the worst thing. It really is. So you have got to give all your energy to the woman and her partner. It's emotionally exhausting, seeing a couple through to the delivery of their dead baby. But no one really bothers to ask how you are coping with it. It was my first time and the whole thing just threw me. And then afterwards I went home. So, of course, my husband gets the brunt of it. Then, I get back to work for the next shift, and it's like nothing unusual has happened. You have just got to get on with it, and it's hard."(Sue; F grade midwife)*

Thus, midwives' partners, just as work colleagues did, facilitated a necessary informal supportive framework which helped them to manage their own feelings about the subjectivity that surrounded the work they undertook. This support enabled midwives to be reflexive and emotional beings without fear of questions or criticisms about their practice and their capabilities. However, the internalisation of stressors of the job is a serious issue for midwives because they do not learn from experienced members of their own group, and as Kirkham (1999) found, this can lead to feelings of self-blame and guilt.

There were, however, other occasions when midwives did come together to discuss wider unit issues and the problems relating to this, within what was frequently a light-hearted group context suffused with bravado and humour. This is discussed in the next section.

8.3 Humour as a coping mechanism

Although midwives tended to voice their own private concerns and to discuss issues which reflected their insecurities about clinical practice issues with friends and partners, there were other ways in which they relieved their frustrations. Midwives, like doctors, frequently used humour to deflect away from the problems which they encountered in the clinical area. Fox (1957) for example described how doctors made jokes from the most macabre situations, and called this 'gallows humour'. In the present study, during handover reports such humour was very much evident.

The end of shift reports were attended by 'F' and 'G' grade midwives. Without the presence of midwifery managers, midwives were able to inject humour into difficult situations which often concerned labouring women and/or their relatives, and sometimes medical and midwifery staff (particularly unpopular ones). Even during times of significant staff shortages, humour was often evident. On one occasion, a midwife was explaining an unusual incident where a woman had requested the anaesthetist to return and remove her epidural catheter. The woman spoke little English, and believed that the epidural was slowing her labour down. The midwife contacted the consultant anaesthetist who was one of several who presented pain relief talks at the unit:

> *"So we got Eddie back, and he couldn't believe it. He was livid. He asked the husband what had suddenly made him an expert in obstetrics. He did remove it, making sure that they understood he wouldn't be back to put in another one, but you know she got on and had a vaginal delivery a few hours later"(Della; midwife).*

This account resulted in several of the midwives laughing because there had been some friction between themselves and the anaesthetists over what the anaesthetists perceived as a reduced epidural usage among ethnic minority women at the unit. The anaesthetist felt that midwives were deliberately not making the service as widely available to this group of women in an attempt to maintain *"the natural childbirth movement"*, as one doctor put it. From the midwives' perspective, this represented a victory for them. One midwife , Alex, commented:

> *"Blimey, I bet that dented Eddie's pride. He probably thinks you put her up to that."*

Humour deflected away from the considerable stress associated with working in difficult situations. These findings have resonance with Fox's (1957) study. Fox found that medical students and doctors:

> *Learn that an effective and appropriate way to handle their reactions to death and other stressful or emotionally provocative professional situations is to joke with their colleagues about them (Fox 1957:81)*

Thus, the humour displayed by midwives, just as it did for doctors, may act as a protective device, enabling them to make light of the problems they encounter in the work place.

8.4 Coping with clinical uncertainty: The importance of conformity and routines for midwives

During the period of field observation I found that midwives, just as doctors did, worked at maintaining routines which helped them to cope with the unpredictability of childbirth and present a favourable impression of themselves to their senior colleagues. Bosk (1979) and Sinclair (1997) observed the same findings for junior doctors. For example, midwives would rarely openly disagree with a doctor's opinion, but were much more likely to identify their concerns to the midwife in charge. Thus, the role of questioning a doctor's decision was then left to the labour ward coordinator. However, LWC's were in the habit of

presenting favourable impressions of themselves too and at times, when presented with such dilemmas, clearly shrugged their shoulders, implying that the matter was out of their hands. Thus the midwife was left with no choice but to follow 'doctor's orders'.

Another way of conforming was by adherence to clinical guidelines. For example, most midwives managed labour according to specific time frames. Vaginal examinations were undertaken at either two or four hourly intervals, and plotted appropriately on the partogram. By using the partogram, midwives became aware of when intervention should be instigated if progress was assessed as being slow during the course of labour. The need for the frequency of vaginal examinations was regularly emphasised by the labour ward coordinator and by the obstetric team, who undertook regular labour ward rounds. The outcomes of vaginal examinations, and the time it had been undertaken were then written on the report board in the office for all to see. If a recent record of a vaginal examination was not recorded, then the labour ward coordinator would seek out the midwife to find out what was happening.

Midwives stated that adhering to routines, such as those described above, minimised confrontation with senior midwifery colleagues and doctors. In this way, they conformed to expected patterns of care at the unit. However, many midwives recognised that this conformity minimised diversity of their clinical practice and restricted choice for women. However, not all midwives adhered to strict timetables. Some were comfortable working within uncertain time frames, as set by the woman's body, as described by Stella, a senior midwife:

> *"Providing there are no obvious problems I rarely admit that a woman is fully dilated, unless of course the vertex is actually visible (laughs). I think that by doing this the pressure is taken off the woman, and to some extent myself, to deliver within a certain time frame."*

Midwives who practised in this way were considered to be 'treading a fine line', and were openly considered to be 'risk takers' by their colleagues. By using this approach they conformed to the time frames and goals of the maternity unit.

Stella, and some other midwives whom I spoke to, believed that, in this way, they could continue to uphold midwifery values within an obstetric orientated environment. This was, then, a way of coping with the structured order of the biomedical approach and the desire to control the childbirth process. However, it can be argued that such 'hidden' tactics actually uphold the perspective of the obstetric model as an effective way in which to manage childbirth because it is seen to work. For example, denying that a woman is fully dilated, and therefore is in the second stage of labour for a much longer time than would otherwise be permitted, further reinforces the perception that women should deliver within the parameters of the prevailing biomedical framework. I agree with Annandale (1988) who questions whether such tactics are in the best interests of women. I would also argue that such tactics are not in the best interests of the profession, and reflects the medical hierarchy which exists in obstetric led maternity units. Nonetheless, it is understandable why midwives like Stella adopted such strategies. As I have highlighted in chapter 6, midwives worked in an environment which valued obstetric management and culture. For example, the risk adverse perspective used in biomedicine was, I believe, further enhanced by the risk management culture at the unit. The reality for many midwives is that the medical management of uncertainty impacts on the way that midwives work which means that midwives focus on the limits of their own knowledge, whilst their medical colleagues focus on the limitations of knowledge in general. This reflects the hierarchy in Fox's classification and is discussed in more detail in the discussion chapter.

8.4.1 Coping with clinical uncertainty: The importance of conformity and routines for doctors

Obstetric consultants had their own set of routines and practices based on their clinical experience and beliefs about what worked and didn't work. Evidence-based medicine was, as I argued in the last chapter, an approach which they used to enhance their decision-making, but generally only if it supported their own values and practices. In comparison, junior registrars initially had to base their decision-making around hospital guidelines in the first instance, but accepted that consultants could over-ride these because of their own practice-style. However, unlike midwives, junior doctors were able to think outside the confines of

guidelines and base their decision-making on the latest evidence when guidelines were considered to be out of date. Knowing how the system worked allowed junior doctors to play the system to their own advantage. Much of what they learned was determined by the idiosyncrasies of the consultant they serve 'time' under. Thus, learning and then practising in terms of the consultants preferences (whether they agreed with them or not), helped junior doctors through the difficult transition in becoming a competent registrar, and therefore establishes their career.

Light (1979) points out that this process helps doctors to identify with a 'school of thought' providing answers in the form of philosophies to the unresolved problems which limited knowledge produces. In this way, they work at reducing the uncertainty associated with a given situation. For example, a registrar was writing up a prescription for syntocinon for a woman, in her fifth pregnancy, who was being induced for high blood pressure. Syntocinon is a drug which stimulates contractions and must be used with great care in multi-gravid women because of the increased risk of uterine rupture. The registrar had written up the syntocinon to start two hours after the membranes had been artificially ruptured (ARM) if she had not started contracting in this time. The registrar returned a few minutes later to cross out the prescription remembering that Scott, a consultant, who was on duty, would insist on syntocinon being started 4 hours after ARM.

As Sinclair (1997) has noted of doctors, this training period is the time in which junior doctors learn the importance of doing what they have been told to do, and of acting in anticipation of what they will be asked to do. Thus learning such actions can be seen as a successful strategy in reducing uncertainty for doctors.

8.5 Attitudes towards caesarean sections: Getting out sooner rather than later

The growing literature in medical legal journals, as discussed in chapter two, appears to suggest that health-care professionals practise defensive medicine because of the increasing risk of litigation. It has been argued that the increase in caesarean sections may be a direct consequence of this concern. However,

research has yet to demonstrate a causal link between either litigation experiences or fears and any measurable aspect of subsequent clinical outcome (Bassett *et al.* 2000).Based upon the present study, my findings indicate that there are a combination of factors that influence defensive practice. For example, during the course of the study I attended risk management meetings where NHS agendas were frequently referred to, and the importance of budgets. However, also of note based upon the findings of the present study, was that doctors and midwives were equally concerned about the potential for a bad outcome, not because of litigation, but because of a genuine desire to make good decisions that resulted in good outcomes. Therefore, the actual extent and the problems caused by defensive medicine remain a controversial issue. For example attempting to err on the side of caution by undertaking caesarean sections could certainly be seen as a way of managing clinical uncertainty as the following senior registrar explains:

> *"Ultimately, if I feel there is a risk of problems escalating then I would rather bail out with a caesarean section sooner rather than later. I'd rather be that way inclined because there isn't anything you can do to reverse disastrous outcomes. And I think that is the general feeling among most of us"*

From the above quote, it is apparent that interventions may be undertaken in situations where increasing uncertainty about birth outcome is a significant concern. Thus, in addition to being concerned about the wellbeing of the fetus outside of possible litigation, this study also indicates that clinicians are concerned about the repercussions to themselves professionally of decision-making that results in unfavourable outcomes as the registrar Steve below describes:

> *"It's difficult not to take complaints personally, and I think it makes you a bit more wary of patients, because the very person you think least likely to put in a complaint is probably the very one who does."*

Thus, the decision to undertake a caesarean section in cases of increasing uncertainty about the wellbeing of the fetus puts control back in the hands of the doctor. As Davis-Floyd (1992) found, prior experience of a poor fetal or maternal outcome can influence the beliefs and practices of obstetricians, making them much more likely to want to control the birth process in order to prevent the same from happening again. My findings were similar in this respect. The following extract from one interview with Lily, a registrar, exemplifies the impact of previous clinical experience:

> *"Once I was involved in a really horrendous vaginal breech birth where everything that could have gone wrong went wrong, and the baby died. Now I absolutely recommend a caesarean section for breech births, it is the only way you can guarantee a safe outcome for the baby, although not all women will agree to it."*

From the above statement made by Lily, and based upon a previous episode I cited in chapter 7 concerning Mrs. Tilly, it is clear that for some doctors past traumatic experiences seem to have a significant influence on future attitude and practice. Even when the decision is made to perform an emergency caesarean section, the processes leading up to, and the operation itself, continues to provoke apprehension because of concerns about fetal wellbeing and the birth outcome remain. However, the important issue here is that the doctor feels that s/he is actively doing something, rather than waiting and pondering on the outcome, as the following registrar, Steve, explains:

> *"When the decision is made then you just get on with it, it's a relief to get on with it. But until you get that baby out and hear it cry, you just don't know for sure how things will turn out, and when its all over you can relax and move on to other things."*

As this comment demonstrates, there is considerable reassurance brought about by being able to do something. This does not of course imply that action necessarily improves outcomes. The process of acting was often a subjective one and could also make matters worse. Despite the possible iatrogenic

consequences, doctors feel duty bound to intervene as the following senior registrar, Joan, explains:

> *"You can't predict when things will go wrong but when they do it can escalate out of control very quickly with profound consequences for all concerned so you have to be thinking ahead all the time."*

I found that some obstetricians and paediatricians argued the case for caesarean sections, rather than against caesarean sections which is exemplified in the following comment by Reid, an obstetric consultant:

> *"Any decision to undertake a caesarean section is made because there is a perceived need, at that time, to perform one. They are far safer than ever before, and in many cases, especially for breech births, it is the safest option. Most of the problems associated with caesarean sections now are related to things like postnatal depression and a failure to bond with the baby, but these are not as a result of the operation itself, but rather as a result of inadequate postnatal care and follow up after the operation."*

Similarly, some midwives also expressed supportive attitudes towards caesarean sections and felt that there was too much unnecessary concern over the issue in the media. Midwives cited various reports that criticised the way that decisions are made with regard to caesarean sections. These reports failed to take account of all the other things that were taking place at the time, as the following quote from Gillian, a senior midwife ,explained:

> *"People don't understand the range of different pressures we are under at the unit. We are pushed to do more than we can possibly handle, like getting on with planned inductions even though the unit is already heaving. When women are on syntocinon regimes they should really have one-to-one care, but often the midwife is looking after two women at the same time and its just plain unsafe. And so it's no wonder that things go wrong, and why problems are often picked up later than they should otherwise have been picked up."*

Some midwives believed that caesarean sections were, on the whole, undertaken because they were clinically necessary. For example women who had 'failed' to either get into labour through the process of induction, or had not made adequate progress during the course of labour, as expressed by the following experienced 'F' grade midwife:

> *"If the woman hasn't made good progress and has been plodding on all day then what's the point in hanging around. We are only prolonging the inevitable."*

As Annandale's (1996) qualitative study of midwives "working in the front line" which was reviewed in chapter 3, illustrated, midwives voiced concerns about the increased expectations that women have about the level of service they should receive. For example, having one-to-one care and 'knowing your' midwife. Clearly, meeting such objectives is problematic within a system whereby resources are limited, and this adds additional stress about litigation in particular, should things go wrong in the course of a woman's labour. Thus, as a result, caesarean sections may take place that were not necessary, but often this can only be known in retrospect. Certainly babies could, as expressed by the following midwife:

> *"Come out screaming, but sometimes the c-section is absolutely justified. You don't know how things are going to turn out until the baby is delivered. "*

The midwife is making clear that it is impossible to know the outcome, except in retrospect, and then only for the option selected. Thus, caesarean sections have a precautionary function. Considerable anxiety and uncertainty about the outcome is evident among all concerned, as clinicians rush to get teams assembled and prepare the woman for theatre.

Two midwives who were interviewed expressed very different perspectives to their colleagues. They were concerned that the rise in the caesarean section rate

at the unit in their view resulting from some obstetricians wanting to maintain dominance and control over women and midwives. From one midwife's perspective, Alice, who felt certain that obstetricians' would use the rise in caesarean sections to remind both women and midwives' that childbirth was a risk laden process which was best managed in a hospital that could provide a full range of emergency facilities. Thus, from her perspective she believed obstetricians undertook caesarean sections that might not have been necessary so as to maintain control over the birthing process. Alice believed that a full and frank discussion about the risks of caesarean sections were not undertaken because women should 'trust' that doctors were making decisions in their best interest and that, ultimately:

> *"there is an underlying dishonesty surrounding obstetric culture that is not apparent in midwifery"*

Another experienced midwife, Stella, voiced concern that doctors undertook caesarean sections because they were too impatient during the course of a woman's labour:

> *"I have seen doctors jumping in, doing caesarean sections because they don't want to have to wait around a couple more hours, or they stipulate inflexible time zones on women so that if things don't happen by such and such a time they can justify a caesarean section. I don't think they care about the long term effects on women of having the operation. It's the easy option for them."*

These views reinforce those in the feminist literature discussed in chapter 2, in particular the view that childbirth has been seen as a medical and pathological problem with technology reinforcing the gender role and replacing 'mother' with 'patient at risk' (Oakley 1984). Clearly the above comments reflect that decisions to undertake a caesarean section are not just bound up in defensive practice issues alone, but are affected by a range of other factors such as notions of caring about outcomes, idiosyncratic practices of consultants and conflict about professional objectives and roles. The dominance of the obstetric model at

Prospect meant that it was difficult for any midwife who wanted to, to openly challenge obstetric dominance at the unit, particularly with respect to how labour was managed, and the decision to undertake a caesarean section.

8. 6 Sharing uncertainty with pregnant women

Following NHS reforms, such as the National Service Frameworks (DOH 2004), the Expert Patient Initiative (DOH 2001) and the introduction of the Patients Charter (DOH 1991) there has been added impetus for clinicians to involve patients in the decision- making process, as the 2004 NICE guidelines on information about caesarean sections for pregnant women indicate:

> *"You have a right to be involved in and make decisions about your care and treatment. To be able to do this you need to understand what is involved and what your choices are. During your pregnancy your midwife or doctor should give you information about birth that is based on the best available research evidence. Your midwife or doctor should encourage you to ask questions if there is anything you do not understand and discuss them with you" (NICE 2004:98-99)*

However, as Fielding (1995) observed, information that is based on the best available research evidence is frequently complicated by uncertainty, because much of the required information about prognosis, treatment and outcomes is ambivalent or non-existent. Additionally, whether full and frank discussions can take place is also dependent on the clinical situation at the time, and on the attitudes of clinicians' to discussing the other alternatives available. Furthermore, many clinicians felt, as Steel exemplified below, that not all patients want to be involved in the decision-making process:

> *"There are many patients who can not deal with uncertainty and find this disconcerting. There are many who are happy and want to share fully in the decision-making process even with uncertainty. There is also uncertainty and the educated guess in which the best available evidence and experience has to be factored into the process."*

This comment sums up a variety of different views about the disclosure of uncertainty to patients held by both doctors and midwives at Prospect. Disclosure of uncertainty helped share the burden of decision-making with women in very difficult and ambiguous situations, as the following registrar Felicity explained. The discussion relates to a woman who was 29 weeks pregnant with twins, one of whom had died in-utero, shortly before this interview took place:

> *"Of course she was very worried about the same thing happening to the other one. We were very clear that we didn't know what the risks were to the other one. So together we set out a management plan which included fetal monitoring, doppler's and growth scans along with a planned delivery date, unless of course problems developed in the surviving twin which necessitated delivery sooner. I think that, for her, well, she knew what was going to be happening, as well as when it was going to be happening. And it made things a little easier for her knowing we were here for her at any time, but that we would have to take each day as it came."*

From this quotation it is clear that every effort would be made to detect signs and symptoms of potential problems developing. However, there is, of course, an assumption that technology will be able to detect any signs of problems in the baby before they become a significant concern. Nonetheless, for this doctor, sharing uncertainty with the patient involved a willingness to live with diversity and to acknowledge the limitations of medicine. Midwives, too, believed that discussing uncertainties with women in labour helped them to relate to women on a more equal basis, as the following F grade midwife Joan explained:

> *"I think that women then see that you are willing to explore different things with them. They feel more on an equal footing with you, that you aren't talking down to them."*

However, other doctors' and midwives' were concerned that the disclosure of uncertainty to women was opening up decision-making to a series of 'ifs and

buts'. Disclosure of uncertainty was seen as particularly inappropriate, if not impossible, in an emergency situation, as the registrar Steve, explains:

> *"In an emergency situation, you need to be decisive, and your patient has to be able to trust you to make the right decision. Nobody wants to see a doctor troubled with doubts as to whether he is making the right decision."*

Some midwives expressed similar views about working with women in labour as Joanne explained:

> *"Informing patients about uncertainty will breed anxiety in the patient, and make them even more anxious and ill at ease in labour. They don't want to know all the risks. All they want to know is that their baby will be okay."*

Katz (1984) noted similar views among the doctors he interviewed in his research. He found that whilst doctors acknowledged uncertainty amongst themselves, they felt that it was of little relevance to patients because they did not have the capacity to work through the complex issues associated with making decisions. However, since the drive for patient involvement in decision-making has gathered strength such opinions are inconsistent with current NHS policy. In practice, as this section indicates, disclosing and not disclosing uncertainty can both be seen as ways of coping with uncertainty.

8.7 Conclusion

This chapter has focussed on the final aim of the thesis - clinicians coping mechanisms for dealing with uncertainty. This chapter has highlighted that the methods that clinicians have adapted to cope with uncertainty are underpinned by a system of medical hierarchy. Thus the ways in which doctors and midwives support neophytes to cope with uncertainty differs markedly. For example midwives are very much the rule followers of guidelines and are unable to use their own clinical judgement based upon experience and research in the decision-making process. Doctors, on the other hand, focus on the limits of the body of knowledge and are empowered by this knowledge.

Four key themes for coping with uncertainty have emerged from the data. These are formal command systems, for example the use of morbidity and mortality meetings used by doctors. This enables doctors to realise that uncertainty is an inherent part of medical decision-making. In comparison the way midwives cope with uncertainty differs. Midwives were more likely to rely on informal command systems, such as sharing their uncertainties of knowledge and practice with close friends and family. This was because of a fear of being seen as incompetent or as being unable to cope. Another informal command system to help professionals cope with uncertainty relates to the disclosure and the non-disclosure of uncertainty to pregnant and labouring women. Thirdly, for both doctors and midwives, conformity and the maintenance of routines was a major way in which both professional groups coped with uncertainty. Finally, performing a caesarean section was the ultimate strategy for coping with uncertainty. These findings and their significance to the research study will be discussed in greater depth in chapter 9.

CHAPTER 9
DISCUSSION

This thesis has attempted to illuminate how medical uncertainty influences the way that doctors and midwives make clinical decisions, the organisational structures that contextualise this process, and how medical uncertainty affects the clinical decisions that they make regarding caesarean sections. As identified in chapter one, the continued rise in the caesarean section rate in the United Kingdom has stimulated an expanding interest from health-care professionals, researchers, political bodies and consumer groups. Current research on caesarean sections has focussed on clinical and psychological outcomes and on comparative outcomes and risk management, and has been underpinned by concern about rising litigation rates. However, there is a paucity of information on the role of the doctor or midwife in the decision-making process when involved in the care of a woman's labour. Drawing on the work initiated by Renee Fox, I have explored contemporary issues and debates concerning uncertainty in general, and its applicability to childbirth in particular. In this final chapter, I will discuss the key theoretical issues which have emerged from the field based chapters 6, 7 and 8 and the limitations of the study. This review is then followed by discussion of the implications of the study findings for future practice and policy. Finally, the chapter will consider a number of themes for further work which might build on the present study.

9.1 Revisiting the problem: caesarean section rates and the unpredictability of childbirth

Understanding how the unpredictability of childbirth is managed by doctors and midwives has been a major theme of this thesis. Negative accounts of the way in which midwives and doctors attempt to control the childbirth process, and the resulting rise in caesarean section rates with the associated iatrogenic effects on many women and their babies, are now more visible and common in a range of research literature and media accounts (Yoles and Maschiach 1998; Burrows et al. 2004). Caesarean sections have been increasing steadily in the UK since the 1980's when the rate was 10.4% rising to its current level of just under 23%

(NHS 2006). In relation to caesarean sections a maternity policy statement for England states that:

> "Clinical interventions, including elective caesarean section, are only performed if there is clinical evidence of expected benefits of these to the mother and/or baby" (NSF 2006 8.3; 28)

For some health-care professionals, women and other lay people, a key question is whether vaginal births are desirable or achievable for all childbearing women. Some health-care professionals have argued that if caesarean sections are planned, morbidity and mortality risks to women are minimal (Paterson-Brown and Fisk 1997; Paterson-Brown and Fisk 2004). However, there is inadequate research to support their claims that a caesarean section birth is safe for women who are low risk (NIH 2006). Further, the additional financial cost to the NHS of caesarean sections compared with vaginal births remains a significant issue which should be taken into account (NICE 2004).

The increase in caesarean section rates is not peculiar to the U.K. The number of caesarean sections performed in North America, Latin American countries, Australia and in many other European countries has also steadily increased to comparable or higher figures than those found in the U.K. over the same period of time. However, of note, is that the caesarean section rate has remained relatively low in Holland, which may be attributed to the high home birth rate, and in Sweden and Denmark. In each of these countries, as in the UK, midwifery is a central feature of maternity care. In this context, the Dutch experience is often referred to as providing a beacon of good practice and as being uniquely excellent. Although recent research indicates an increase in perinatal mortality rates in Holland (Garssen and Meulen 2004), it is important to consider some of the factors that may have contributed to this rise. The authors argue that significant numbers of non-western groups with relatively high risks of perinatal mortality have settled in the Netherlands. Furthermore, the authors observe that there has been an increase in the use of assisted reproduction techniques contributing to a more pronounced increase in multiple births than in almost any

other country. This is important, because it is known that the perinatal mortality rate is higher in multiple births than in singleton deliveries.

As highlighted in chapter 2, recent accounts have suggested that midwifery practice in Holland is in crisis because of problems associated with the low pay of midwives', and a decline in the number of persons undertaking midwifery training. As a result, obstetricians have gradually been encroaching on midwives' practice boundaries. Nonetheless, although these European countries enjoy a smaller caesarean section rate, they too have experienced a small gradual increase in the numbers of caesarean sections being performed. Experience in many countries has indicated that the rise in caesarean section rates is continually problematic because of the high rates of morbidity and mortality associated with the procedure (NIH 2006). Subsequently, this has led to a proliferation in research world wide in an attempt to explain the rise in caesarean sections. For example, within the U.K. research has been carried out on a national basis through the National Sentinel Audit in 2000, with many obstetric units carrying out their own audits of the caesarean section rate and the reasons for undertaking them (Mcilwaine et al 1995; Robson et al 1996), just as the obstetric unit at Prospect had done. Such actions reflect the growing concern and alarm at the rise in caesarean section rates.

In practice, attempts to decrease the caesarean section rate, for example, the use of guidelines designed to reduce employment of the procedure, have proved very problematic and largely unsuccessful (NICE 2004). This is evident in the continued up-ward trend in the numbers of caesarean sections being performed. One reason identified for the rise in caesarean section rates is concern about the rise in litigation which, many have argued, has encouraged defensive practice (NIH 2006). Additionally, the ambiguity of clinical research findings and a lack of adequate research into many aspects of midwifery, also contribute to the existence of a wide range of differing beliefs about best practice. For example, the Hannah Term Breech Trial (2000) findings are widely supported by many medical professionals but as Robinson (2000) has identified there are many flaws in the way the study was conducted and analysed. As my study has shown, and subsequent discussion in this chapter will elaborate on, the use of guidelines

gives centre stage to the management of uncertainty. Problems arise when the course of a woman's labour deviates from the guidelines, and staff then have problems, because of limited experience and control, in managing the uncertainty this generates. Explanations of the rise in caesarean sections have not been sufficiently based on exploration of the perspectives of health professionals about childbirth or analysis of the ways in which they manage uncertainties associated with the unpredictability of birth outcomes. It is because of this gap in research that the current study originated from.

In other research undertaken in general surgical and medical settings, uncertainty in the knowledge of a disease process and outcome has been implicated as a cause of difficulty among physicians in establishing consensus in diagnosis, treatment and guideline formation (Allison et al. 1998; Chow 1998; Ghosh 2004). Clinical uncertainty has been identified as a cause of variation in doctors' use of available procedures for the same condition. All of these factors were considered to be applicable to obstetric and midwifery practice in the initial development phase of this study. It is Renee Fox's (1957) ethnography on medical uncertainty which provided the framework for this thesis. The three categories of uncertainty that she described and analysed were associated with the limitations and gaps in medical knowledge and practice; incomplete or imperfect mastery of available knowledge; and finally the difficulty in differentiating between personal ignorance or ineptitude and the limitations in medical knowledge. However, Fox only addressed uncertainty among the medical profession and failed to look at how different professionals define and manage uncertainty in the same clinical field. This is a key issue to address in maternity care because of the different perspectives midwifery training and obstetric training have towards the management of childbirth.

Crucial to this debate is the analysis of uncertainty by Atkinson (1984). He rejects the idea of "training for uncertainty" that Fox's work revolves around. Rather, he contends that trainee doctors learn the importance of 'action' and focussing on the 'case' rather than the patient. Students are told that there is a vast amount of knowledge within each specialist field but that they can never hope to learn it all. Thus, they are set clear parameters on what it is that they

need to know, regardless of the vast amount of knowledge available, during each year of training. They are, from his perspective, 'training for certainty'. Atkinson argues that this is important because students must learn to focus on the task in hand, and the importance of acting with certainty rather than indecisiveness, otherwise the patient will lose confidence in their ability to make effective decisions. Through this process they learn the importance of clinical experience which compensates for any gaps in medical knowledge. Atkinson, however, fails to take account of the changing face of medicine in light of the ongoing changes taking place within the NHS, and, in particular, of the challenges to older didactic methods of teaching that medicine is currently facing (West 2001).

The issue of uncertainty and risk in childbirth are key issues underlying the medicalisation of childbirth. For example, this was very much evident during my period of field observation at Prospect, not only in the clinical area but also in the range of meetings and reviews at the unit. The impact of uncertainty on professional decision-making in maternity care, and how it may contribute to the rising caesarean section rate, has not been researched. This means that there are gaps in obstetric and midwifery knowledge about the role of the clinician in the decision-making process, about the factors that may influence this process, and about the coping strategies of midwives and doctors when faced with clinical uncertainty. The findings of this study contribute to a greater understanding of the way in which doctors and midwives communicate about, manage and cope with medical uncertainty, and how these may impact on their decision-making around caesarean section.

Broader social and cultural issues have to be taken into the analysis of how uncertainty may affect the decision-making process. As discussed in chapter 4, and is evident in the current study, maternity care tends to focus on managing the unpredictability of childbirth so that the outcome results in a healthy mother and baby, rather than on what the experience means for the woman. Furthermore, different conceptions of the pregnant body abound among and between different professional groups. Although this study is primarily focussed in one setting, childbirth operates across a wide range of cultural boundaries, and occurs in settings which involve a very wide range of health-care professionals, for

examples in health centres and in ante-natal clinics. There is a gap in our knowledge about how health-care professionals both manage, and cope with the unpredictability of childbirth. Filling this gap requires critical analysis which goes beyond conventional structured bio-medical approaches. Renee Fox's (1957) ethnography of American medical students' experience of medical uncertainty has provided an effective model through which to integrate the different elements of my approach to exploring the impact of medical uncertainty on midwifery and obstetric decision-making. The use of ethnography elucidates the structural, political, ethical, social and cultural aspects of professional decision-making. It was therefore not considered possible to use formally structured scientific methods in seeking to explicate the factors that may impact on these processes. This is largely because formal quantitative methods can exclude variables and data that are crucial to such understanding (Atkinson 1995; Garro 1998). Furthermore, as Atkinson (1995) argues these methods can be considered ineffective with respect to taking into account processes, which, as in all social situations, are dynamically changing the research environment even whilst it is being researched. A case in point would be the publication of the Hannah Trial in 2000, as discussed in chapter 3. This study provided the necessary "evidence" for some obstetricians at Prospect to attempt to push forward a hospital policy whereby women would be encouraged to have a caesarean section for breech presenting babies at term. Thus, ethnographic methods were required which could encompass the widest possible range of phenomena related to caesarean sections, as well as focusing special attention on relevant processes.

9.2 Findings: The Impact of cultural and organisational factors on professional decision-making

The first aim of the study was to ascertain how cultural and organisational factors influenced the decision-making of doctors and midwives under conditions of uncertainty. Three key theoretical issues have emerged from the data in relation to the exploration of how social and cultural factors impact on the decision-making of midwives and doctors and contribute to work-place uncertainty.

The first key theoretical issue concerned the increased scrutiny of midwives and doctors by governmental, media and lay bodies on the way decisions are made that result in a caesarean section. Although Prospect hospital rhetorically embraced the concept of informed patient choice, professional decision-making was not solely evidence-based. Through the use of ethnography, the complex structural, social, cultural and processual factors involved in the decision-making process of doctors' and midwives' were illustrated. Childbirth outcomes are not easily predictable from the outset because a range of bodily processes intersect with the prescribed treatment over a period of time. The process for staff, and indeed for pregnant women, is uncertain and subject to much debate and discussion, set in the context of the broader issue of running the hospital. Thus, the process of decision-making appears to be conditioned at all levels as much by the pragmatics of the specific situations, as by evidence-based protocols. Arguably, these social and cultural factors are critical to decision-making about interventions and the resulting outcomes.

In practice, my research findings in chapter 6, and again in chapter 7, illustrates that obstetrics operates in a locally contextualised way in which the general and generic findings of scientific medicine are filtered through the particular situations and the particular relationships of individual professionals in particular settings. These settings can be, as Goffman (1987) described them, either in the front stage, for example in the ward area, or back stage, as in the staff room. However, despite this heterogeneity of practice, certain understandings bind together the social body of professional staff in ways which, at least to outsiders, including patients, make practice appear uniform and consensual. This is evident in my research by the united front presented by obstetricians to maintain control over the way in which women's services were being managed which was under review at the unit during my period of study. Obstetricians were attempting to ensure that care was not relinquished to G.P's in the reorganisation of the provision of maternity services at Prospect. Conversely, some aspects of conflict in childbirth management among consultants at Prospect was very much in evidence behind closed doors, for example in discussions about the way breech presentation should be managed. Thus, my research findings support Atkinson's (1995) view that there is an extraordinary cultural diversity within and between

medical specialties. Different models are not necessarily incompatible, but coexist within an overarching biomedical paradigm. Thus, within the obstetric speciality, my research illustrated that more than one model was in operation evident in the differences of practice styles of Brown, Steel and their male colleagues.

However, it was of considerable concern that despite Brown and Steel's attempts to integrate a more women centred approach to maternity care, they had, by and large, failed to effect any significant change. Both were consultants of some standing at the unit and were popular among junior doctors and midwives. My research suggests that issues around women in positions of power were potentially problematic. Whilst it was apparent that both consultants had considerable respect among their junior medical colleagues and among many midwives, their way of teaching and the way they practiced in the clinical environment represented, at times, an unwelcome transgression from the 'norm' of obstetric practices at the unit. This may in part be related to the fact that the male consultants viewed with scepticism the challenges to the older didactic methods of practice they used. Furthermore, medicine has, until recently, been traditionally a male preserve. Siedler (1994), for example, has written of the tendency for many male doctors to assume that patients want them to act in their best interests, as unquestioned authorities. Seidler observes that women prefer doctors to be more honest, and to admit doubts and uncertainties about diagnosis and the course of disease and treatment. The issue of assuming omnipotence and of concealing uncertainties from patients was clearly evident in multi-disciplinary meetings that I discuss in chapter 8. In understanding some of the dynamics between the consultants, it is helpful to refer to Turner (1987) who contends that whilst men are socialised into positions of power emphasising the importance of reason and restraint, women are trained in a more emotional frame of reference. Certainly during the period of my field work, a more experiential, reflexive and emotional frame of reference were very much evident in the way Steel approached her work and taught junior doctors. This theory continues to be supported in other work in this area, for example Sinclair (1997) and West (2001).

The second key theoretical theme to emerge from the data was the existence of a clear hierarchical divide between midwives and doctors which contributed to poor working relationships. This has been an ongoing problem at the unit, identified by the local Community Trust in a review of the provision of maternity care at Prospect. The dominance of the Obstetric team can be traced back to its strong links with history, status and tradition dating back to the opening of the hospital in the 18th century. As a result of the high status afforded to the medical profession both within Prospect, society and government in general, the powerful status of the medical profession continues to be a dominant force at the unit. This is evident in the fact that all women, regardless of risk, are booked under the care of a consultant and will have at least one visit to the hospital during the course of their pregnancy. Other examples of areas of medical dominance is the way that new protocols developed by obstetricians are based on isolated incidents that happen in the unit without adequate grounding in research. Their relationship with the risk management team is obviously apparent and subsequently generates considerable support for the implementation of new policies and protocols. The impact of Trust risk management strategies emphasised the issue of minimising risk, and hence litigation.

Two of the most common means of minimising litigation risk were ensuring compliance with hospital guidelines and accurate record keeping. These objectives were monitored and enforced through a process of audit. If weaknesses were identified, they were dealt with by managerial input to the individual concerned. Research by Symon (2000) suggests that these strategies benefit midwives and doctors in the long term because improved record keeping safeguards them in the event of litigation. My research suggests that the emphasis on the proceduralisation of care has resulted in both doctors and midwives feeling that there is strong pressure on them to become more interventive and risk averse when situations of significant uncertainty arise during the course of a woman's labour. Increasing uncertainty, combined with a lack of clinical expertise can, as my study shows, often result in unnecessary caesarean sections.

The findings of the present research suggest that midwives were more likely than doctors to feel vulnerable to these pressures. Based upon some of the comments made by midwives, and explanations for their decision-making during the course of the study, I suggest that this is because the way midwives are trained conflict with the way they actually carried out their work. For example, the emphasis on psychological support and using midwifery models of care for women in labour highlighted in midwifery texts (e.g. Bryar 1995) was sidelined in the clinical area for obstetric models of care. Furthermore, as a result of staff shortages, this way of working meant that women could be processed on-masse. The resulting effect evident at Prospect was increasing attrition among midwives. Thus, whilst doctors had the power to define what happened in maternity care at Prospect, midwives were left to carry out the work or tasks at hand within a relatively controlled and structured environment which, while offering a sense of control over their working day, was in the long term deskilling them and making them insensitive to the individual circumstances and needs of women. This notion has been explored by Dingwall et al (1988) who suggest that as a result of the deskilling of midwives, the midwife has been transformed into an obstetric nurse rather than being seen as an alternative autonomous practitioner.

Although the provision of maternity services at Prospect was in a process of change, the changes were largely being dominated by the obstetric profession, without adequate consultation with the midwives. As some of the midwives' pointed out during the course of my field work, there was a sense of powerlessness to put forward midwifery perspectives and so effect change which might benefit themselves. However, it was also apparent that a hierarchical divide existed among midwives' too. This meant that midwives' on the 'front line' did not feel supported by their more senior colleagues, particularly in the event that something went wrong during the course of their work. Furthermore, midwives' felt unable to complain about aspects of their work without associated recrimination for doing so. For example, complaints about staff shortages and stress from work load or changes only served to identify those midwives' as being overly critical and against the attempts at team-building at the unit. Thus, those that complained least were more favoured over those who made their feelings and opinions known. For example, those midwives who were more

vocal about problems at work were much more likely to have acrimonious relationships with managers. Similar findings have been reported by Isherwood (1992), Kirkham (1999) and more recently in a study exploring why midwives leave the profession (Ball et al. 2002). These factors can be seen as part of a wider process through which midwives have become more focussed on the proceduralisation of care and have become more introverted in expressing their real fears and needs in an attempt to buffer themselves against any possible recriminations from their more senior colleagues.

The third key theoretical issue relates to the continued staffing problems and the inability to predict work load which cause problems in the provision of a safe, effective and equitable service for women. As I identified in chapter 6 this was further compounded by high sickness rates and staff attrition. Government initiatives over the past decade have been focussed on saving costs and increasing efficiency within the NHS resulting in managers, clinicians and other staff having to struggle with increasingly complex and demanding work loads, shortages of staff and difficult working conditions. On a national scale there has been a chronic shortage of both nurses and midwives since the early 1990's and in response to this, the Government identified a need for 20,000 more nurses and midwives (Department of Health 2000).

Glaser (1996) notes that the constant state of poor staffing and changes within the NHS has subjected staff to excessive strain and poor health leading to increased sickness and demoralisation. My research illustrates, and supports the work of Annandale (1996), that constant changes brought about as a result of the reorganisation of the way in which the NHS is structured and run, creates workplace uncertainty, particularly in relation to roles and responsibilities.

Some of the changes taking place at the unit directly increased the work load of midwives', who were already under considerable strain to carry out their other tasks. For example, taking place in the unit during the period of field study in 2000, was the introduction of shortened doctors hours, a change that was affecting the NHS across the board which I identified in chapter 3. This meant that tasks, such as venepuncture, typically undertaken by junior doctors, fell to

the midwife. Additionally, there was a move for midwives' to be trained to undertake the initial new born baby checks, which normally befell neonatal SHO's. These changes in the working hours of doctors' also meant that senior midwives' were having to supervise junior medical colleagues who lacked experience in managing some aspects of birth, for example vaginal breech deliveries. Senior midwives' also had to provide a written assessment of the way doctors' had integrated into the unit once their contracted employment at the unit was near completion.

Clearly heavy work loads, the unpredictability of admissions and the management of high risk cases, alongside a lack of support, resources and the fear of litigation will impact on the type of care women receive in pregnancy and labour. Midwives, in such rigid settings, were left with little or no scope to exercise clinical judgement or control, the significance of this is illustrated and discussed in the next section.

9.3 How uncertainty impacted on the way obstetricians and midwives made decisions that result in a caesarean birth outcome

The second aim of the study, and the context of chapter 7, was to explore how midwives and doctors take decisions that result in a caesarean birth outcome, and what impact uncertainty has on this process. Of specific relevance to my analysis is the seminal study on uncertainty undertaken by Renee Fox (1957). Fox concluded that there were three basic types of medical uncertainty prevalent in the work that doctors undertake, which I have discussed in an earlier part of this chapter. This theoretical perspective emphasises the importance of considering the impact of medical uncertainty on the decision-making of doctors. However, as I discussed in chapter 4, her work is focussed on the impact of uncertainty on the medical profession. Furthermore, Fox has not addressed issues of status and power and how the definition of uncertainty and its control differs among different professional groups. The present study illuminates some of these issues and these will be discussed in relation to the findings from chapters 7. Four key theoretical issues emerged from the data in relation to the objectives of this chapter. These were around clinical uncertainty; organisational and inter-

organisational uncertainty; individual responses to uncertainty and, finally, the translation of uncertainty into risk.

The first key issue relates to clinical uncertainty around intrinsic complexity in decision-making, professional knowledge base, experience and expertise. My research illustrates that professional consensus about the management of various aspects of childbirth was lacking at Prospect. This further reinforces the widely held view that, despite the implementation of clinical guidelines, little consensus has been achieved in maternity care. As the historical review of medical journals show in chapter 2, this factor has been a longstanding problem within maternity care. Of course there have been major advances in maternity care since this period, but medical uncertainty about the management and treatment of pregnant women among medical and midwifery professionals continues to be a major problem.

My findings indicate that clinical uncertainty about research findings and about birth outcomes is a major contributor to the lack of professional consensus about the management of childbirth. It is apparent that some consultants' at the hospital believe that this variation is not necessarily a problem, for example in their views of the rise in caesarean section rates discussed in chapter 8. Consultants', doctors and some midwives believe that the most important outcome is a healthy mother and baby, rather than what the experience meant for the mother. These accounts clearly show that if the outcome results in a caesarean section, with a healthy baby and mother, there is little sympathy for the mother who might complain after the event that the caesarean section may not have been fully justified. Although there were explicit discussions about how to proceed in decision-making between junior doctors and consultants, it was clear that some caesarean sections were undertaken as uncertainty about outcome became a major factor in the decision-making process. Furthermore, despite NICE guidelines (2001) which recommend the use of fetal blood samples to aid the decision-making process, there were many occasions when caesarean sections were undertaken without this procedure being done. This was often as a result of high uncertainty and anxiety about fetal heart rate recordings, a lack of senior support on hand in the unit and the potential for poor fetal outcomes. This finding supports Fox

(1957) who concluded that uncertainty in this clinical context arises from knowledge limitations, clinical inexperience and, in relation to this study, about birth outcomes themselves.

In addition to a lack of consensus about birth management, there was open acknowledgement that the ability to predict the course of a woman's labour eluded health-care professionals'. Although doctors and midwives perceived that to some extent they had control through the use of guidelines, the way in which a woman's labour unfolded was a process of discovery, and sometimes conflict for health-care professionals', just as it was for the woman. For example, as chapter 7 shows, diagnosing the onset of labour and identifying the most appropriate time to intervene for the delivery were both fraught with uncertainty. There were also issues around doctors and midwives not recognising the limitations of their individual competencies, for example incorrect assessments of cervical dilatation and knowing when they should ask for help

Clearly, clinical experience helped to mitigate uncertainty and, in particular, helped compensate for limitations of knowledge in the field. However, the most prominent issue in such cases were senior doctors' tolerance, or intolerance, for uncertainty. High tolerance for uncertainty is illustrated by the practice of both Brown and Steel. For example, I refer back to a case that Steel had managed which involved a woman with a factor VIII blood disorder. The research evidence around this disease and its management in labour is ambiguous. Taking into account the woman's desire for a vaginal birth combined with a careful assessment of bodily parameters, Steel had made the decision to facilitate the woman's request for a vaginal delivery. In discussion with her consultant colleagues at a meeting after the safe vaginal delivery of the baby, Steel's management was considered too much of a risk by her consultant colleagues, who throughout this study displayed tendencies for low tolerance of uncertainty. For example, they were much more likely to positively influence women to opt for a caesarean section if they presented with a breech position baby.

Although it is the contributions from uncertainty theorists such as Fox (1957) and subsequently others in this field (e.g. Light 1979; Fielding 1995; Chow 1998)

that provide the background research to this study, the omission of the impact of uncertainty, and how it is managed, on power relations among, and between, the same and different professional groups has not been addressed, or adequately researched by these authors. The above case is but one example of many incidents whereby Steel, or on occasions Brown, attempt to work on a basis of probabilities showing a greater tolerance of uncertainty that challenge their fellow consultants' practice. As a result, issues of professional conflict arose because Steel's actions do not follow what Heyman and Swain (1998) has described as a "common service response". It was apparent that the majority of consultants' clearly sided with the enforcement of a rule driven procedure that minimised any potential for risk taking activities. This strategy would have resulted in the woman being strongly encouraged to have a caesarean section. Nonetheless, this case, regardless of an individual's tolerance, or intolerance of uncertainty, demonstrates the level of control over decision-making that doctors have. Importantly, despite their differences, the consultants' demonstrate that clinical practice and decision-making is a human endeavour which employs the formal methodology of science but remains fundamentally an interpersonal experience that combines elements of both types of knowledge. Doctors are able to control the uncertainties associated with the client, treatment, diagnosis, and knowledge. The issue of control is what governs diagnosis, treatment and outcomes. Paradoxically, in a professional context, the definition of uncertainty and its control differ significantly for midwives'.

My research has shown that the use of guidelines and adherence to them remains a significant issue for NHS Trusts like Prospect. Employing a range of strategies that have arisen out of guidelines, such as use of the partogram, helps health-care professionals, particularly midwives', structure their work to give them a sense of cultural order. This was also found to be the case by Davis-Floyd (1992) who argued that obstetrical routines structure the birth process to make birth happen in an orderly way, thereby providing cognitive anchors for health-care professionals. As identified above, control over the management of birth was not afforded to midwives.

However, reports have been critical of health-care professionals' under-use of guidelines (Wood et al. 1998). This is particularly important when considered in relation to the various confidential enquiries into morbidity and mortality issues among women and their babies as discussed in chapter 3. These reports point to the numbers of deaths that may have been prevented if guidelines had been adhered to. In the current study, most midwives' adhered to guidelines, particularly in light of such findings, because of feeling vulnerable in the event that things went wrong. For example, one midwife who facilitated a long second stage of labour spoke of having to complete a risk management form. Not surprisingly, midwives tended to encourage compliance of women by not offering them a choice in options regarding the management of their birth. Conversely, as I showed in chapter 7, some midwives' manipulated guidelines to the woman's apparent benefit, and thus avoided such problems. One such example is to deny that a woman has a cervix that is fully dilated thereby giving the woman a longer time to get through the second stage of labour, and increases her prospect of achieving an unaided vaginal delivery. Annandale (1987) is critical of whether such activities are in the best interests of women, and I concur with her conclusion that such findings only serve to reinforce the biomedical model as an effective way in which women's labours should be managed. Rather, these midwives would benefit their profession more by engaging in open debates about the basis of their decision-making. It is clear from my findings that variations in the management of childbirth cannot be understood without knowing something of the personal biographies of all those concerned. These other factors extend well beyond just medical and technical considerations, but also cut across professional perspectives, attitudes to childbirth and personal experiences of managing childbirth.

The second theoretical issue relates to organisational and inter-organisational control of uncertainty within the clinical area. My research illustrates, and thus confirms the widely held perception, that all women are treated as at risk of encountering both potentially seen and unseen problems during the course of childbirth. A key emphasis at the unit is always on "expecting the unexpected" and to "pre-empt problems". In consequence of this adoption of a precautionary approach, women could not be afforded the type of individualised care that they

might desire, or that midwives might wish to provide. Patients are given standardised care, which as Heyman and Swain (1998), Hunt and Symonds (1995) and Lipsky (1980) rightly point out, is care that is driven by the need of the service providers to process clients' en-masse because of limited resources. This approach gives centre stage to the management of uncertainty in organisations (Stacey, Griffin and Shaw 2000).

As West (2001) has pointed out, management structures have to be more proactive and interventionist, part of which has involved the introduction of more explicit standards and measures of performance. Heyman and Swain (1998) have argued that because of the unknowable complexity of the social world simplifying strategies have been designed to make rational action feasible, such as the implementation of protocols and guidelines used in maternity care. As I have discussed in chapter 3, maternity care has been a beacon of good practice in this regard when compared to other sectors of health care, which, until relatively recently, lagged behind in devising protocols and guidelines. However, whilst many claims have been made about the potential value of guidelines in streamlining decision-making (Sackett et al. 2000), there are issues around how individualised care can be achieved amid the drive for collectively-orientated based decision-making and the scepticism surrounding the certainty it supposedly provides. As chapter 7 indicated, reconciliation of these issues is fraught with difficulties not least because of the complexity of rational decision-making and inadequate resources when on the front-line, but also because of the potential for the shift away from clinical expertise. Nonetheless, despite the drive for research based decision-making it is clear that consultants' at Prospect are still able to determine what information they believe is relevant, and what information they can discard based upon their clinical expertise and experience, rather than on research evidence alone. Of significance is whether the complexity of this information, and how it is communicated to women, enables women to make proper informed choices, because, ultimately, this information determines the way birth is managed and, to a large extent, the resulting birth outcomes.

Uncertainty is a key and unavoidable characteristic of clinical practice. However, the management of uncertainty differs quite significantly for midwives. As

chapter 7 clearly shows, for example in my account of a ward round, midwives are encouraged by their more senior midwifery and obstetric colleagues to stick to facts rather than relying on intuitive judgements. Problems in decision-making, and hence uncertainty, arise when the course of a woman's labour does not follow organisationally derived standardised procedures. For example, my study showed that a wide range of socially pertinent issues arise when women themselves maintained control over the decision-making process, as in the case of Mrs. Tilly with HELLP syndrome in chapter 7. Such an example highlights uncertainty associated with client responses, as also identified by Light (1979) and Christakis (2000), which conflict with the aims and objectives of the organisation. I found that the main uncertainties which concerned professionals related to client response involved service user cooperation. Staff felt unable to predict who might be difficult, and, therefore, might potentially resort to litigation. Thus, all women were treated with some degree of circumspection, but certainly caution was afforded to those who, from the outset, were judged difficult. Non-compliance also raised concerns about rights, control and professional obligations, a relatively new phenomenon in the doctor/patient relationship. West (2001) views this new concern as a reflection of the growing domination of patients' rights and expectations of what the health service should provide. This has, argues Annandale (1996), and my findings corroborate, resulted in health-care professionals seeing the patient as a potential risk-generator when care and/or birth outcomes do not meet exact expectations of patients'.

The third theme to emerge from the data relates to personal responses to managing uncertainty, for example through idiosyncratic practices, and intervention, whether warranted or not, that is taken to minimise the risk of litigation. Although it is the doctor who makes the decision to undertake a caesarean section, decision-making does not take place in a compartmentalised way or with any certainty that the decision was effected in time to ensure a favourable birth outcome. Uncertainty about birth outcomes may be more or less shared with other health-care professionals, and exists in relation to background knowledge of evaluations, assessments and interventions. An important finding of the present study, reflected in much of chapter 7, for example in the case of

Sophie, who had a caesarean section for not making adequate progress in labour, was that making such a decision often provided relief amid mounting uncertainty for health-care professionals involved in the care of a labouring woman. The process of undertaking a caesarean section in situations of uncertainty may serve the function of restoring a sense of control in situations which appear to be rapidly descending into chaos. Previous clinical experience of poor birth outcomes, and of having lost control in managing the birth process, has been found to have a major impact on current practice of individuals (Kirkham 1999; Davis-Floyd 1992; Menzies 1970). Indeed the present study found some evidence to support this, for example both midwives and doctors spoke of how previous experiences influenced the way in which they made decisions and managed care of women in labour.

Factors such as personality and the extent to which someone has a sense of control over a situation have been shown to affect susceptibility to emotional stress (Kirkham 1999). The author argues that whilst emotional labour is important in establishing patient relationships it carries the risk of 'burnout' if prolonged or intense. To prevent this, Kirkham observed that midwives adopted defensive strategies, and, as this study concurs, rule following is one such strategy, which protects staff against the pain and load of their work. However, whilst midwives work within the confines of guidelines, they ultimately have little actual control over situations that may then spiral out of their control, and hence are much more susceptible to emotional stress than doctors'. This is because of concerns about being blamed for poor decision-making and failing to make appropriate referrals to the obstetric team in the event of poor birth outcomes or near-misses. Typically, as my observations showed, doctors were far better supported by their colleagues than midwives were, when poor outcomes occurred. Whilst midwives' are able to make use of and utilise research effectively in their clinical area, when complex solutions are required for situations that do not fit any typical patterns, midwives' are unable to proceed in making decisions related to care and outcomes.

The fourth key theme of uncertainty in relation to the decision-making of doctors and midwives relates to the translation of uncertainty into risk. Cases cited in the

findings chapters highlights the limits of the control which health-care professionals can exercise during the process of labour. For example, Mrs Tuffnell, referred to in chapter 7, presented on to the unit believing that her second child could only be delivered through recourse to a caesarean section, upon the instructions of her obstetrician. However, because of her rapid progress in labour, the operation could not be undertaken and she went on to deliver a healthy baby vaginally. This event caused great distress to Mrs. Tuffnell at the time, but such accounts support Adamson's (1997) view that many medical encounters fall short of the ideal whereby diagnosis and outcome can be guaranteed. There is, for example, much scepticism about the value of pelvimetry in determining a woman's ability to give birth vaginally (Cunningham et al.1993). These authors point out that a range of other factors, such as the size of the presenting part and the presentation and position of the fetus, have to be considered in the decision-making process. As Light (1979) observed, medicine is predicated on empirically derived probabilities rather than guided by mathematically based laws. Fox (2000) and other sociologists have argued that if doctors were more open about their own infallibility and about the limitations of medicine they would be relieved of the burden of perfection. They would thereby establish better communication with their patients, and managing uncertainty in decision-making would become a shared process. Thus, Mrs. Tuffnell might have had a better understanding of the situation she was facing.

The emphasis on control and certitude made it appear that doctors and midwives were insensitive to the different needs of individual women, as their attempts to control birth and prevent adverse events from happening became the prime concern in the decision-making process. Thus how uncertainty was managed by health professionals led to both doctors and midwives being seen as over-controlling and restricting women's choice in labour because of their own uncertainties about managing the birth process. This appeared to arise primarily out of a lack of confidence among less experienced clinicians and, in part, to minimise adverse events from occurring, rather than from a need to 'control' women's experiences of childbirth *per se.* On the whole, it is not the individual practitioner who is at fault of being overtly controlling but rather the system of

core values and beliefs that underline medical training, and the knowledge of the risk of litigation in the event that things go wrong.

9.4 Coping with uncertainty

Chapter 8 focussed on the final aim of the thesis which was to identify the coping strategies of obstetricians and midwives as they attempted to manage the levels of uncertainty affecting their decision-making. Some research has already examined the coping mechanisms of doctors when faced with clinical uncertainty and this has been discussed in chapter 4. For example, Fox (1959) found that collegiality was the main form of coping exhibited by doctors. Not only did doctors share their own personal experiences with each-other, but they also valued the strong relationships they had built up with patients under their care. Similarly, Bosk (1979), in his study exploring how doctors managed medical failures, reports on the importance of collegiality among doctors and issues around responsibility for admitting medical errors through recognition of medical uncertainty. This meant that doctors came to see mistakes as part of the professional learning curve and were not afraid to acknowledge mistakes to their medical colleagues. Importantly, such admissions of error were not acknowledged to the patient or to other professional groups. There remains, however a gap in our knowledge specifically of the coping mechanisms of obstetricians and midwives. Four main mechanisms for coping with uncertainty have emerged from the data. These are formal command systems; informal command systems; maintaining routines and conformity and finally, when assessing health-care professionals' attitudes to caesarean sections, undertaking the procedure is clearly another way in which to deal with uncertainty.

The first theme to emerge from the data was the importance of command systems in helping doctors come to terms with uncertainty. Firstly, peculiar to doctors, was the use of weekly perinatal and maternal morbidity and mortality meetings. In the main, junior doctors would prepare, present and discuss their management of specific cases of obstetric interest. As Bosk (1979) observed, the meetings assisted physicians in focussing on uncertainty as a problem, making treatment decisions, and evaluating outcomes. I found, as Bosk (1979) did, that such occasions made doctors reflective about their actions. Indeed, this was

exemplified by the registrar who recounted his story of the baby who was born in poor condition following a caesarean section in chapter 8. Nonetheless, although reflexive about their actions, cases were generally devoid of emotional representation and presented within a similar framework. I agree with Atkinson (1995) who described cases as being presented as "morality tales, mysteries and cliff hangers". The meetings fulfilled powerful symbolic functions of controlling practice, the importance of using clinical experience and scientific evidence, and emphasising the importance of action rather than inaction. Despite the heterogeneity of practices made apparent in the case discussions among consultants, collegiality remained a significant factor in their ability to disclose care given to women during the course of their labour. I found that these meetings enabled junior doctors' to realise that the uncertainties that beset their decision-making were shared by their senior colleagues, giving them a sense of perspective in the event of adverse events. Thus, emphasis was placed on the uncertainties in medical knowledge per se, and how neophytes should manage this.

A second coping strategy to emerge from the data, more applicable to midwives, was the use of informal command systems. Rather than have an open professional forum as doctors do, where they were able to acknowledge that medical uncertainty is inherent in clinical practice, midwives' had to cope with their problems and stressors by sharing confidences with their close colleagues and family. This was because, as I have previously identified, midwives felt considerable pressure from senior midwives/managers that they should be sufficiently knowledgeable and adequately skilled to be able to recognise problems when they develop and to be able to accurately assess and refer women to the obstetric team in the course of their labour. This pressure meant that midwives internalised their uncertainties for fear of reprisal from their senior colleagues, and this is reflected in various midwives' comments in chapter's 6, 7 and 8. This process differed from doctors, as I discussed above, who utilised formal and structured ways of addressing issues around decision-making and uncertainty. Kirkham's (1999) illuminating study examining midwifery culture in the NHS revealed a culture of service and sacrifice whereby midwives internalised guilt and blame when things had gone wrong. Kirkham goes on to

highlight the bizarre situation where midwives are encouraged to empower the women they care for whereas midwives' are becoming disempowered by the organisations within which they work.

The third coping strategy to emerge from the data was the importance of conformity and maintaining routines. Doctors', for example, were only too aware of the need to learn the idiosyncrasies of individual consultants as soon as their period of tenure began. Whilst it was important to be aware of the guidelines in place at the hospital, and to utilise them appropriately, they also had to be aware that the experience of the consultant could over-ride guidelines. Some junior doctors, as indicated in chapter 6, had acquired the necessary background information, such as personality type and practice, about some consultant's, before they had actually started their period of training at the hospital. It was important to know how the consultant wanted things done, even if the junior doctor might have disagreed with their decision-making. This was because conforming to consultant's individual preferences for getting things done would be reflected favourably in references that junior doctors would get at the end of their period of tenure. The process of conforming and maintaining routines helped build up professional defences and ensured that junior doctors were able to reduce the level of uncertainty that they were faced with in the clinical area. Furthermore, this process also ensured that as the knowledge of junior doctors increased they were able to move from self-blame for their own ignorance to being able to distinguish between their lack of knowledge and the limitations of knowledge. This was also found to be the case by Light (1979) in relation to managing medical uncertainty. It has significant implications for the management of childbirth because it suggests that variability in practices will continue in spite of guideline recommendations.

These factors can be seen as part of a wider process through which doctors recognise the importance of clinical experience and adjust to their increasing responsibilities when making decisions under conditions of uncertainty. Conformity and maintaining routines was an important mechanism for midwives too, when coping with clinical uncertainty. Similarly, most midwives' made an effort to get on with managers and doctors, even if they disagreed with the way

they managed the unit. This benefited them in a variety of ways, most notably by ensuring they were less likely to be subjected to being scapegoated, improved their credibility with doctors' and in consequence made their working day more pleasant. For example, midwives were also subjected to consultant idiosyncrasies and in general conformed to their requests. Although they might disagree with some aspects of management, for example the decision to induce a woman or undertake what they considered an inappropriate caesarean section, this was rarely voiced to the doctors concerned. Rather, such opinions were much more likely to be discussed with other midwives at handover reports.

My research illustrates that routines and conformity for both professional groups serves the important function of ensuring that the health-care professional comes through safely to the other side. This was also found to be the case by Light (1979), Bosk (1979) and Davis-Floyd (1992) who argued that the importance of such rituals was to keep control over the birth process through the use of relatively strict time frames and adherence to routines in the work place. Thus, although uncertainty is a feature of medical work, routines allow the actual process of work to continue and permit clinicians to act in anticipation of what they should do, or will be asked to do.

The fourth theme to emerge from the data relates to health professional's attitudes towards caesarean sections. Other research has suggested that many clinicians now act defensively in maternity care (Davis-Floyd 1992; Fielding 1995; Symon 2000). The findings from this study indicate that the threat of litigation is considered an important aspect of the decision-making process. For example, risk management meetings for all staff, but particularly doctors, stressed the importance of making good and timely decisions so as to minimise litigation at the hospital. Thus, for some women this meant that some caesarean sections were undertaken which, with the benefit of hindsight, were not deemed necessary. This factor was demonstrated in morbidity meetings, as well as the in-house audit undertaken by Consultant Brown, which I discussed in chapter 8. Furthermore, during the process of interviews some of the doctors' and midwives' interviewed were very clear about this. The issue for them was that at

the time, based upon the clinical picture that they had, a caesarean section was the only course of action deemed appropriate. They argued that it is very easy to say retrospectively that a caesarean section was not necessary, but that critics of their action were not present at the time to witness the problems they were facing. Clearly, clinical expertise from senior doctors and consultants' should help junior doctors achieve better decision-making skills, and thus help them manage uncertainty better. However, based upon my interview data, some consultants were ambivalent about the caesarean section rate, and were not unduly concerned about the rise. It was apparent by interview comments that they perceived outside criticism as a personal attack on their decision-making skills.

During the course of the study many caesarean sections were undertaken for lack of progress in labour and fetal distress. As highlighted in the National Sentinel Audit (2004) these were the two most common reasons for caesarean sections being undertaken, and an area which needs further exploration. For example, recourse to fetal blood sampling, which is recommended RCOG practice, prior to making a decision to undertake a caesarean section, is widely recognised to be poor. When doctors' and midwives' consider whether a caesarean section is medically justified, consideration of the unknown outcome and its consequences to the mother, her baby and the health-care professional is a significant factor in this process. I found that a range of socially pertinent issues, such as concerns about rights, duties, obligations and expectations arise when such decisions are made. In particular, the outcome can not be known except in retrospect. Thus, caesarean sections can be considered to have a precautionary function. This finding has significant ramifications for addressing ways to reduce the caesarean section rate because it appears to cast doubt on the ability to streamline decision-making as far as caesarean sections are concerned and to seriously question whether caesarean section rates can be reduced on a national level because of uncertainty about outcomes.

In the past when faced with a situation where a caesarean section was the only available option – a life or death choice – now the situation often appears to be

more complex. A combination of the context in which such decisions are made, which not only involve the effects on the mother and baby, but also on the professional standing of the health-care professional, and the ways in which organisations attempts to manage uncertainty through emphasis on risk management and ensuring professional obligations to the public are maintained, now often determines childbirth outcomes. Undertaking a caesarean section involves a complex social transaction in which powerful cultural beliefs are embedded in the process, and not just among women and their families but also amongst the professional staff managing the process. These decisions will continue to lead to further deep questions and concerns about the future of maternity care, particularly with regards to the future status and role of the midwife. In particular the study suggests that we must think far more carefully, more broadly and on a longer time-scale about such interventions and the way forward for maternity care.

9. 5 Limitations of the study

The first limitation of the study is related to the case study method, in that neither the hospital research site nor the doctors', or midwives' who work there were necessarily representative of wider health services in the UK. However, the hospital did have many commonalities with other NHS Trusts that make it at least reflective of the wider context of childbirth in the UK. These were Prospect's increased rate of caesarean sections, from 10% in 1980 to 18% in 2000, which reflected the wider upward trend in caesarean section rates in the UK. Furthermore, the unit also suffered from a chronic shortage of midwifery staff, which, again, reflected the problems of recruitment and retention in other UK inner cities. Additionally, in line with current NHS reforms, the hospital had undergone a reorganisation of its structure and organisation and implemented a range of risk management strategies designed to ensure that policies and guidelines were maintained by an ongoing audit of clinical practices. Nonetheless, interpretation of findings must consider the possibility of differences between different Trusts, especially in units where midwives are the lead professional for women who are considered low risk, or where midwives regularly undertake home births. Prospect, however, was a consultant led unit

managing the births of both low risk and high risk women. However, despite some similarities with other NHS Trusts, qualitative data which relies on non-standardised data obtained from small unrepresentative samples should be generalised with caution. As already noted the hospital was under a significant process of transition, and this factor may have had some impact on the findings. Nonetheless, qualitative approaches can provide insight into complex processes identifying 'what exists' rather than 'how much?' (Walker 1982: 1).

The second limitation of the study is that due to relatively small numbers and the qualitative design, it was not feasible to explore the relationship between the cultural, socio-economic and gender backgrounds of doctors and midwives, and how they managed uncertainty. For example, other studies have suggested that females tolerate less uncertainty than males (Allison *et al.* 1998; Schor *et al.* 2000). It is unclear whether clinical experience and the environment in which midwives worked affected their tolerance of uncertainty any more than it would their medical colleagues. The possibility of differences in gender within professions and their impact on working with, and coping with uncertainty have been recognised as important issues in other studies (for example Gerrity et al. 1995; Schor et al. 2000), and is an issue which needs further exploration.

The selection of midwives and doctors for observation and interviews was done on an ad hoc basis according to their willingness to allow me to shadow them during the course of their work. Clearly, this introduces a potential for bias in the study, as my reported observations only represent those clinicians who were willing to be shadowed during the course of their work. However, there were many other opportunities to observe those clinicians who felt unable to let me shadow them in the context of the general work area and unit meetings. This informal observation provided me with a general 'feel' about the unit and the people who worked in it. The meetings and encounters in the ward area highlighted conflicts and relationships among different staff groups and with pregnant women. The aim of this study was to gain a wider understanding of how uncertainty impacts on the decision-making of health-care professionals, therefore as Arber (1995) observes the type of sampling selected for this study is ideal for exploration and theory development.

My role as a researcher frequently shifted between observer to participant observer, which was necessary in order to become accepted within the organisation. There were of course some people that I did not develop good relationships with during the period of my study for reasons that I do not know. Although, I always remained amicable towards them when I met them on the unit, relationships with them were always very distant and uncomfortable. This, of course, has implications for my role as a researcher, and raised issues about what I observed and how I interpreted my data. As Kleinman writes:

> *"Our attitudes affect what we choose to study, what we concentrate on, who we hang around with or interview, our interpretation of events, and even our investment of time and effort in the field." (Kleinman 1991:185)*

Nonetheless, in summary, the above factors must be considered as a potential source of bias in the study when interpreting the findings and considering any future research projects.

9.6 Implications of the findings for midwives'

This study has contributed to the body of knowledge on how uncertainty impacts on midwives by identifying that the definition of uncertainty and its control differs from the medical profession. This is because midwives lack the professional autonomy and support needed to control the uncertainties associated with childbirth. The findings demonstrate that uncertainty was a significant problem for midwives. Results suggest that, for many midwives, the organisational structures, such as limited and ever changing resources, impact on the way midwives manage the care of pregnant and labouring women and their working relationships with their colleagues. Chapter 6 indicated that, although the government has directed additional funds into the training of more midwives, problems of retention remain a significant issue at the hospital, as it does elsewhere. Policies that assist retention of midwives would need to address the way medical strategies to manage uncertainty impact on midwifery practice, for example the sense of disempowerment that midwives experience within a hierarchically orientated medical setting. However, there are many strategies to

manage uncertainty used by the medical profession which could benefit the midwifery profession, for example morbidity meetings. The current emphasis on being certain and on specific time frames in labour, undertaken within an institutional framework dominated by a biomedical model, threatens to obviate traditional midwifery skills and the ability to provide individualised care.

9.7 Implications of the findings for doctors'

This study has built on the existing body of knowledge on medical uncertainty and its impact on doctors. According to a variety of research highlighted in this thesis (Fox 1957; 1959; Light 1979; Bosk 1979; Katz 1984; Christakis 2000; West 2001), all doctors are confronted to varying degrees with problems of uncertainty regarding diagnosis, treatment, and predicting outcomes. In relation to maternity care, surveillance and control of a woman's labour are important components of the current prevailing medical approach to managing and reducing uncertainty. However, this means that doctors can become insensitive to complexities that arise in decision-making when tailor-made solutions do not fit all women. Such situations can expose neophyte doctors to ambiguities and dilemmas in decision-making, until they learn their trade and the importance of minimising uncertainty by acting in anticipation of problems occurring. One of the ways these issues are emphasised is through attendance of morbidity meetings. Clearly, such strategies will not benefit women who are low risk, but an understanding of the range of subjective factors that impacts on the doctor's decision-making process can be a useful aid in managing situations better. These factors, for example, include addressing how previous experiences that resulted in poor outcomes impact on the way doctors make decisions. However, the effect of previous experiences may have less impact if more women become more actively involved in the decision-making process about what happens to them during the course of their labour. Significantly, becoming more open to the possibilities of what traditional midwifery practice can bring to the birthing experience for women may enable doctors to be less controlling. To achieve this, doctors must learn to be more open and flexible to change and patient needs, rather than defensive and authoritarian.

9.8 Implications for future research

The findings of this study result from an attempt to examine the impact of uncertainty on the decision-making of midwives and doctors, and to explain the strategies they use to cope with uncertainty. In the course of my field work a number of key areas for further research and contributions to knowledge regarding the body of work on uncertainty, became apparent. Future research could have the following aims:

1. To explore whether obstetric attitudes towards uncertainty affects their propensity to undertake more or less caesarean sections.
2. A joint RCM and RCOG policy recommendation is that all obstetric units should have the presence of a full-time consultant on the labour ward. This presents an opportunity to research whether this support for junior doctors results in lower caesarean section rates, and improves their coping mechanisms for dealing with uncertainty.
3. Midwives need more role models to empower them to manage uncertainty within the context of a woman centred approach. This presents an opportunity to explore how having a lead clinical midwife responsible for promoting normality in low risk women impacts on the way midwives manage clinical uncertainty within a medically orientated environment.
4. To explore how strategies used by doctors to manage uncertainty, for example how junior doctors are supported to manage decision-making when faced with clinical uncertainty, would help midwives.
5. To determine how women perceive and cope with uncertainty in pregnancy and childbirth.

REFERENCES

Adams M. 1990 A study of communication in the labour ward in *Research and the Midwife: Conference proceedings 1989* pp2-18

Adamson C. 1997 'Existential and Clinical Uncertainty' *Sociology* vol. 31:4 132-159

Adler PA. and Adler P. 1998 'Observational techniques' in Denzin NK and Lincoln YS (eds) *Collecting and Interpreting Qualitative Materials* London; Sage.

Affonso DD. and Stichler JF. 1978 'Exploratory study of women's reaction to having a caesarean birth' *Birth and Family Journal* 5:pp.88 -94

Alfirevic Z, Devane D, Gyte GML 2006 Continuous cardiotocography (CTG) as a form of electronic fetal monitoring (EFM) for fetal assessment during labour. *The Cochrane Database of systematic reviews* issue 4 John Wiley and Sons;England

Allison JJ, Kiefe CI, Cook EF, Gerrity MS, Orav EJ, Centor R. 1998 'The Association of Physician Attitudes about Uncertainty and Risk Taking with Resource Use in a Medicare HMO' *Medical Decision-making* 18:pp.320-329

Allsop J. and Mulcahy L. 1996 *Regulating medical work: Formal and informal controls.* Philadelphia: Open University Press

American College of Obstetricians and Gynecologists.2003 'Surgery and patient choice: the ethics of decision-making '. *Obstet Gynecol.* 102:pp.1101-1106.

Amu O, Rajendran S, and Bolaji I 1998 'Maternal choice alone should not determine method of delivery' *British Medical Journal* 317: 7156: pp.462

Anderson GM. and Lomas J. 1985 'Explaining rate variations in caesarean section rates: patients, facilities or policies?' *Canadian Medical Association* 132:pp.253-260

Annandale E. 1996 'Working On The Front Line: Risk Culture And Clinical Decision-making in The New NHS' *The Sociological Review* Oxford; Blackwell Publishers

Annandale EC. 1988 'How midwives accomplish natural birth: Managing risk and balancing expectations' *Social Problems* 35: 2 pp.95-109

Arber S 1995 'Designing Samples' in Gilbert, N. (ed) *Researching Social Life* London; Sage Publications

Armstrong D. 2002 'Clinical Autonomy, individual and collective: The problem of changing doctors behaviour' *Social Science and Medicine* 55 pp.1771-1777

Armstrong G. 1993 'Like that Desmond Morris?' in Hobbs D and May T (eds) *Interpreting The Field: Accounts of Ethnography* Oxford, Oxford University Press

Arney W. 1982 *Power and the Professions of Obstetrics* London; University Press

Asakura H and Myers SA. 1995 'More than one previous caesarean delivery: a 5 year experience with 435 patients' *Obstetrics and Gynaecology* 85:924-9

Atkinson P. 1984 'Training for Uncertainty' *Social Science and Medicine* 19 :9 pp.949- 956

Atkinson P. 1990 *The Ethnographic Imagination - Textual Constructions of Reality'* London: Routledge

Atkinson P. 1995 *Medical Talk and Medical Work* London, Sage

Atkinson P. and Hammersley M 1998 Ethnography and Participant Observation in Denzin NK and Lincoln YS (eds) *Strategies of Qualitative Inquiry* pp. 110-136 London ; Sage Publications

Babrow AS. and Kline KN. 2000 'From reducing to coping with uncertainty: reconceptualising the central challenge in breast self exams' *Social Science and medicine 51:1805-1816*

Badcott D 2005 The Expert Patient: valid recognition or false hope? Medical Health Care Philosophy 8:2 pp173-8

Bales RF. 1950 *Interaction Process analysis: A method for the study of small groups* Massachusetts, Addison-Wesley

Ball L. Curtis P. and Kirkham M.2002 *Why do midwives leave?* London; Royal College of Midwives

Bardsley M, Barker M, Bhan A. Farrow S. *et al.* 1998 '*Health of Londoners , A public health report for Londoners'* London, Kings Fund

Bassett KL. Iyer N. Kazanjian 2000 Defensive medicine during hospital obstetrical care: a by-product of the technological age *Social Science and Medicine* 51:523-537

Baumann AO, Deber RB, and Thompson GG. 1991 'Over confidence among physicians and nurses: The micro-certainty, macro-uncertainty phenomenon' *Social Science and Medicine* 32:.2 pp.167-174

Benner P and Tanner C 1987 'How expert nurses use intuition' *American Journal of Nursing* 87:1 pp. 23-31

Benzeval M, Judge K and Whitehead M. 1995 *Tackling Inequalities in Health: An agenda for action* London , Kings Fund

Birchard K 1999 Defence union suggest new approach to handling litigation costs in Ireland *Lancet* 1999 354:1710

Birth Trends 2004 *http://www.vbac.com/birthtrends.html*

Bobbitt, B 1995 *'Traumatic labour and the first time father'* Unpublished BSc dissertation, Kingston University, Kingston

Boseley S 2000 'The Shipman case: Closing loopholes that led to murder' *The Guardian* Feb 2nd

Bosk C. 1979 Forgive *and Remember: Managing Medical Failure* London, University of Chicago Press

Boyd GM. 1916 *American Journal of Obstetrics* vol.73: 656

Bradshaw G and Bradshaw P 1997 'The Professionalisation of Midwifery' *Modern Midwife* 7: 12;23-6

Braithwaite J. 1898 Letters to the editor *Lancet* Dec. pp.1763

British Medical Journal 1946 Editorial. pp24

Bruyn ST. 1966 *The Human Perspective in Sociology* Englewood Cliffs, NJ; Prentice Hall

Bryar R 1995 *Theory for Midwifery* Practice London; Macmillan Press

Buchmann EJ, Gulmezoglu AM, Nikodem VC. 1998 'Partogram use in the management of labour' *(Cochrane review)*. The Cochrane Library, Issue 3 Oxford: Update Software

Burr RW, Johanson RB, Watt I. *et al.* 1999 'A survey of obstetricians attitudes to the management of term breech' *Journal of Clinical Excellence* 1: 35-40

Burrows LJ, Meyn LA, Weber AM. 2004 'Maternal morbidity associated with vaginal versus caesarean delivery. *Obstet Gynecol* 103:907-912

Bursztajn H J, Feinbloom MD, Hamm RM, and Brodsky A 1990 Medical choices, Medical Chances: How Patients, Families and physicians can cope with Uncertainty London; Routledge

Butler J, 1999 *The Ethics of Health Care Rationing* London, Cassell

Calman K. 1993 *Hospital doctors: training for the future. The report of the working group on specialist medical training* London: Health Publications Unit

Campbell JM. 1924 *'Maternal Mortality'* Ministry of Health. Reports on Public Health and Medical Subjects no.25 HMSO London

Campbell JM. 1927 *'The Protection of Motherhood'* Reports on Public Health and Medical Subjects no. 68 HMSO London

Canada Institute for Health Information 2004 http://www.cihi.ca (accessed Jan 2005)

Capra F 1983 *The Turning Point: Science, society and the rising culture* London, Flamingo publications

Cartmill RSV and Thornton JG. 1992 Effect of presentation of partogram information on obstetric decision-making. *Lancet* 1992;339 pp.1520-2.

Cartwright A 1979 *'The dignity of labour? A study of childbearing and induction'* London, Tavistock

Cartwright E 1998 'The Logic of Heartbeats' in Davis-Floyd.R. and Dumit.LJ (eds) *Cyborg Babies:from techno-sex to techno-tots* London, Routledge

Cassell J. 1988 'The Relationship of observer to observed when studying up'. In: Burgess, R.G. (Ed.) *Conducting Qualitative Research, Studies in Qualitative Methodology*, Greenwich:

Cassell J. 1991 *Expected miracles: Surgeons at work.* Philadelphia, Temple University Press

Cassell J. 1998 *The woman in the surgeons body.* Cambridge, Massachusetts: Harvard University Press.

CEMACH 2004 *Maternity services for women in 2002 with type 1 and type 11 diabetes* London; RCOG Press

CEMACH 2006 *Perinatal mortality surveillance in England, Wales and Northern Ireland* London; RCOG Press

Chaffer D and Royle L 2000 The use of audit to explain the rise in caesarean section *British Journal of Midwifery* 8: 11

Chalmers I. 1993 The Cochrane collaboration: preparing, maintaining and disseminating systematic reviews of the effects of health care. *Ann NY Acad Sci* 703:156-163

Chamberlain G. and Steer P. 1999 ABC of labour care: Operative delivery *BMJ* 318:1260-1264

Chow S.1998 Speciality group differences over tonsillectomy: Pediatricians versus otolaryngologists *Qualitative Health Research* 8:1 pp.61-75

Christakis N. 1999 *Death Foretold: Prophecy and Prognosis in medical care* Chicago, Chicago Press

Churchill H. 1997 *Caesarean Birth - Experience, Practice and History* Cheshire; Books for Midwives Press

Cioffi J and Markham R. 1997 Clinical decision-making by midwives managing case complexity *Journal of Advanced Nursing* 25:265-272

Coffey A. (1999) *The Ethnographic self: Fieldwork and the representation of identity* London: Sage

Commission for Health Care Audit and Inspection 2006 *Investigation into 10 maternal deaths at or following delivery at Northwick Park Hospital NHS Trust between April 2002 – April 2005* London; Health Care Commission

Confidential Enquiry into Stillbirths and Deaths 2003 Project 27/28 An inquiry into quality of care in the survival of babies born at 27-28 weeks *Executive Summary* London; Maternal and Child Health Research Consortium

Confidential Enquiry into Stillbirths and Deaths in Infancy 2000 *7th Annual Report* London: Maternal and Child Health Research Consortium

Creedy DK, Shochet IM, and Horsfall J. 2000. Childbirth and the development of acute trauma symptoms: incidence and contributing factors. *Birth* 27:2pp.104-111.

Cunningham FG, MacDonald PC, Gant NF Leveno KJ. Gilstrap.LC. 1993 *Williams Obstetrics* 19th edition. London; Prentice Hall International

Dalrymple T. 2000 Our lives in their hands *The Guardian ,G2* Feb.2nd

Davies HTO and Nutley SM. 2000 Developing learning organisations in the new NHS *BMJ* 320:998-1001

Davis-Floyd R 1992 *Birth as an American Rite of Passage* Berkeley; University of California Press

Davis-Floyd R 1990. 'The Role of Obstetrical Rituals in the Resolution of Cultural Anomaly' *Social Science and Medicine* 31:2 .pp.175-189

Davis-Floyd,R and Sargent CF 1997 *Childbirth and Authoritative Knowledge: Cross cultural perspectives* (eds) California; University of California Press

Denzin N. 1970 'The Research Act' *Sociology* London: Butterworths

Denzin N. and Lincoln YS. 1998 *Collecting and Interpreting Qualitative Materials* London, Sage Publications

Department of Health 1989 *Working for Patients* London HMSO

Department of Health 1991 *The Patients Charter* London HMSO

Department of Health 1993 *Changing Childbirth; Report of the Expert Maternity Group* London; HMSO

Department of Health 1997 *The New NHS – Modern and Dependable* London HMSO

Department of Health 1998 *A First Class Service: Quality in the new NHS* London, HMSO

Department of Health 1999 *Future Staffing Requirements* London; HMS

Department of Health 1999 *Making a Difference: Strengthening the Nursing, Midwifery and Health Visiting Contribution to Health and Health care* London; HMSO

Department of Health 2000 *Care Standards Act* London; HMSO

Department of Health 2000 *The NHS Plan: A plan for investment, a plan for reform: A summary* London; HMSO

Department of Health 2001 *Midwives - Making a Difference* London; HMSO

Department of Health 2001 *Report of a census of organs and tissues retained by pathology services in England conducted in 2000 by the chief medical officer.* London;HMSO

Department of Health 2001 The Expert Patient: A new approach to chronic disease for the 21st century London; HMSO

Department of Health 2004 National Service Framework for Children, Young People and Maternity services London; HMSO

Department of Health 2004 *NHS Maternity Statistics England 2002 to 2003*: London; HMSO

Department of Health 2005 *NHS Maternity Statistics England 2003 to 2004* London; HMSO

Department of Health 2006 *NHS Maternity Statistics England 2004 to 2005* London; HMSO

Department of Health and Social Security 1983 *NHS Management Inquiry Report (The Griffith Report)* London DHSS

DeVries R. 1989 'Caregivers in pregnancy and childbirth' Chapter 9 in Chalmers I. Enkin M. and Keirse M. (eds) *Effective care in pregnancy and childbirth* Oxford; Oxford University Press

DeVries R. 1996 'The Midwife's Place: An International Comparison of the Status of Midwives' in Murray,S (ed) *Midwives and Safer Motherhood* London, Mosby

Dingwall R. Rafferty A. and Webster C.1988 *An Introduction to the Social History of Nursing* London; Routledge

Dobson R. 1999 Taking the NHS to court *The Times* July 20

Donnison J. 1988 *Midwives and Medical Men: A history of the struggle for the control of childbirth* London; Historical Publications

Dougherty MC and Tripp-Reimer T 1985 The Interface of Nursing and Anthropology *Annual Review of Anthropology* 14;219-41

Douglas M. 1986 *How Institutions Think* New York, Syracuse University Press

Dowding, D and Thompson, C, 2001 "Decision Analysis in Nursing", in Thompson, C., and Dowding, D.(ed.) *Clinical Decision-making and Judgement in Nursing*, Edinburgh: Churchill Livingstone

Downie RS Macnaughton J and Randall F. 2000 *Clinical Judgement :Evidence in Practice* Oxford, Oxford University Press

Dunlop W. 1993 Changing Childbirth. Commentary 11 *British Journal of Obstetrics and Gynaecology* 100 pp.1072-1074

Durham R 2002 'Autonomy and Commitment to Life Outside Midwifery. Women, Work and Midwifery' in Mander R and Flemming V (eds) *Failure to Progress: The contraction of the midwifery profession* London, Routledge pp.121-132

Eastman NJ 1932 The Role of Frontier America in the development of caesarean section *American Journal of Obsteric Gynecology* 24;919

Elias N. 1978 *The Civilizing Process* Oxford; Blackwell

ENB 1999. Midwifery Practice: identifying the developments and the difference: an outcome report arising from the audit of maternity services and practice visits undertaken by Midwifery Officers Board 1998 – 1999 London; ENB

Enkin M, Keirse MMNC. and Chalmers I . 1989 *A Guide to Effective Care in Pregnancy and Childbirth* Oxford; Oxford University Press

Enkin M. Keirse M. Renfrew M. and Neilson J. 1996 *A Guide to Effective Care in Pregnancy and Childbirth* 2nd ed. Oxford; Oxford University Press

Epstein AM, Begg CB and McNeil BJ 1984 The Effects of Physicians Training and Personality on Test Ordering for Ambulatory Patients *American Journal of Public Health* 74:11 pp.1271-1272

Feinstein AR. and Horwitz RI, 1997 Problems in the evidence of evidence- based medicine *The American Journal of medicine* 103: pp:529-535

Fielding SL. 1995 'Changing Medical Practice and Medical Malpractice Claims' *Social Problems* 42:1 pp.38-55

Fielding, N 1981 *The National Front* London : Routledge and Kegan Paul

Fielding,N.(b) 1995 'Ethnography' in Gilbert,N. (ed) *Researching Social Life* London; Sage Publications

Finer NN, Robertson CN, Richards RT, *et al.* 1981 'Hypoxic-ischemic encephalopathy in term neonates: perinatal factors and outcome' *Journal Pediatrics* 98:112-117

Firth-Cozens,J 1999 The Psychological Problems of Doctors in Firth-Cozens,J and Payne,R (Eds) *Stress and the Health Professional: Psychological and Organisational Causes and Interventions* London, UCL Press

Fisher J, Astbury J. and Smith A. 1997. Adverse psychological impact of operative obstetric interventions: A prospective longitudinal study. *Australian and New Zealand Journal of Psychiatry,* 31: pp. 728 - 738.

Fisk N and Paterson-Brown S 2004 'The safest method of birth is by caesarean' *The Observer* May 2nd

Fox RC 1989 *The Sociology of medicine – a participant observers view* New Jersey, Prentice-Hall

Fox RC 1998 *Experiment Perilous: Physicians and Patients Facing the Unknown - with new epilogue* New Jersey, Transaction Publishers

Fox RC 2000 Medical Uncertainty Revisited in Albrecht GL Fitzpatrick R. and Scrimshaw SC. *The Handbook of Social Studies in Health and Medicine* London, Sage

Fox RC. 1980 'The Evolution of Medical Uncertainty' Millbank Memorial Fund Quarterly *Health and Society* 58:1; pp.1-49

Fox RC. 1997 'Talcott Parsons, My Teacher' *The American Scholar* 66:.3

Fox RC. 1957 Training for Uncertainty in Merton RK. Reader G and Kendall PL (eds) *The Student Physician* Cambridge, Mass. Harvard University Press pp.207-241

Fox RC. 1959 *Experiment Perilous: Physicians and Patients Facing the Unknown* Glencoe Illinois, Free Press

Francombe C. Savage W. Churchill H. Lewison H. 1993 *Caesarean Birth in Britain* London; Middlesex University Press

Freedland J. 2000. Wackos in white coats *The Guardian* Feb.22nd pp.19

Freidson E. 1970. *Profession of Medicine* New York, Harper and Row

Garro, L. 1998 On the rationality of decision-making studies: part 1: Decision models of treatment choice. *Medical Anthropology Quarterly* pp.*319-340*

Garssen J and Meulen A 2004 Perinatal mortality in the Netherlands. Backgrounds of a worsening international ranking http://www.demographic-research.org/volumes/vol1/13/

Gerrity MS. White KP. Devellis RF. Dittus RS. 1995 'Physicians Reactions to Uncertainty: Refining the constructs and scales' *Motivation and Emotion* 19:3 pp.175-191

Gibb D. 2001 'Intrapartum care' in Clements RV (ed) *Risk management and litigation in obstetrics' and gynaecology* London; The Royal Society of Medicine Press.

Giddens A. 1998 Risk Society The context of British Politics in Franklin J (ed) *The Politics of Risk Society* Oxford; Polity Press

Gillett G 2004 Clinical medicine and the quest for certainty *Social Science and Medicine* 58:4 pp.727-738

Glaser 1996 *The Effects of stress on the Immune system: Implications for Health* Presentation, Behavioural Medicine Research Institute, Ohio State University, Health Sciences Centre

Goffman E 1987 '*The presentation of self in everyday life'* London; Pelican Books

The Good Birth Guide 2001 *Sunday Times Magazine* 15 July

Gottleib S 1999 'US effort to cut caesarean section rate may be harmful' *BMJ* 318:7177. pp 147

Green B 1998 *Womens experiences of labour induction for post term pregnancies* Unpublished MSc dissertation, Surrey University, Surrey

The Guardian 2000 'Chronic shortage of midwives puts lives at risk' Nov. 29th.

Haas DM and Ayres AW. 2002 Laceration injury at caesarean section *Journal of Maternal-Fetal and Neonatal Medicine* 11:3 pp:196-198

Hammersley M and Atkinson 1995 Ethnography: Principles in Practice London; Routledge

Handa,VL. Harris,TA. Ostergard,DR. 1996 'Protecting the Pelvic Floor: obstetric management to prevent incontinence and pelvic organ prolapse' *Obstet Gynecol* 88: pp. 470-478

Hannah ME. Hannah WJ. Hewson SA. Hodnet ED. Saigal S. Willan AR. The Term Breech Trial Collaborative Group. Planned caesarean section versus planned vaginal birth for breech presentation at term: A randomised multicentre trial *Lancet* 2000:356:pp.1375-1383

Hardey 1998 *The Social Context of Health* London; Open University Press

Harvey J. 1996 'Accomplishing degrees of certainty in life and death situations' *The Sociological Review* Oxford; Blackwell Publishers pp.78 – 98

Hawking S. 1988 *'A Brief History of Time - From The Big Bang To Black Holes'* London; Transworld Publishers

Heyman B. Swain J. and Gillman M. (1998) A risk management dilemma: How day centre staff understand challenging behaviour. Disability & Society, 13

Hodnett ED. 1999 Caregiver support for women during childbirth (Cochrane Review) In: The Cochrane Library, Issue 1. Oxford; Update Software

Hofmeyr GH. 1989 'Breech presentation and abnormal lie in late pregnancy' In: I Chalmers , M Enkin, MJNC Keirse M(eds) *Effective Care in Pregnancy and Childbirth* Oxford; Oxford University Press

Holmes RW. 1921 in Graham ID '*Episitomy: Challenging Obstetric Interventions*' 1999, Blackwell Science Ltd, London

Holtgrave DR, Lawler F and Spann SJ. 1991 'Physicians risk attitudes, laboratory usage, and referral decisions: The case of an academic family practice center' . *Medical Decision Making* 11:pp.125-130

Horton R 1998 Doctors, The General Medical Council and Bristol *Lancet* 351: 115

Hoyte P. 1995 Unsound Practice: The epidemiology of medical negligence *Medical Law Review* 3: pp.53-73

Hundley VA, Cruikshank FM, Lang GD *et al.* 1994 Midwife Managed Delivery Unit: a randomised controlled comparison with consultant led care *BMJ* 309:pp.1400-4

Hunt JC 1989 *Psychoanalytic aspects of fieldwork* Newbury Park, CA; Sage

Hunt,S. and Symonds,A. 1995 *The Social Meaning of Midwifery* Basingstoke; Macmillan Press ltd.

Hunter D 1996 Rationing and evidence-based medicine *Journal of Evaluation in Clinical Practice* 2: pp.5-8

Hunter D J 1994 'From Tribalism to Corporatism' in Gabe J Kelleher D Williams G (ed) *Challenging Medicine* London, Routledge

Hurwitz B 1997 Clinical Guidelines :Philosophical, legal, emotional and political considerations *The British Medical Journal*

Hurwitz B 2004 'How does guidance influence determinations of medical negligence?' *The British Medical Journal* 329:1024-1028

Hutchinson J. 1867 *The British Medical Journal* pp.125-6

Idama T. Lindow S. 1999 'Safest Option is still to aim for a vaginal delivery' *British Medical Journal* 318:120

Ikomi A and Kunde D 2002 Managing term breech deliveries: Patient values are crucial for good medical decision-making *BMJ* 324:pp50

Imseis HM, Trout WC and Gabbe SG 1999 The microbiologic effect of digital cervical examination *Am J Obstet Gynecol.* Mar;180 (3 Pt 1):578-80

Institute of Manpower Studies 1993 *Mapping team midwifery: A report to the Department of Health* IMS Report No. 242 pp.107-116

Isherwood KM 1992 Are British midwives 'with women'? - The evidence *Midwifery Matters* 54 Autumn pp14-17

Jackson N, and Paterson-Brown S 2001 'Physical sequelae of caesarean section' Best Practice and Research: Clinical Obstetrics and Gynaecology 66:pp.88-92

Jewson, N. 1976 The disappearance of the sick-man from medical cosmology 1770-1870. *Sociology* pp.225-244.

Jordan B 1983 *Birth in Four Cultures* Montreal: Eden Press

Jordan B 1997 Authoritive Knowledge and its construction in Davis-Floyd RE and Sargent CF (eds) *Childbirth and authoritive knowledge*: Cross cultural perspectives London; University of California Press pp.55-79

Josephs, L. 1996. Women and trauma: a contemporary psychodynamic approach to traumatization for patients in the OB/GYN psychological consultation clinic. *Bulletin of the Menninger Clinic*, 60:1 pp.22-38.

Kanouse DE. And Jacoby I. 1988 When does information change practitioners behaviour? *Intl. J of Technology Assessment in Health Care* 4: pp.27-33

Kass A. 1995. ''Called to Her at Three O'Clock AM'': Obstetrical Practice in Physician Case Notes' *The Journal of the History of Medicine and Allied Sciences* 50: pp.194-229

Katz J. 1984. 'Why Doctor's Don't Disclose Uncertainty' *The Hastings Center Report* pp.35-44

Katz-Rothman B 1983 Midwives in Transition: The Structure of a Clinical Revolution *Social Problems* 30:3 pp:262-271

Kellog FS. 1916. *Boston Medical and Surgical Journal* 174: pp.454

Kerr M. 1921 *Journal of Obstetric Gynaecology British Empire* 28: pp.338 and 477

Kirkham M 1999 The culture of midwifery in the NHS in England. Journal of Advanced Nursing 30: 3, 732-39.

Kirkham M and H Stapleton 2000. Midwives' support needs as childbirth changes. *Journal of Advanced Nursing* 32: 2, 465-472.

Kirkham M. 1986. 'A feminist perspective in midwifery' in Webb C (ed) *Feminist Practice in Women's Health Care* New York, John Wiley and Sons.

Kirkham M.1998 Professionalisation: Dilemmas for Midwifery in Abbott P. and Meerabeau L.(Eds) *The Sociology of the Caring Professions* second edition London, UCL Press

Kleinman S. 1991 Field workers feelings; What we feel, who we are, how we analyse. In: Shaffir W.B. and Stebbins R.A. (Eds.) *Experiencing Fieldwork: An inside View of Qualitative research* London: Sage

Kleinman, S and Copp MA. 1993 *Emotions and Fieldwork* London, Sage.

Klint RB 1999 A dance in anger: Physician responses to changes in practice *Physician Executive* 25:2:pp.18-24

Konner M 1987 *Becoming a doctor; A journey of initiation in medical school* New York; Viking

Lawton R and Parker D 1998 Procedures and the Professional: The case of the British NHS *Social Science and Medicine* 48:pp.353-361

Leap N and Hunter B 1993 *The Midwife's Tale: An oral history from handywoman to professional midwife* London, Scarlet Press

Leavitt JW. 1986 *Brought to Bed: Childbearing in America 1750 – 1950* Oxford; University Press

Levine EM, Ghai V, Barton JJ, Strom CM 2001 Mode of delivery and risk of respiratory diseases in newborns Obstetric Gynaecology 97:3: pp.439-442

Lewinsohn, R. 1998 Medical theories, science, and the practice of medicine.. *Social Science and Medicine.* 46: pp. 1261-1270

Lewsi G, Drife J. 2001 (eds) Why Mothers Die 1997-1999 *The Fifth Report of The Confidential Enquiries into maternal Deaths in the United Kingdom* London RCOG Press

Light D. 1979 'Uncertainty and Control in Professional Training' *Journal of Health and Social Behaviour* vol.20 (Dec) pp.310-322

Lipsky M. 1980 *Street Level Bureaucracy: Dilemmas of the Individual in Public Services* New York , Russell Sage Foundation

Lofland J and Lofland L 1995 Analysing Social Settings – a guide to qualitative observation and analysis 2nd edition USA, Wadsworth Publishing Company

Loudon I 2001 'Childbirth' *Western Medicine: An illustrated history* Oxford, Oxford University Press

Lupton D. 1999 *Risk* London, Routledge

Macfarlane A. and Mugford M. 1984 *Birth Counts : Statistics of pregnancy and birth* London, HMSO

Marks LV. 1994 *Jewish Mothers and Maternity Provision in East London 1870-1939* Oxford, Clarendon Press

McHaffie H 1998 Researching Sensitive Issues in Frith L (ed) Ethics and Midwifery: Issues in contemporary practice Oxford; Butterworth Heinemann

Mcilwaine G, Boulton-Jones C. Cole S. Wilkinson C. 1995 *Caesarean section in Scotland 1994/5: A national audit* Edinburgh: Scottish Programme for Clinical Effectiveness in Reproductive Health

Mckay S. 2000 Models of Midwifery Care in *Midwifery and the medicalisation of childbirth: Comparative perspectives* Teijlingen EV, Lowis G McCaffery P and Porter M (eds) New York, Nova Science Publishers

Mead M. 2003 Intrapartum care of women suitable for midwifery-led care – midwives perception of their own and their colleagues practice *Evidence Based Midwifery* London; Royal College of Midwives

Menzies L 1970 *The Functioning of Social Systems as a Defence Against Anxiety* London; Tavistock Institute

Miles A. 1997 Evidence-based medicine *European Journal of Emergency Medicine* 4: pp.156-164

Minkoff H. and Chervak FA. 2003 Elective primary caesarean section *New England Journal of Medicine* 348: pp.946-950

Morrison JJ, Rennie JM, Milton PJ 1995 Neonatal respiratory morbidity and mode of delivery at term: influence of timing of elective caesarean section *Br J Obstet Gynaecol* 102:pp.101-106

Murphy-Lawless J. 1998 *Reading Birth and Death: A History of Obstetric Thinking* Ireland; Cork University Press

Murray SF 2000 Relation between private health insurance and high rates of caesarean section in Chile: qualitative and quantitative study *British Medical Journal* 321:pp.1501 -1505

National Institute for Clinical Excellence 2001 The National Sentinel caesarean section audit report London RCOG press

National Institute for Clinical Excellence 2001 The use of electronic fetal monitoring: the use and interpretation of cardiotocography in intrapartum fetal surveillance London; RCOG Press

National Institute for Clinical Excellence 2004 *Caesarean Section Clinical Guidelines* London, RCOG Press

National Institute for Clinical Excellence 2006 Consultation for Intrapartum Guidelines London; RCOG

Naylor CD 1998 What is appropriate care? *New England Journal of Medicine* 338:1918-20

Nightingale S 1987 Risk Preference and Laboratory Use *Medical Decision-making* 7: pp.168-173

NIH 1981 National Institutes of Health Consensus Development Conference 1981 Caesarean Childbirth NIH Publication no.82-2067

NIH 2006 National Institutes of Health Caesarean Conference *Childbirth Connection* 6/26

O'Driscoll, K. Foley, M. Macdonald, D 1984 Active management of labour as an alternative to caesarean section for dystocia *Obstet Gynecol* 63 pp. 485-90

Oakley A. 1984 *The captured womb . A history of the medical care of pregnant women* Oxford, Basil Blackwell Ltd

Oakley A. Houd S. 1990 'Who is at Risk' in *Helpers in Childbirth :Midwifery Today* London , Hemisphere Publishing Corporation.

Oakley A. Richards M . 1991 'Womens Experiences of Caesarean Delivery' in Garcia J. Kilpatrick. Richards,M.(eds)*The Politics of Maternity Care:Services for Childbearing Women in Twentieth Century Britain* Oxford; Oxford University Press

O'Driscoll K, Meagher D and Boylan P 1993. Active Management of Labour, 3rd ed, Mosby, London.

Page L. 1991 The Midwife in Modern Care in *The Midwife Challenge* (ed) Kitzinger,S London, Pandora

Paget M. 1988 *The Unity of Mistakes: A Phenomenological Interpretation of Medical Work* Philadelphia; Temple University Press

Parsons T. 1951 *The Social Systems* London; Routledge and Kegan Paul Ltd

Paterson-Brown,S. Amu, O. Rajendran,S. Bolaji,I. 1998 'Should doctors perform caesarean sections on request' *British Medical Journal* August. 317:pp.462-465

Paterson-Brown,S. Fisk,N. 1997 'Caesarean section: every woman's right to choose? *Current Opinion in Obstetrics and Gynaecology* 9:351-355

Pearce N. 1999 Epidemiology as a population science. *Int J Epidemiol* 28:pp.1015-1018

Petrou S and Glazener C. 2002 The economic costs of alternative modes of delivery during the first two months postpartum: results from a Scottish observational study *BJOG* 109:pp.214-17

Plass,ED. 1931 *American Journal of Obstetrics and Gynaecology* 22: pp.176

Playfair WS 1886 Editorial *British Medical Journal*

Poses R.M. Chaput DE Saintonge M. McClish DK. Smith W.R. Huber E.C. Clemo FWL. 1998 'An international comparison of physicians judgments of outcome rates of cardiac procedures and attitudes toward risk, uncertainty, justifiability and regret' *Medical Decision-making* 18: pp.131-140

Potter JE. Berquo E. Perpetuo IHO *et al.* 2001 Unwanted caesarean sections among public and private patients in Brazil: prospective study *BMJ* 323: pp.1155-8

Richards L and Richards TJ 1994 From filing cabinet to computer In Bryman A and Burgess G (eds) *Analysing Qualitative Data* London; Routledge

Robinson J. 2000 Who will be there to do the breeches now? *British Journal of Midwifery* 8:11

Robinson-Wolf Z. 1988 *Nurse' Work, The Sacred and the Profane* Pennsylvania, University of Pennsylvania Press

Robson MS. Scudamore IW. and Walsh SM. 1996 'Using the medical audit cycle to reduce cesarean section rates' *American Journal of Obstetric s and Gynecology* 174:1 part 1.

Rose N 1994 'Medicine, History and the Present'. in Jones, CA, (ed.) *Reassessing Foucault: Power, Medicine and the Body*, London; Routledge

Rosenthal M 1999 How doctors think about medical mishaps in Rosenthal,M.M. Mulcahy,L and Lloyd-Bostock (eds) *Medical Mishaps: Pieces of the Puzzle* Buckingham; Open University Press

Row,N. 1901 Letters to the editor *The Lancet* July 20th pp.146

Royal College of Obstetricians and Gynaecologists (RCOG) 1999 Towards safer Childbirth: minimum standards for the organisation of labour wards .London, RCOG press

Sackett DL, Straus SE, Richardson WS 2000 Evidence Based Medicine: How to practice and teach EBM 2nd ed Edinburgh; Churchill Livingstone

Sackett DL, Richardson WS, Rosenberg W, and Haynes RB. 1977 Evidence-based medicine: how to practice and teach EBM. London: Churchill Livingstone

Sanchez-Ramos L, Kauritz AM, Peterson HB, Martinez-Schnell B, and Thompson RJ 1990 Reducing caesarean sections at a teaching hospital *Am.J Obstetric. Gynecol.* Sept 163:3:pp.1081-7

Sandall J 1998b Occupational Burnout in midwives: New ways of working and the relationship between organisational factors and psychological health and wellbeing , Risk, Decision and Policy 3,3:213-232 |

Sandall, J 1998 'Bridging the gap between evidence and practice' *The British Journal of Midwifery* vol.6 no.10 624-626

Sargent C. and Stark N. 1987 'Surgical Birth: Interpretations of Cesarean Delivery Among Private Hospital Patients and Nursing Staff' *Social Science and Medicine* 25:12 pp:1269-1276

Sargent L 2002 'Practice and Autonomy' in Mander R and Fleming V (eds) *Failure to progress: The contraction of the Midwifery Profession* London; Routledge

Savage J. 1991 *Flesh and Blood: Notions of Relatedness among some urban English Women.* Unpublished thesis .School of Oriental and African Studies.

Savage W 1986 *A Savage Enquiry: Who controls childbirth?* London; Virago Press

Savage W. and Francombe C. 1993 'British Caesarean Section Rates: Have We Reached A Plateau? *British Medical Journal* 100: .pp.493-396

Schor R., Pilpel D. Benbassat J. 2000 Tolerance of uncertainty of medical students and practicing physicians *Med Care* 38:3: pp.272-80

Scully D 1980 *Men who control womens health: The mis-education of obstetricians -gynecologists* Boston :Houghton-Mifflin

Seidler, V. J. (1994). *Unreasonable men: Masculinity and social theory.* New York: Routledge

Silverman D 2001 *Interpreting qualitative data: methods for analysing talk, text and interaction* 2nd edition London, Sage

Simmonds, W 2000 Watching the clock: Keeping time during pregnancy, birth and postpartum experiences *Social Science and Medicine* 55:pp.559-570

Sinclair S. 1997 *Making Doctors: An Institutional Apprenticeship* Oxford, International Publishers Oxford

Smith GC, Pell JP Cameron AD *et al.* 2002 Risk of perinatal death associated with labour after previous caesarean delivery in uncomplicated term pregnancies *JAMA* 287;pp.2684-2690

Speert H. 1996 Obstetric and Gynecologic Milestones New York, The Partenon Publishing Group

Spencer HR. 1899 Letters to the editor *The Lancet* Jan 7th pp.58

Stacey RD, Griffin D and Shaw P 2000 Complexity and Management: Fad or radical challenge to system thinking? London Routledge

Stafford R . 1990 'Alternative Strategies for Controlling Rising Cesarean Rates' *JAMA* .263:5, pp.683-687

Stirrat GM. Dunn PM. 1999 'Obstetricians are more than technicians' British Medical Journal 318: pp.120

Sullivan M. 1986 In what sense is Contemporary Medicine Dualistic? *Culture, Medicine and Psychiatry* 331-350.

Sweet B 1989 *Mayes Midwifery: A Textbook for Midwives* London Bailliere Tindall

Symon A 1998 Litigation the views of midwives and obstetricians London; Hochland and Hochland.

Symon A. 2000. 'Litigation and changes in professional behaviour: a qualitative appraisal' *Midwives* 16. pp.15-21

Taffel. SM. Placek PJ. Moien M. Kosary CL. 1991 US caesarean section rate steadies – VBAC rises to nearly one in five *Birth* 18:73

Tan BP and Hannah ME 2000 Prostaglandins for pre-labour rupture of membranes at, or near, term *Cochrane Database Systematic Reviews* (2):CD000178

Tew M. 1995 *Safer Childbirth - A Critical History of Maternity Care* London, Chapman and Hall

Thacker SB, Stroup D, Chang M. Continuous electronic heart rate monitoring for fetal assessment during labour (Cochrane Review). In: *The Cochrane Library,* Issue 3, 2004. Chichester, UK: John Wiley & Sons, Ltd.

Thomas J, Callwood A, Brocklehurst P and Walker J 2000 The National Sentinel Audit Commentary *British Journal of Obstetrics and Gynaecology* 107:pp.579-580

Thomas J, Paranjothy S.2001 *The National Sentinel Caesarean Section Audit* report London; RCOG Press.

Towner D, Castro MA Eby-Wilkens E *et al.* 1999 Effect of Mode of delivery in nulliparous women on neonatal intracranial injury *New England Journal Med.* 341:pp.1709-1714

Trolle D. 1982 *The History of Caesarean Section* Copenhagen, University Library Copenhagen Publishers.

Turner, B. 1987 *Medical power and social knowledge* London: Sage Publications

Vincent C 1999 Fallibility, uncertainty and the impact of mistakes and litigation in Firth-Cozens,J and Payne,R (Eds) *Stress and the Health Professional: Psychological and organisational causes and interventions*, London; UCL Press

Vincent C and Walshe K 2001 Clinical risk management and the analysis of clinical incidents in Clements R (ed) *Risk Management and Litigation in Obstetrics and Gynaecology* London, The Royal Society of Medicine Press

Walshe,K. 1999 'Medical Accidents in the U.K.' in Rosenthal M. Mulcahy L and Lloyd-Bostock S (eds) *Medical Mishaps - Pieces of the Puzzle* Buckingham, Open University Press

Weber M 1947 *The Theory of Economic and Social Organisation* Glencoe,IL. The Free Press

Wennberg JE, Barnes BA, and Zubkoff M. 1982 Professional uncertainty and the problem of supplier-induced demand *Social Science and Medicine* 16:811-824

West, L. 2001 *Doctors On the Edge: General Practitioners, Health and Learning in the Inner-City* London, Free Association Books

White JE, Nativio DG and Engberg SJ. 1992 Content and process in clinical decision-making by nurse practitioners Image: Journal of Nursing Scholarship

Wickham S. 2000 Evidence informed Midwifery 2 Using research in midwifery practice *MIDIRS Midwfery Digest* 10,2:149-50

Wilkinson,C. McLlwaine,G. Boulton-Jones,C. Cole,S . 1998 'Is a rising caesarean section rate inevitable?' *British Journal of Obstetrics and Gynaecology* 105:pp.45-52

Williams 1901 in Young ,J.H. *The History of Caesarean Section* 1944. London. H.K.Lewis and Co.

Williams S. 1997 'Modern Medicine and the 'Uncertain Body': From Corporeality To Hyper-reality' *Social Science and Medicine* .45:7 pp. 1041-1049

Winter 1929 Editorial *British Medical Journal*

Wolcott HF 1990 *Writing up qualitative research* Newbury Park, CA, Sage

Wood M, Ferlie E and Fitzgerald L. 1998 Achieving clinical behaviour change: A case of becoming indeterminate *Soc.Sci. Med.* 47: 11 pp.1729-1738

World Health Organisation 1985. *Having a Baby in Europe* Copenhagen

World Health Organisation 1986 Appropriate Technology for birth *Lancet* ii:pp.436-37

World Health Organisation 1994 'Partograph in management of labour' . World Health Organisation Maternal Health and Safe Motherhood Programme *Lancet* 1994;343;79: pp.599-602

World health Organisation 2001 *Caesarean section delivery, an increasingly popular option.* Bulletin of the World Health Organisation vol.79 no.12 Genebra

Wraight A. Ball J. Secombe I. Stock J 1993 *Mapping Team Midwifery. IMS Report Series 242,* Institute of Manpower Studies; Brighton

Yoles I and Maschiach S 1998 Increased maternal mortality in caesarean section as compared to vaginal delivery? Time for re-evaluation *American Journal Obstet Gynecol.* 178:S78

Young JH. 1944. *The History of Caesarean Section* H.K.Lewis and Co. London,

APPENDICES

APPENDIX A

5.3 Indicators of success

5.3.1 Purchasers and providers will need to agree in their strategic plans and contracts a range of goals and standards to be achieved and the way in which progress can be monitored. The Group identified ten key indicators of success. If these are achieved, much of what we have recommended will have been put in place.

Indicators of Success

Within 5 years

1. All women should carry their own notes.
2. Every woman should know one midwife who ensures continuity of her midwifery care – the named midwife.
3. At least 30% of women should have the midwife as the lead professional.
4. Every women should know the lead professional who has a key role in the planning and provision of her care.
5. At least 75% of women should know the person who cares for them during their delivery.
6. Midwives should have direct access to some beds in all maternity units.
7. At least 30% of women delivered in a maternity unit should be admitted under the management of a midwife.
8. The total number of antenatal visits for women with uncomplicated pregnancies should have been reviewed in the light of available evidence and the RCOG guidelines.
9. All front line ambulances should have a paramedic able to support the midwife who needs to transfer a woman to hospital in an emergency.
10. All women should have equal access to information about the services available in their locality.

Department of Health 1993 *Changing Childbirth; Report of the Expert Maternity Group* London; HMSO pp.70

APPENDIX B

Maternity Statistics
1989 to 1999

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
umber of Patients Delivered	3401	3395	3423	3500	3491	3537	3625	3609	3672	3522	3429
ve Births	3431	3411	3463	3524	3495	3551	3637	3630	3682	3531	3427
ill Births	16	19	21	20	38	37	30	27	30	30	27
OTAL Births	**3447**	**3430**	**3484**	**3544**	**3533**	**3588**	**3667**	**3657**	**3712**	**3561**	**3454**
eonatal Deaths (1st week)	10	7	7	13	14	14	6	8	2	8	6
eonatal Deaths 7-28 days	0	0	2	4	5	4	0	0	0	0	0
otal Singletons								3565	3632	3483	3387
tal Twins								40	40	39	41
otal Triplets								4			1
erinatal Mortality Rate (per 1000)	7.54	7.58	8.08	9.31	14.72	14.21	9.82	9.57	8.62	10.67	9.56
ntenatal Complications											
ardiac Disease	43	32	50	34	35	24	30	25	31	21	10
abetes Mellitus	60	69	66	82	68	67	80	59	72	59	65
hromboembolism	13	14	6	11	11	6	10	8	7	2	6
inary Tract Infection	264	186	182	115	135	119	98	73	74	51	46
esus Neg with Abs	18	15	16	9	17	12	11	9	11	8	10
ntepartum Haemorrhage	107	97	76	113	86	86	101	91	87	63	60
pertension	193	186	172	157	196	212	206	197	242	274	287
abour & Delivery	%	%	%	%	%	%	%	%	%	%	%
nset of Labour											
ontaneous	76.21	72.46	71.14	72.31	70.55	69.24	68.25	68.08	65.99	63.88	63.63
nduced - Primips	4.88	7.01	5.05	5.09	5.70	5.74	5.46	6.07	6.54	7.18	6.01
duced - Multips	6.20	7.10	6.78	6.43	6.67	6.90	7.70	6.68	8.03	8.80	9.16
duced - Total	**11.08**	**14.11**	**11.83**	**11.51**	**12.37**	**12.64**	**13.16**	**12.75**	**14.57**	**15.99**	**15.16**
Augmented - Primips	5.73	6.30	7.01	6.97	7.10	8.06	7.14	7.87	5.96	8.09	6.27
ugmented - Multips	2.79	3.21	3.56	3.03	3.95	3.96	4.03	4.16	3.98	4.77	5.95
ugmented - Total	**8.53**	**9.51**	**10.58**	**10.00**	**11.06**	**12.02**	**11.17**	**12.03**	**9.94**	**12.86**	**12.22**
Did not labour	4.18	3.92	6.46	6.17	6.02	6.11	7.42	7.15	9.50	7.27	8.98
ode of Delivery	%	%	%	%	%	%	%	%	%	%	%
Normal Vaginal	81.01	79.23	77.45	80.57	80.81	80.69	78.87	77.94	76.09	72.83	70.81
orceps	4.20	4.30	2.31	2.34	2.95	2.71	2.15	3.10	2.83	2.13	3.12
acuum	2.35	2.12	4.50	4.80	4.70	5.12	5.74	4.74	5.86	7.92	7.32
Caesarean Section - Elective	4.32	4.01	3.39	3.77	3.84	3.51	4.11	3.96	5.01	3.61	3.94
aesarean Section - Emergency	7.59	9.72	11.31	8.00	6.73	7.32	8.39	9.92	9.99	12.69	13.50
Caesarean Section - Total	**11.91**	**13.73**	**14.69**	**11.77**	**10.57**	**10.83**	**12.50**	**13.88**	**15.01**	**16.30**	**17.44**
Vaginal Breech - CSection	2.47	2.30	2.16	2.17	2.09	1.98	2.04	2.41	2.78	2.39	2.77
aginal Breech - Vaginal	1.82	1.59	2.13	1.69	2.15	1.97	1.88	1.63	1.31	1.73	0.93
Vaginal Breech - Total	**4.29**	**3.89**	**4.29**	**3.86**	**4.24**	**3.96**	**3.92**	**4.05**	**4.08**	**4.12**	**3.70**
Other	0.06	0.06	0.09	0.09	0.03	0.11	0.03	0.03	0.00	0.20	0.87

APPENDIX C
Letter of ethical approval

East London and The City **HEALTH AUTHORITY**
81 - 91 Commercial Road, London E1 1RD Tel:0171 655 6600 Fax:0171 655 6666

Research Ethics Committee

Telephone Number: 020 7 655 6622
Fax Number: 020 7 655 6777
Email Address: SandraB@elcha.co.uk

Ms B Green
Department of Midwifery
City University
Philpot Street
London E1 2EA

Our Ref: DO/SB/N00039

13th June 2000

Dear Ms Green

Re: N/00/039 - 'Uncertainty: Its Impact on clinical decision making and Childbirth outcomes'

Thank you for your letter of 25th May 2000 addressing the points of the Sub-Committee's earlier letter. I am happy to tell you that I am now able to approve this study on Chairman's action to be noted at future meeting of the Sub-Committee.

Please note the following conditions to the approval:

1. The Sub-Committee's approval is for the length of time specified in your application. If you expect your project to take longer to complete (i.e. collection of data), a letter from the principal investigator to the Chairman will be required to further extend the research. This will help the Sub-Committee to maintain comprehensive records.

2. Any changes to the protocol must be notified to the Sub-Committee. Such changes may not be implemented without the Sub-Committee or Chairman's approval.

3. The Sub-Committee should be notified immediately of any serious adverse events or if the study is terminated prematurely.

4. You are responsible for consulting with colleagues and/or other groups who may be involved or affected by the research, such as extra work for laboratories.

5. You must ensure that, where appropriate, nursing and other staff are made aware that research in progress on patients with whom they are concerned has been approved by the Sub-Committee.

6. The Sub-Committee should be sent one copy of any publication arising from your study, or a summary if there is to be no publication.

I should be grateful if you would inform all concerned with the study of the above decision.

Your application has been approved on the understanding that you comply with Good Clinical Practice and that all raw data is retained and available for inspection for 15 years.

Please quote the above study number in any future related correspondence.

Yours sincerely

p.p Senior Administrator
Ms Dora Opoku
Chair
ELCHA Research Ethics Sub-Committee

CITY University

ST BARTHOLOMEW SCHOOL OF NURSING AND MIDWIFERY

Letter of Invitation to Doctors and Midwives
'UNCERTAINTY: ITS IMPACT ON THE PROFESSIONAL DECISION MAKING PROCESS'
EAST LONDON AND THE CITY HEALTH AUTHORITY

Introduction.

I am contacting both doctors and midwives who work within the hospital to inform you of a research project which I think may be important. The information which follows tells you about it.It is important that you understand what is in this leaflet. It says what will happen if you take part and what the risks might be. Try to make sure you know what will happen to you if you decide to take part .The decision to take part is entirely up to you, and your choice will be fully respected. I hope that ,even if you decide you would sooner not take part in the research , you will find this leaflet interesting.This leaflet will also give you details about your rights as a participant , and will try and answer some of the questions you may have about the research. If you would like further information however please do not hesitate to contact me at the address given on the back of this leaflet.

1.Why have I been identified as suitable to take part in the research?

I am asking you to help me with this research because you work either as a doctor or midwife at the Royal London Maternity Unit where the study is being undertaken.

2. What is the goal of the research?

This research has come about because of the long standing debate in the United Kingdom [and indeed elsewhere] about the increasing rates of caesarean sections and the wide regional variations in the procedure. There is a gap in our knowledge and understanding of obstetricians and midwives attitudes towards rising caesarean section rates and the role of evidence based guidelines in the decision making process.I am therefore basing my study in this area, my hypothesis arising from previous research within medical and surgical specialities that has implicated uncertainty as a cause of difficulty in establishing consensus in care standards and guidelines, and as causing anxiety for professionals when confronted with making decisions on behalf of their patients (Allison et al 1998). The issues that I am particularly interested in exploring are;

- How do doctors and midwives come to make a decision that results in a caesarean section?
- What social , structural and organisational contextual factors are involved in the process of decision making?
- What are the perspectives and coping strategies of doctors and midwives when faced with clinical uncertainty?

3.What would I have to do if I agree to take part in this study?

If you agree to take part in the research you will be asked to complete a confidential short questionnaire which will be sent out to all doctors and midwives involved in maternity care at the Royal London to assess attitudes to uncertainty,risk and ambiguity in clinical practice. The research will also involve short semi-structured interviews with some doctors and midwives,and include a period of participant observation by myself on labour ward. The interview should last approximately 15 to 30 minutes .Should you agree to participate in the interview it will focus on your perception of how the environment, interrelationships with others, evidence based guidelines and stressors in the work place affect the decisions you might make .

APPENDIX D
Information leaflet

4. Will taking part in the study be of any benefit to me?
Not directly, but it is hoped that on completion the research may contribute to a better understanding and appreciation of the role that uncertainty has on the decision making process of obstetricians and midwives and aims to illuminate issues about variations in , and the complexities of the differing practice patterns in caesarean sections.

5. Are there any potential hazards if I take part in the study?
No,but your rights are respected to:

- take time to decide whether to agree to participate.
- refuse to answer certain questions or to withdraw from the project at any time.
- have notes and tapes containing information that you have given me kept in a safe lockable place at City University and registered under the 1998 Data Protection Act. If I need to keep any confidential data after the end of the of the study it will remain in this safe place, and you will be told why and how the information will be used.
- be kept informed about the research and reports of the findings if you wish.
- have your privacy respected.

6. Is there anything that might mean that I shouldn't take part in this study?
No, however if you feel unable to participate in the study at any time you should feel free to state this, and your views will be respected.

7. How do I know that what I say will be confidential?
I will ensure that I will be sensitive to potential areas of embarrassment or disquiet when discussing issues of policy or practice and the use of guidelines or protocols. Anything you say during the interview , or in the process of your work will be confidential and nothing you say will be reported in the findings in a way that could identify you. However if you participate in the research and begin to have concerns please do not hesitate to contact me, or you may refer to my supervisor Dr. Jane Sandall ,telephone 0171-505-5871 who is overseeing this study.

8. Who should I go to for more information about the study?
If you have any queries,or would like more information please do not hesitate to contact me at:
Belinda Green, Doctoral Research Fellow
Department of Midwifery, City University
Tel:0171 505 5913.
email: B.Green @city.ac.uk

9. What happens if I get worried, or there is an emergency?
You will be able to contact Belinda Green on 0171-505-5913, or you may refer to my supervisor Dr. Jane Sandall at:
Dr. Jane Sandall,Reader in Midwifery
Department of Midwifery, City University
Tel:0171 505 5871 Fax:0171 505 5866
email: J.Sandall @city.ac.uk

10. What happens if something goes wrong?
I believe that this study is basically safe and do not expect you to suffer any harm or injury because of your participation in it.However I carry insurance to make sure that if your health does suffer as a result of your being in the study then you will be compensated. In such a situation you will not have to prove that the harm or injury which affects you is anyones fault. If you are not happy with any proposed compensation , you may have to pursue your claim through legal action.

Thankyou for taking the time to read this information leaflet

Reference:

Allison JJ,Kiefe CI,Cook EF,Gerrity MS,Orav EJ,Centor R. 1998 'The Association of Physician Attitudes about Uncertainty and Risk Taking with Resource Use in a Medicare HMO' *Medical Decision Making* 18:320-329

APPENDIX E
Interview schedule

Thank you for giving me your time to complete this interview. The research project is primarily concerned with the effects that uncertainty and risk may have on the decision making process and in turn how this may impact on caesarean rates. The second part of the project is looking at coping strategies of clinicians with respect to such decisions. The interview should take approximately half an hour.

Q. 1

Can you tell me about your career pathway to date, for example how long is it since you qualified, and more specifically with regards to obstetrics and gynaecology.

probe: how many rotational posts they have had and where specifically.
Did these units have strong midwifery led units.
Did training involve vaginal deliveries for example breech also?
Was this a good thing/ could it have been improved on.
Would you of liked the opportunity to have been more involved in such aspects of care(is this an essential/non essential aspect of developing practice).
The process of selection to a particular consultant, are you / they more likely to choose a like minded person. why is this (long term career aspirations etc)

Q. 2

What motivated you to take this career pathway?
probe: do you consider that you have made the right choice/ why.

Q. 3

With regard to caesarean sections in particular what role does caesarean sections have in contemporary childbirth? do you consider it as a viable option to vaginal birth / why?

Q. 4

How much impact do you consider women have on this process
.....doctors in this process
.....litigation
.....the work environment

eg. docs change of hours

Q. 5

Could you describe the process that you have to go through when considering a womens change of management to caesarean section. eg. cons. involvement / midwives involvement when does the cons become involved etc.

If you disagreed with that decision would you be likely to voice this. How would you go about that. and how would you cope / feel about that .

Q.6

Are there times when you feel anxious or unsure about the outcome and because of this would you be more likely to err on the side of caution ie; intervene so that you can have more info to reduce this uncertainty. how often would you say you felt like this ?

Q. 7

To what extent do you think your personal perspectives and management of risk is influenced by other factors ie: consultant views ; protocols; guidelines; personal experiences of bad /good childbirths

Q. 8

Support networks;

When you have had a traumatic event or a near miss how do you cope with that? Who would you go to talk about it and what is their attitude to this.

If something occurred because of something you omitted how would this be dealt with? How often do you get to meet with your consultant. and what do these meetings consist of.