An evaluation of women's satisfaction with midwife managed care: a randomised controlled trial of 1299 women

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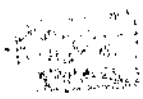
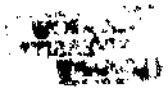


Abstract

Government policy documents in the United Kingdom in the last five years indicate that major changes are necessary to ensure a more client-centered maternity service. Programmes of care with an enhanced role for the midwife are advocated. In 1992, Glasgow Royal Maternity Hospital was successful in attracting funding from the Scottish Office Home and Health Department for the setting up and evaluation of a Midwifery Development Unit. A randomised controlled trial of 1299 women evaluated the efficacy of this unit. The trial hypothesis was that compared with traditional shared care, midwife managed care offers women the similar clinical outcomes, the same complication rates, similar (or reduced) rates of intervention, enhanced satisfaction with care and enhanced continuity of care. This study reports women's satisfaction with midwife managed care when compared with shared care.

The study compares women's satisfaction over different periods: antenatal, intrapartum, hospital-based and home-based postnatal care. The dimensions of satisfaction examined are: choices and decisions, interpersonal relationships with staff, information transfer, social support and general satisfaction. In addition, dimensions pertinent to specific time periods were examined (e.g. accessibility of antenatal care). Further analyses examined factors that may affect satisfaction with care (e.g. level of continuity of care and carer). The main method of data collection was three self-report questionnaires sent to women's homes although a case-record review was employed to examine continuity of care. The first questionnaire administered at 34-35 weeks of pregnancy asked about satisfaction with antenatal care. The second questionnaire administered at 7 weeks postnatal reviewed satisfaction with intrapartum care and hospital-based, and home-based postnatal care. A third questionnaire administered at 7 months postnatal reviewed satisfaction with intrapartum care. This questionnaire was sent to a reduced sample of women (n=362 midwife managed care, n=345 shared care) due to trial time constraints.

Women receiving midwife managed care were significantly more satisfied with their maternity care throughout all time periods than women receiving shared care. The largest differences between the two groups appeared between antenatal and hospital-based postnatal care. The analysis of additional factors illustrated the importance of continuity in enhancing satisfaction. These results have implications for policy makers and providers indicating that schemes with the potential to improve continuity in antenatal and postnatal periods should be advocated.



Author's contribution

The work presented in this thesis has been carried out by the author under the supervision of and consultation with Dr Margaret Reid, Reader, Department of Public Health, University of Glasgow, United Kingdom and Dr Deborah Turnbull, Lecturer in Epidemiology, Department of Community Medicine, University of Adelaide, Australia (formerly Project Manager, Midwifery Development Unit, Glasgow Royal Maternity Hospital). The work included: planning of the research; design of the study; recruitment to the study; the collection, analysis and interpretation of data; and writing of the thesis and papers for publication with the exception of the aspects of the research indicated below.

The programmes of care were devised by senior midwives (Chapter 1, Section 4), in particular by Mary McGinley, Head of Midwifery Services. The development of these programmes was carried out by the midwives working in the new scheme of midwife managed care.

Design of the randomised controlled trial (Chapter 2) was primarily carried out by Dr Deborah Turnbull under the guidance of the Midwifery Development Unit Steering Group. Trial statistics such as the number of women excluded and for what reasons was however, collated and interpreted by the author. Statistical advice was sought from Mr Harper Gilmour, Senior Medical Statistician, Department of Public Health, University of Glasgow.

The development of clinical outcomes (Chapter 3) was carried out primarily by Dr Deborah Turnbull and research midwives, Ann Holmes and Helen Cheyne, in collaboration with the project steering group. The author had a substantial role in collection and analyses of these data.

The initial pilot of testing the use of self-report questionnaires (Chapter 2) on the local population (using the OPCS maternity questionnaires (Mason, 1989)) was carried out by Dr Deborah Turnbull and the Unit administrator, Liz Mitchell, before the author was in post.

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I would also like to thank all the staff who co-operated in the research, from the midwives working in the new programme of care, to the staff who were willing to discuss meanings of satisfaction and be involved in the Q sort procedures.

I would especially like to thank the women who took part in the study for their kind co-operation in completing the questionnaires and the women who were willing to be interviewed.

Finally, I would like to thank Alan, my family, Val, Laura, Denise, Helen and Katie for their support during this project. Their encouragement has been invaluable.

Publications

The following publications have arisen out of the research reported in Chapters 4 to 7 of this thesis:

Turnbull D, Holmes A, Shields N, Cheyne H, Twaddle S, Gilmour WH, McGinley M, Reid M, Johnstone I, Greer I, McIlwaine G, Lunan CB. Randomised, controlled trial of efficacy of midwife managed care. Lancet 1996; 348: 213-218.

Shields N, Reid M, Cheyne H, Holmes A, McGinley M, Turnbull D, Smith LN. Impact of midwife-managed care in the postnatal period: an exploration of psychosocial outcomes. Journal of Reproductive and Infant Psychology. 1997; 15: 91-108.

Young D, Shields N, Holmes A, Turnbull D, Twaddle S. A new style of midwife-managed antenatal care: costs and satisfaction. British Journal of Midwifery. 1997; 5:9: 540-545.

Shields N, Turnbull D, Reid M, Holmes A, McGinley M, Smith LN. Satisfaction with midwife-managed care in different time periods: a randomised controlled trial of 1299 women. Midwifery. 1998; 14: 85-93.

Shields N, Holmes A, Cheyne H, McGinley M, Young D, Gilmour WH, Reid M. Knowing your midwife during labour: clinical, psychosocial and economic implications. British Journal of Midwifery. 1999.

Turnbull D, Shields N, McGinley M, Holmes A, Cheyne H, Young D, Reid M. Can midwife managed care improve continuity of care and carer: results from a randomised controlled trial. British Journal of Midwifery. In press.

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Chapter 1 Maternity care issues

Introduction

This thesis examines women's satisfaction with midwife managed maternity care. This new type of midwife managed care aimed to utilise midwives traditional skills to the full as carers for women experiencing normal pregnancy and childbirth. Midwives working in the new programme of midwife managed care aimed to care for women throughout antenatal, intrapartum and postnatal care, unless complications occurred. This study on women's satisfaction with the new model of midwife managed care was part of a randomised controlled trial which examined clinical, psycho-social and economic outcomes of midwife managed care when compared with a model of traditional shared maternity care (i.e. care divided between general practitioners, obstetricians and midwives).

The opportunity for undertaking this study arose from the author's employment as Social Scientist at the Midwifery Development Unit (MDU) at Glasgow Royal Maternity Hospital. The MDU was set up in 1992 to implement a model of midwife managed care for women experiencing uncomplicated pregnancy. The background to the setting up of this Unit was that Glasgow Royal Maternity Hospital had been successful in its bid for three year research funding from the Scottish Office Home and Health Department for the implementation and evaluation of a model of midwife managed care. The author was employed at the Unit to carry out a comprehensive study of women's satisfaction with midwife managed care.

Women's satisfaction with maternity care is a topic which in the 1990s has gained considerable attention in Government policy. In the 1990s, government documents (House of Commons Health Committee, 1992; Department of Health, 1993; Scottish Office Home and Health Department, 1993) noted that there is a considerable body of research which had demonstrated that, although overall satisfaction with care is generally high, women have consistently expressed dissatisfaction with aspects of maternity care. Policy in the 1990s has also recognised the contribution of the women's movement in questioning the 'medicalisation' of pregnancy and childbirth and the lack of control for women in this major life event. Policy states that women should have more choice, control and continuity in relation to their maternity care (House of Commons Health Committee, 1992; Department of Health, 1993; Scottish Office Home and Health Department, 1993). One of main problems viewed with the predominant model of maternity care: shared care, is duplication of care by different care providers. In the policy reports, models of midwife managed care have been advocated as a means of improving continuity, choice and control for women. Early models of this type of care demonstrated that it offered women enhanced satisfaction with care and improved continuity of carer and care, whilst achieving similar clinical outcome, when compared with traditional shared care (Flint and Poulengeris, 1987).

In 1992, innovative models of midwife managed care were being widely implemented in the United Kingdom although little research in the form of randomised controlled trials had been carried out. Thus the three year research funding from the Scottish Office Home and Health Department for a randomised controlled trial of midwife managed care afforded the opportunity for the author as part of the research team employed, to examine satisfaction with maternity care comprehensively and to explore, specifically, women's satisfaction with

midwife managed care. Other psychosocial outcomes were examined in the trial which are not reported in this thesis (see Appendix 15 for a summary).

The study null hypothesis was that:
Women randomly allocated to midwife managed care would not be significantly more satisfied than those women randomly allocated to shared care. Satisfaction between these two groups would be compared within three periods of care:

- antenatal care (satisfaction measured at 34-35 weeks of pregnancy);
- intrapartum care (satisfaction measured at 7 weeks after birth);
- postnatal care (satisfaction measured at 7 weeks after birth);
- as well as satisfaction as reported 7 months after birth.

Two main research questions were asked:

1. What is women's satisfaction with maternity care when compared to traditional shared care?
2. What factors enhance or decrease women's satisfaction with models of maternity care (i.e. midwife managed care and shared care)?

The literature review (Chapter 1) had three aims. Firstly, it aimed to put into context women's experience of childbirth and maternity care (Section 1). To achieve this aim, it was important both to analyse the historical context of maternity care in the United Kingdom and the influence of historical factors on present day maternity care. This analysis led to discussion of controversies in maternity care which included the timing and content of antenatal care; hospitalisation of delivery; medicalisation of childbirth and focus of postnatal care.

Secondly, the literature review aimed to identify what is meant by satisfaction with care (Section 2), in order that the study comprehensively examined this issue. This part of the review covers theories and definitions of satisfaction; the author's working definition is presented. Studies which examine predictors of satisfaction are reviewed.

Thirdly, it is aimed to review previous studies of women's satisfaction with maternity care (Section 2) and to describe previous schemes and evaluations of midwife managed care (Section 3), in order that the findings from this study could be interpreted in context. Studies which measured women's satisfaction with maternity care directly are presented and analysed separately from studies where indirect measures of satisfaction were utilised. The literature review search strategy is described in Appendix 1 as well as some consideration of the impartiality of the search method.

In addition to the literature review described above, Section 4 of Chapter 1 describes the development and philosophy of the subject of the current study - care provided by the Midwifery Development Unit at Glasgow Royal Maternity Hospital.

Given that Government policy in the 1990s states the importance of women's satisfaction and that satisfaction should be viewed as an outcome of care in its own right (Department of Health, 1993), it was envisaged that this work will contribute to national debates about midwife managed care. In this, it was aimed that the work would:

1. Add to the body of knowledge about women's experiences of midwife managed care and shared care
2. Provide information about factors which can enhance and reduce satisfaction with maternity care

Section 1 Development of maternity care

Aim

In order to put into context women's current experience of maternity care in the United Kingdom, Section 1 describes a history to the predominant model of maternity care: shared care. By charting issues over this century it was hoped to give background on how the predominant system of care for childbearing women and their families came about and why it is like it is. Key issues of historical importance such as maternal and infant mortality and issues of controversy such as purpose of antenatal care, hospital births, the 'medicalisation' of childbirth and postnatal care were reviewed. Related both to the issues of the 'medicalisation of childbirth' and the underlying subject of this thesis - midwife managed care, is the historical analysis of the status of midwifery. In addition, the importance of government support for consumer responsive care and the increasing focus on 'evidenced based practice' is discussed. All these key issues are dealt with as sub-sections.

Maternal and infant mortality

Mortality from childbearing was undoubtedly central to the development of maternity care and to the changes in childbearing practices that occurred in the last century throughout the United Kingdom. The average working class mother in the 1890s married in her teens and by her early 20s had experienced multiple pregnancies (Donnison, 1988) with a high risk of death to herself or her baby during childbirth. In 1900, the maternal mortality rate was 4.71 deaths per thousand live births, with infant mortality at 142 per thousand live births (Garcia et al, 1986). Today maternal death from childbirth in the United Kingdom is a rarity, the most recent figure from 1995 was 0.07 per thousand live births (England and Wales). Infant mortality is also extremely low at 6.6 per thousand live births (Office of National Statistics, 1997) with similar figures for Scotland.

The population expansion accompanying the Industrial Revolution in the late 19th and early 20th century resulted in vast social deprivation including poor nutrition, hygiene and social conditions, which was directly correlated with high maternal and infant mortality rates. No system of antenatal care was available at the turn of the century as little could be done to correct problems that occurred during pregnancy and childbirth (Oakley, 1980). Care provided at this time during pregnancy and childbirth was most often from 'lay' or unlicensed midwives. Lay midwives tended to determine whether the woman was pregnant and then give advice on the minor ailments of pregnancy (Enkin and Chalmers, 1982). The lay midwife could come to the home to deliver the baby when it was due. Midwives were independent practitioners earning their living from private practice although history indicates that this was a financially precarious position (Robinson, 1990). Specialist services

were available for those experiencing major complications. However, the poor were disadvantaged further as these specialist services were available only to those women who could afford them. With the concern of high maternal and infant mortality, medical technology such as Caesarean section surgery and use of forceps became used increasingly with male practitioners becoming more involved in the care of women during childbirth and indeed a system of antenatal care developed.

Antenatal care

In the United Kingdom today a formal programme of maternity care exists which includes: antenatal, intrapartum and postnatal care. The origins of maternity care, as we see today, can be traced to the 1920s when the view gaining ground was that a system of antenatal care would be a major requirement to improve maternal and child welfare. The development of antenatal care also provides one of the first examples of women themselves lobbying for better maternity care. Enkin and Chalmers (1982) stated that after the women's suffrage movement achieved the vote in the United Kingdom in 1918, the goal of antenatal care became the major issue for which women's groups fought.

In a Report by the Ministry of Health in 1929 (Ministry of Health, 1929), the value of antenatal care was expounded to midwives and doctors and the expansion of local authority antenatal clinics proposed. The system of antenatal care proposed by the Ministry of Health in 1929 (*ibid*) was a visit to the clinic every four weeks up until 28 weeks gestation, then fortnightly visits to 36 weeks, and then weekly visits up until delivery. These regular visits would allow monitoring of the health of mother and baby.

The reduction in perinatal mortality in the 20th Century has been frequently attributed to the efficacy of antenatal care. However, research from the 1970s onwards has found that antenatal care fails to address women's needs. It has been argued that reductions in perinatal mortality must be the first priority and that any system of antenatal care is better than none. This concern resulted in the development of community based antenatal clinics in the 1980s as problems of non-attendance at hospital-based clinics with women of lower social class was identified as a cause of perinatal mortality (Clode, 1979; Social Services Committee, 1980). Alongside these developments, studies of hospital-based antenatal care in the 1980s criticised the service due to the inconvenience of clinics in terms of travelling and waiting times (Reid and McIlwaine, 1980; O'Brien and Smith, 1981) with the 'cattle market' nature of hospital based clinics reported. Tew, 1978; 1980, stated, however, that the correlation between the reduction in perinatal mortality and antenatal care provision has never been proved and that improvement in social factors such as maternal health (e.g. nutrition) and living conditions have a major impact on perinatal mortality.

The pattern of antenatal care has remained virtually unchanged from its introduction in 1929. MacFarlane and Mugford (1986) noted this, adding that the current system of antenatal care with an average of 14 antenatal visits has been built-up over 80 years without little attempt to evaluate it. The clinical context in which antenatal care is provided has, however, been revolutionised with high utilisation of technology. Areas that have been most revolutionised in antenatal care have been detection of abnormality and fetal monitoring. Today's clinicians have the most advanced technology to help them in diagnosis. Clinicians routinely scan women at ultrasound on their first visit to the hospital and ask women if they wish screening tests for detection of fetal abnormalities.

Further technology is available to the clinician throughout pregnancy such as amniocentesis tests, dinamaps and cartiographs. Alongside the criticisms of the 'cattle market' nature of clinics described above, the effectiveness of antenatal care, in particular the large number of visits with the focus on routine physical checks and tests, was questioned in the 1980s (Reid and McIlwaine, 1980; O'Brien and Smith, 1981). At the same time, some authors suggested that a longer consultation time, a leisurely atmosphere and more opportunity to talk during antenatal visits would improve antenatal care and that such a model, although resulting in fewer visits to the clinic, was preferable to the old 'conveyer belt' style (Marsh, 1985). A study by Howie et al (1991) found, however, that in Scotland the average number of visits for women of low risk remained at 14 visits despite suggestions that the effectiveness of antenatal care can be improved by specifically identifying and providing specialist obstetric care for women with high-risk characteristics in pregnancy while reducing hospital antenatal visits for low risk cases (Parsboosingh and Kerr, 1982; Hall et al, 1980).

Hospital births

In 1927, 15% of all live births took place in hospital; rising to 54% in 1946 and 91% in 1971 (Office of National Statistics, 1997). Due to the high mortality through childbirth at the beginning of the century, the then medical consensus was that it was better to deliver in hospital with medical support readily available if needed. The continuous improvements in maternal and infant mortality (described on p15) have been considered as justification for hospitalisation of delivery and of the benefits of technological intervention (see Campbell and MacFarlane, 1990). It has been argued, however, that although technological advancement in the United Kingdom has brought increasing benefits, it also has brought drawbacks. A review of all the available research (Campbell and MacFarlane, 1994) concluded that there was a lack of evidence to support policies that state all births should take place in hospital. It has been stated that reductions in perinatal mortality were likely to be attributable to improvements in maternity care but also partly due to other factors, such as higher standards of living and better maternal nutrition (Donnision, 1988; National Audit Office, 1990). However, today 99.5% of live births occur in hospital (Office of National Statistics, 1997) while safety is of paramount importance, it has been argued (Oakley, 1980; Richards, 1982) that sometimes this focus neglects other equally important aspects of childbearing such as the social and psychological impact of having a baby. This in turn raises questions about choice and availability of unbiased information for consumers of maternity care.

The issue of birth in hospital provides an example of how practice is heavily influenced by policy without often full consideration of the research evidence and women's choice. In 1970, the publication of a report by the Standing Maternity and Midwifery Advisory Committee (Chairman: J Peel) highly influenced policy on the place of birth (Standing Maternity and Midwifery Advisory Committee, 1970). Although previous committees had supported increasing the number of hospital deliveries (Royal College of Obstetricians, 1944; Ministry of Health, 1959), the Peel Committee was the first to advocate that home delivery should not be an option in maternity services. In the report it was stated that:

"We consider that the resources of modern medicine should be available to all mothers and babies and we think that sufficient facilities should be provided to allow for 100% hospital delivery. The greater safety of hospital confinement for mother and child justifies this objective." (p60).

The Short Report (Social Services Committee, 1980) further supported the idea of complete hospitalisation of birth, advocating that:

"An increasing number of mothers be delivered in large units ...and that home delivery is phased out further" (p22).

Campbell and MacFarlane (1990) when reviewing a further report by the Maternity Services Advisory Committee in 1984 stated:

"...it is particularly sad to note that, many years after evidence had been produced which demonstrated that there was almost certainly no causal link between the decline in perinatal mortality and the increase in hospital delivery, the reverse was still being cited by the chairperson of the influential Maternity Services Advisory Committee." (p230).

With birth almost universally taking place in hospital in the United Kingdom, the criticism has been that pregnancy is seen as a medical condition or illness. Pregnancy is viewed as problematic until the outcome is normal. Oakley (1982) examined Western obstetric practices and found in 62 out of 72 countries the position adopted by women at birth had changed over the years from vertical to supine due to hospitalisation of delivery. She concluded that birth has come to be seen as a surgical procedure. Some have viewed the policy of hospitalisation of delivery somewhat cynically. For example, Tew (1980) stated:

"The policy of increased hospitalisation of birth advocated by doctors, allegedly to improve the welfare of mothers and babies, was in fact a very effective means of gaining competitive advantage by reducing the power and status of midwives and confirming the doctors' ascendancy over their professional rivals." (p45)

With the Changing Childbirth report (Department of Health, 1993), change in government policy on home birth has occurred. Changing Childbirth (*ibid*) states that home birth should be a real option for care. In addition, the British Medical Journal recently published several studies on the subject (The Northern Region's Perinatal Mortality Survey Group, 1996; Ackermann-Liebrich et al, 1996; Wiegers et al, 1996; Davies et al, 1996) and the editor concluded that home birth was safe in selected women (i.e. not women at high risk of complications), with adequate infrastructure and support in terms of close access to hospital services.

Medicalisation and technology

The sub-section on antenatal care in this chapter described the increased used of technology within that period of care. Childbirth in hospital has also become increasingly accompanied by technology. Continuous fetal monitoring through cartiograph and active intervention such as induction and augmentation of labour are common. The high levels of use of these procedures became the subject of debate during the 1970s. Studies during this time found benefits to the new technology. However, Cartwright (1979) in her study of induction of labour found the method to be used in about 40% of labours although she stated that it had never been thoroughly evaluated. The adoption of technology such as induction of labour has been advocated as part of the safety of childbearing debate. Declines in perinatal mortality rates are given as testament to the effectiveness of these procedures (see Campbell and MacFarlane, 1990).

Indeed, Bull's (1982) discussion of pregnancy, writing in the British Medical Journal, indicates that the focus of the obstetrician is on medical and technological matters rather than more women centered issues. The aims of modern maternity care (*ibid*), it is stated, are the early detection of variations from the norm and detection of asymptomatic, potentially threatening conditions in either mother or fetus. Are these the only aims of maternity care? What about the psychological effects of care on women? The effects of medicalisation of childbirth on women will be reviewed in Section 2 of this chapter. Specifically, the evidence from studies about induction in the United Kingdom during the 1970s and 1980s will be reviewed.

There is debate, then, about how much maternal and infant mortality rates have fallen due to medical practice versus social factors. It is argued that innovation in medical practice should be viewed as positive but it must be properly evaluated from the psycho-social point of view as well as the medical point of view and not routinely adopted without considering outcomes. The criticism of medical practice in the maternity arena has been that it became dehumanising and has lead to the medicalisation of a normal life event. Richards (1977) viewed obstetric care thus:

" Obstetric care treats the body like a complex machine and uses a series of interventionist techniques to repair faults that may develop in the machine." (p323)

Further to the debate, the increasing caesarean section rate in most Western countries has been the subject of much concern. In the United States, for example, Sakala (1993) reported from a symposium on this issue. A symposium on this issue in the US reviewed evidence about the increase from 4.5% in 1965 to 24.1% in 1986. Sakala (*ibid*) stated 'it is reasonable to conclude that a largely international pandemic of medically unnecessary caesarean births is occurring.' The recent caesarean section audit in Scotland (McIlwaine et al, 1998) concluded there were some areas where the vaginal delivery rate could be increased. However, before this could be attempted, agreement from clinicians about effective management of particular problems would have to be reached. In addition, it was stated that women need to have ready access to evidence based information about caesarean section.

On the unquestioning adoption of technology and medicalisation of childbirth, Chalmers et al, 1989, in Effective Care in Pregnancy and Childbirth stated *'it is uncertain which routinely performed procedures are effective in promoting the health of pregnant women or their babies. In many areas of care, the available experimentally derived data are inadequate to support strong inferences about their effects and in others there are no data available.'* (p156)

Postnatal care

Historically, very little in the way of maternity care was provided to mothers in the postnatal period. Currently, postnatal care is viewed as the 'Cinderella' service in maternity services. It has been reported that the structure of hospital-based postnatal care is more suitable for sick people than new mothers (Phaff, 1986). Despite considerable changes in economic, medical and obstetric circumstance, the outcome of postnatal care has remained virtually unchanged for the last 30 years (*ibid*). Postnatal care is further regarded as being of little interest to obstetricians. Postnatally, women are usually cared for by different sets of staff in hospital then in the

community. This has produced a neglect of planning, direction and leadership. As a consequence, Glazener et al, 1993 a & b, state that postnatal care provides a fragmented, uncoordinated service. Postnatal care is described as failing to address the real needs of the mothers, whose health has been ignored and indeed has deteriorated (Dalton, 1989; Glazener et al, 1993a, 1993b; Sleep, 1991; MacArthur et al, 1991; Cox et al, 1987; Astbury et al, 1994; Ball, 1989; Oakley, 1993. Research into postnatal care is thus badly needed.

Overview of the predominant system of maternity care

The predominant model of maternity care available for women in the United Kingdom is shared care; that is care divided between general practitioners, midwives and obstetricians. The first point of contact for most women when they think they are pregnant is their general practitioner, where women have their pregnancy confirmed. MacFarlane and Mugford, 1986, in their study of maternity care found the form of care a woman receives depends on a variety of factors, namely the GP's assessment of the woman's need for specialist care, whether the GP is both willing and qualified to be involved in her care, the women's wishes about where she wants to have her baby and the organisation and availability of facilities in her district.

Howie et al, 1991, in a Scottish study of 3,500 women found 97% of women received shared care and general practitioners supervised 44% of all recorded antenatal visits. The proportions of visits supervised by specialist hospital doctors ranged from 25% to 55% according to hospital. There was a similar variation in the proportion of visits attributed to midwives, from 4% to 34%. The study found continuity of care in the shared care system to be poor, with 60% of cases seeing four or more different groups of medical personnel (with the possibility of seeing numerous individuals within each professional group). The average number of antenatal visits for women of at outset low risk was 14.

Howie and his colleagues (*ibid*) described the development of several working models of the shared care system. The main differences between the different systems is usually in antenatal care. If women are at low risk, some women will see their general practitioner for the majority of their antenatal care; others may see a midwife whereas some see both the general practitioner and midwife either at the same antenatal visit or at consecutive visits. Whichever of these models of shared antenatal care women receive, the process of shared care means that when the woman goes into hospital to have her baby she will be cared for by hospital rather than community staff, i.e. labour ward midwife or obstetrician; very few general practitioners are involved in intrapartum care. In the postnatal period, she will be cared for by further staff in hospital (i.e. ward-based midwives) and at home (i.e. community-based midwives). The problems of duplication of care in the shared care system have been emphasised by a number of authors, for example Enkin & Chalmers, 1989, concluded that:

" The multiplicity of health professionals involved in the provision of so-called 'shared care' has tended to diminish each individual's sense of personal responsibility." (p35)

In the last few decades, government reports have looked at effectiveness of the shared care approach to maternity care in general. The Maternity Care in Action Report (Department of Health and Social Security, 1982; 1984; 1985) concluded that shared care did not provide continuity of care, which the consumer desired.

The House of Commons Health Committee report (1991-92) and its equivalent in Scotland : the Scottish Office Policy Review of Maternity Services (1993) concluded that the shared care approach did not provide choice or continuity of maternity care for women. The Changing Childbirth report (Department of Health, 1993) reiterated these points stating that the only other real options for care were home births and domino deliveries which were not universally available and only desired by a small proportion of women. Thus the 1990s reports (House of Commons Health Committee, 1992; Department of Health, 1993; Scottish Office Home and Health Department, 1993) have advocated midwife managed models of care as a means to increase choice for women in the types of care available.

Status of midwifery

Until the 19th century, midwives were the traditional carers for women during pregnancy and childbirth. Midwives were independent practitioners with clients who paid a fee to them directly. Traditionally, male practitioners dealt only with specialist cases where women had major obstetric complications. During the 18th and 19th Centuries male practitioners began to take on normal cases. The skills of a midwife are, however, traditionally to care for women experiencing normal, healthy pregnancy.

The early part of this century saw major changes towards professionalism in maternity and obstetric care. Politically, the poor physical condition of many army recruits in the Boer War coupled with a falling birth rate and high infant and maternal mortality spawned a drive to improve maternal and child health (Lewis, 1980; Oakley, 1984). The registration of midwives in the 1902 Midwives Act was viewed as an important component of this derive. Midwifery became a legal profession with an Act in Scotland being passed in 1915. Acts passed in 1910 and 1921 gradually introduced regulatory measures culminating in the Midwives Act of 1936 which outlawed unlicensed midwives, proposed that every midwife should have formal training, be supervised by inspectors and that during the antenatal period there should be a formal system of referral from midwife to GP or other specialists if problems arise. It was only with the advent of the foundations of the National Health Service in 1948, however, that the services of the midwife, the general practitioner and the hospital were free to all women, and for the first time the choice of attendant and the scope of maternity care for each woman, could be made on medical rather than financial grounds (Donnison, 1988). In reality, the first point of contact for pregnant women became the general practitioner.

Today, there are clearly defined expectations of midwives. The Midwives Code of Practice in the United Kingdom (United Kingdom Central Council for Nursing, Midwifery and Health Visiting, 1992) carries the definition of a midwife as set down by the International Confederation of Midwives, 1972, and International Federation of Gynaecologists and Obstetricians, 1973, formulated by the World Health Organisation:

"A midwife is a person who having been regularly admitted to a midwifery educational programme, duly recognised in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery. She must be able to give the necessary supervision, care and advice to women during pregnancy, labour and the postpartum period, to conduct deliveries on her own responsibility and to care for the new-born and the infant. This care includes preventative measures, the detection of abnormal conditions in mother and child, the procurement of medical assistance and the execution of emergency measures in the absence of medical help. She has an important task in health counselling and education, not only for patients, but also within the

family and the community. The work should involve antenatal education and preparation for parenthood and extends to certain areas of gynaecology, family planning and child care. She may practice in hospitals, clinics, health units, domicillary condition or in any other service." (p 4)

Midwives are qualified to provide total care to women throughout pregnancy, labour and in the postnatal period, with a system of referral to medical staff when abnormalities occur. In the United Kingdom midwives are legally recognised as practitioners in their own right and may care for women during pregnancy on their own responsibility. However, in the United Kingdom, nearly all midwives are employed by the National Health Service and work as a member of a team next to obstetricians, general practitioners, health visitors and other health professionals. Reports in the late 1970s and early 1980s, including a government report (Walker, 1976; Robinson, 1983; Department of Health and Social Security, 1984; Garcia et al, 1986) found that midwife skills were consistently under-used and concluded that this under-utilisation was as a result of medical involvement in a high proportion of maternity care. The national survey carried out by Robinson in 1979 (Robinson, 1983) found many midwives wanted to take more responsibility for decision-making in their work although concern has been raised by them about extended roles (Askham and Barbour, 1996; Hillan et al, 1997). The study (Robinson, 1987) also highlighted concerns about the duplication and fragmentation of care and the effects on women when maternity care is delivered through the shared care system.

The role of the midwife in the maternity service up until the 1980s was one where she was an aide to other, more powerful, professional groups although carrying out the majority of the day - to - day caring for pregnant women. Indeed, the maintenance of midwifery as a profession has been described as a 'struggle' (Donnison, 1988). Jenkins (1992) stated that since 1979, (post the influential Peel report of 1970) the midwifery profession had been clawing back what it had lost, with the situation that midwifery had become marginalised into parentcraft and postnatal care, still delivering babies but under strictly-worded medical protocols.

During the 1970s, the Association of Radical Midwives (ARM), a pressure group, and the Royal College of Midwives (RCM), the professional organisation to which most midwives belong, set out proposals for restoring and extending the midwife's role (Association of Radical Midwives, 1986; Royal College of Midwives, 1987). Both of these organisations were not only concerned with the role of the midwife in maternity care but the educational preparation and management structures required to develop and sustain that role. The lack of scope for autonomy over work and for career advancement were highlighted. Promotions tend to be towards non-clinical posts such as midwifery managers or educators. If midwives are not able to work in the holistic manner that they are trained for, it is understandable that job satisfaction is low. Kirkham, 1983, in response to consumer dissatisfaction with information received during childbearing, suggested that midwives might not be fully co-operative because they were not entirely happy with the policies they were asked to carry out. This relationship between the lack of autonomy of midwives and consumer satisfaction has been highlighted by others (DeVries, 1984),

"...experience of birth is influenced by the degree to which it is standardised. The experience, the training and the hospital location of the midwife lead her to streamline her procedures." (p234)

Part of the reclaiming of the midwife's traditional role was found in the 1980s which saw developments such as midwives' clinics and midwives' delivery suites (Flint, 1982; Stuart and Judge, 1984; Towler, 1981). These

were viewed as positive developments for midwives in that they allowed midwives the opportunity to fully deploy the skills they had. The development of midwifery skills in these settings led to testing out of programmes of midwife managed care. Flint and Poulengeris, 1987, were one of the first pioneers of this work. The aim of these programmes of care was to utilise midwives skills to the full while aiming to provide a better service to women by reducing duplication of care and the number of different care providers women saw during the childbirth experience. However, a 1988 survey of all maternity units in England and Wales (Smith and Jewell, 1991) raised concerns about the work with which midwives had become increasingly involved. The report found that most midwives had extended their roles (e.g. suturing perineums-90% of non-isolated units, reading cadiotocographs-90% of non-isolated units), except in isolated general practitioner units. The report concluded that the extended role may reflect a shift from providing personal care to low risk women to the more technical approach often espoused by obstetricians. The report stated that midwives had maintained their position as the primary profession caring for women in labour by being willing to work with consultants. However, it was argued that , they contributed little to policy making, audit and perinatal meetings of specialist units, suggesting that they had lost some independence. It was further stated that midwives may become obstetric nurses in all but name and midwifery may find it difficult to maintain its own discipline.

In the 1990s, obstetricians still maintain the prestigious status within the maternity service although positive developments in midwifery continue. This phenomenon is not confined to the United Kingdom. Wagner (1995) has described 'a global witch hunt', arguing that the medical control of maternity services has been endorsed by governments, until recently, and citing evidence that midwives are persecuted for carrying out their professional role, in particular for assisting home births. Evidence included the demands of the German Society of Obstetrics and Gynaecology in the 1980s that their government abolish the law requiring the presence of midwives at all births and, later in 1990, that home birth be outlawed. Support for this view has been discussed previously in relation to the hospitalisation of birth (see p 19). Of additional concern for advocates of traditional midwifery is the focus of recent studies looking at extending the midwives role into a more medicalised one, for example, views have been sought about midwives conducting ventouse deliveries (Rajkhowa et al, 1995). However, it should be noted again that support for a non-medicalised focus has come from government policy in the United Kingdom in the 1990s (Department of Health, 1993; Scottish Office Home and Health Department, 1993) which has stated the need for midwives to utilise their traditional skills and to develop midwife managed programmes of care.

Government spotlight and evidenced based practice

Today, the consumer viewpoint is pushing through to be at the centre of the maternity care system in the United Kingdom. Government policies are continually putting more emphasis on the consumer point of view. The Griffiths Report (1984) concluded that the NHS failed to demonstrate responsiveness to its consumers and should invest more effort in obtaining systematic evidence of patient satisfaction. At the time of this report, theorists (e.g. Spedling and Rose, 1985) were increasingly beginning to argue for the importance of the patient perspective and it was argued that this would counteract the medical hegemony. The Griffiths Report (1984), The Working for Patients document (1989) and the Patients' Charter (National Health Service in Scotland, 1991; National Health Service-Department of Health, 1991) promised an extension of patient choice by identifying and seeking to meet consumer needs and desires. These documents also suggested practical measures such as

cutting waiting times as a means of improving the service. The body of satisfaction research represents a model of consumerism, in the terms of the Griffiths report, 1984, 'to meet the needs of the patient and community.' The acceptance of satisfaction as a legitimate measure of quality appears to be part of a widening of the Griffiths model (e.g. NHMSE, 1990, 1992; Nuffield Institute, 1992; National Consumer Council, 1992; McIver, 1991) whereby the consumer is not just viewed as a receiver of services but an active participant in decision-making and priority setting.

In maternity services, the Maternity Care in Action report (Department of Health and Social Security, 1982; 1984; 1985) expressed its concern about the effects on women's satisfaction of what it called the high levels of 'unnecessary intervention in childbirth'. This report stated that:

"Maternity care is exceptional in the Health Service insofar as the large majority of those women for whom care is provided are healthy who come into hospital not to be treated like a patient but to be assisted in a natural physiological process which for most of them is among the most important events of their lives". (p22).

The House of Commons Report (1992); the Scottish Office Policy Review (1993) and the Changing Childbirth report (1993) all emphasised the need to provide a client-centred maternity service. In the introduction the House of Commons Health Committee stated:

"Becoming a mother is not an illness...It is a normal process which occurs during the lives of the majority of women and can indeed be seen as a manifestation of health." (p13)

These documents recognise then the societal context of childbearing. Their evidence was gathered from consumer representatives and from consumer surveys. They inform providers of healthcare that they should take steps to ensure that these elements are central to the maternity services. The three policy documents: the Provision of Maternity Services in Scotland Policy Review (Scottish Office Home and Health Department, 1993); the Changing Childbirth report (Department of Health, 1993) and its predecessor the Winterton report (House of Commons Health Committee, 1992), state that the system of maternity care in the United Kingdom does not provide the type of care the majority of women want. In particular, choice, continuity of care and control during pregnancy and childbirth are highlighted as issues not being fully addressed in the current system. A system is advocated where the woman and her family are at the heart of maternity care, their views of importance to service providers. The issue of consumer satisfaction now is firmly on the agenda in maternity services.

The Changing Childbirth report (Department of Health, 1993) lists ten indicators of success in improving maternity services and states that services should achieve these indicators within five years. The indicators clearly argue the importance of the traditional role of midwives and advocate midwife managed schemes as a means of improving care. The indicators are:

- all women should be entitled to carry their own notes;
- every woman should know one midwife who ensures continuity of her midwifery care - the named midwife;
- at least 30% of women should have the midwife as the lead professional;
- every woman should know the lead professional who has a key role in the planning and provision of her care;

- at least 75% of women should know the person who cares for them during their delivery;
- midwives should have direct access to some beds in all maternity units;
- at least 30% of women delivered in a maternity unit should be admitted under the management of a midwife;
- the total number of antenatal visits for women with uncomplicated pregnancies should have been reviewed in light of the available evidence and the RCOG guidelines;
- all front line ambulances should have a paramedic able to support the midwife who needs to transfer a woman to hospital in an emergency;
- and all women should have access to information about the services available in their locality.

Although the Scottish Office Policy Review (Scottish Office Home and Health Department, 1993) does not set down 'indicators of success', the principles of the Changing Childbirth report are endorsed. For example, in relation to knowing the carer during labour, the policy review (Scottish Office Home and Health Department, 1993) pronounces that women have clearly stated views and expectations that they will be attended during labour by at least one carer, usually a midwife, whom they have met during pregnancy. The policies advocated and targets detailed in these documents have had an implementation plan set down. An NHS Management Executive letter for England and Wales (NHS MEL, 1994/2) was issued in January 1994 which stated that purchasers should draw up implementation plans for Changing Childbirth and ensure that its recommendations were reflected in both their 3-5 year purchasing strategies and 1995/96 purchasing plans. Following discussions with providers, purchasers were required to set a date by which they expect to be able to offer a 'Changing Childbirth' service. In addition, in April 1994, 'The Patient's Charter: Maternity Services' for England and Wales (Department of Health, 1994) was launched which sets out the rights which women already had, and the ways in which maternity care should improve during the next five years, as a result of Changing Childbirth. In Scotland, further developments include the Named Nurse initiative (Scottish Office National Health Service in Scotland, 1993). Lord Fraser, the Minister for the Health Service at the time, announced in June 1992, that all patients in hospital or community settings would have a named nurse, midwife or health visitor by June 1997. Its aim being to improve patient care by promoting continuity of care and its delivery on an individualised basis.

Official responses from non-midwifery professionals to the proposals advocated in the policy documents (House of Commons Health Committee, 1992; Department of Health, 1993; Scottish Office Home and Health Department, 1993) are favourable. It must be noted that politicised consumer groups in maternity care such as the National Childbirth Trust (NCT), the Maternity Alliance and the Association for Improvement in Maternity Services (AIMS) have continued to publicise the issues of choice, continuity and control and have brought pressure to bear on government and in due course government has incorporated these views into its policies. Indeed, the National Childbirth Trust stated in a publication (1994) that the type of care proposed by policy documents (House of Commons Health Committee, 1992; Department of Health, 1993) is the type of maternity care that the National Childbirth Trust has been campaigning for almost forty years.

Correspondence in journals from obstetricians and general practitioners indicates a mixed response to the principles of 'Changing Childbirth' (Department of Health, 1993). While some non-midwifery professionals support the recommendations of these reports (Lilford, 1993; Walker, 1995) others have raised concerns about the extended role of midwives and effect on obstetricians and general practitioners (Steer, 1992; Anderson,

1993; Stephen, 1993; Dunlop, 1993; James, 1995; Smith, 1996) as well as the issue of sustainability of midwife managed schemes. In addition, concerns about the effects on midwives such as the need for increased flexibility, such as on-call, and the assumption of extra responsibility have been raised, as has the need for evaluation of change (Piercy, 1995).

There is evidence, however, that the government focus on woman-centered, holistic maternity care is being translated into local policies. In Glasgow (Greater Glasgow Health Board, 1993), for example, the policy for antenatal care states that the aim of antenatal care must be to ensure as far as possible the health and well-being of the woman and the unborn child. Also, however, that pregnancy and childbirth represent a physical, psychological and social change for the prospective parents, particularly the woman, and antenatal care should provide support and guidance at this time and help them prepare for parenthood. Good clinical care must be sensitive to the emotional needs and rights of the mother, the father and their other children (e.g. the father should whenever possible be given the opportunity to share in the experience of the antenatal consultation).

In response to the growing tide of consumer opinion, there have been calls from professionals for care to be accountable to the public. As described above, the 1980s and 1990s have evidenced increasing government support for this view. Cochrane and Holland, 1972, in the influential 'Effectiveness and Efficiency', stated that health care innovations should be evaluated in terms of their safety, efficacy and effectiveness. Maternity care has been a forerunner in this approach. In response to the growing tide of consumer opinion and lobbying from activist groups, care has become more accountable to women and their families. The publication of 'Effective Care in Pregnancy and Childbirth' (Enkin and Chalmers, 1982) was very helpful in this regard in the 1980s and allowed the forum for maternity practitioners, probably for the first time, to examine systematically their practice and its effect on consumers. In the 1990s this work had developed further with the introduction of the Cochrane Pregnancy and Childbirth Database (Chalmers, 1993) which was again a forerunner for examining, systematically, other areas of health care. However, the extent to which the vision of consumers being active participants in decision-making and priority setting (NHMSE, 1990, 1992; Nuffield Institute, 1992; National Consumer Council, 1991; McIver, 1991) with the envisaged consequence of maternity services truly addressing women's needs still has to be ascertained.

Continuity of care and carer

One of the key features of the 1990s government reports (House of Commons Report, 1992; the Scottish Office Policy Review, 1993; Changing Childbirth, 1993) is developing midwife managed schemes which aim to achieve continuity. Continuity is generally conceptualisation within two components - continuity of care and continuity of carer (Murphy-Black, 1992). Continuity of care is viewed as continuity of philosophy (i.e. that different carers given consistent advice to women) and continuity of carer (i.e. being cared for a small number of different carers for duration of maternity care). At the inception of the current study, models of midwife managed care incorporating differing interpretations of continuity of carer were being developed. What has proved controversial is the issue of the need for a known midwife during labour. Evidence from women and midwives involved in schemes with this component indicate high levels of satisfaction (Flint, 1989; Page et al, 1994). However, satisfaction with midwife-managed schemes in general is extremely high (Giles et al, 1992;

MacVicar et al, 1993; Waldenstrom et al, 1993; Hundley et al, 1994; Rowley et al, 1995; Turnbull et al, 1996). One important problem is the dearth of research examining what benefits are directly associated from knowing your midwife during labour (Lee, 1994; Stewart, 1995; Walsh, 1995a). A related issue has been the lack of clarity over the meaning of "knowing the carer" in the intrapartum period (Alexander et al, 1990; Lee, 1994a). Programmes aiming to achieve a known midwife during labour require an on-call commitment; this has lead to concerns about the implications for midwives' working and home lives and financial viability (Stewart, 1995; Warwick, 1997). Research on the effects of 'knowing your midwife' during labour becomes more urgent with evidence of 'burnout' in midwives working in programmes with such a component reported (Sandall, 1995; Sandall, 1997).

Section 2 Women's experience of maternity care

Aim

This thesis examines women's satisfaction with midwife managed care when compared to traditional shared care. This section aims to review the literature on women's experience of maternity care. Firstly, the many psycho-social studies on women's experience of childbirth are considered. Women's satisfaction with maternity care is then given major emphasis. Theoretical issues related to satisfaction are considered extensively and studies of women's satisfaction with maternity care reviewed.

Psycho-social research

This sub - section is concerned with wider psycho-social research in relation to maternity care rather than a specific examination of satisfaction with care (which is discussed later in this section). The overview of this work indicates the historical lack of psychological research examining women's experience of pregnancy and childbirth although relevant work by medical sociologists and recent psychological work which combines a social perspective is described.

Historically, very few studies carried out in the name of psychology included a consideration of women's experience of pregnancy and childbirth. In the field of the psychology of childbearing, for example, a vast amount of research has focused on the infant's needs and issues of mother-infant 'separation' and 'bonding' (Bowlby, 1951; Klaus and Kennel, 1976; Rutter, 1979; Goldberg, 1983; Sluckin et al, 1983; De Vries, 1984), with little work on the mother's experience and feelings. Until very recently bonding theory was accepted as fact and translated into practice following Bowlby's, 1951, assertion that 'if the mother/child bond is faulty then a maladjusted individual will result'. Recent work has begun to question this, however. Feminist researchers have criticised bonding theory as 'limited and flawed' and legitimising sex role divisions and devaluing the role of the father to one of support only (Bilings, 1995). In addition, Crouch and Manderson, 1995, in their review of the literature concluded that little consideration had been given to research findings concerning the guilt and anxiety experienced by women whose expectations regarding 'bonding' were not realised. However, whilst not discounting bonding theory both concluded (*ibid*) that there was a need for critical review and analysis of any theory before it is widely applied to routine practice.

Since the 1980s, there has been more psychological work on women's experience. It is argued that it has predominantly focussed only on particular aspects of women's experience (e.g. labour pain, Reading et al, 1982; Salmon et al, 1990; Slade et al, 1990; Rajan, 1993a). Although this body of research has examined the relationship of pain experience to variables such as feelings of control, anxiety, staff communication, and preparation during the antenatal period, it isolates the experience of childbirth from its social context. That is, in an attempt to achieve scientific validity by carefully controlling the study, using the above example, labour pain is considered in relation to personal characteristics or care characteristics but not social characteristics (e.g. social deprivation, lay supports or the context of the pregnancy in the woman's life) as these are more difficult to measure or categorise.

In contrast to the psychological research, medical sociologists in the 1970s began to question the 'medicalisation of childbirth' (Oakley, 1975; Illich, 1975; Hart, 1977) and a tradition of research which asked women about their personal experiences and the impact on their life developed (e.g. Hubert, 1974; Graham, 1976). Work in this tradition has found worries during pregnancy to include diverse concerns about the possibility of miscarriage, something being wrong with the baby, money, being in hospital and internal examinations (Green, 1990). Recent qualitative research utilising grounded theory (Barclay et al, 1997; Rogan et al, 1997) of first time mothers in the immediate postnatal period concluded that becoming a mother was a difficult, multifactorial process. This research *(ibid)* provides an example of examination of both the psychological and social impact of pregnancy and childbirth is examined. The process included a realisation of the overwhelming process of becoming a mother and the consequences this has on one's life; the feeling of being unready for the reality of motherhood; feeling drained from the physical, mental and emotional demands of the role; feeling alone, unsupported and anxious; feelings of loss of time, freedom, independence, control and self. Women felt, however, that they had worked through these issues by developing skills and gaining confidence in being mothers. In addition, a woman's experience of new motherhood was influenced by her perception of the nature of her baby; previous experience with babies and the availability of social support.

Another recent study examined 1285 women's experiences of early motherhood (Green and Kafetsios, 1997). The study found that 75% of women felt proud of being a mother, that they were not disappointed by motherhood (72%) and that they enjoyed looking after their baby (66%). Yet only one third had strong emotional support from their partners, and it was clear that even those who were enjoying motherhood for the most part sometimes found it an emotionally and physically exhausting experience.

The studies above indicate pregnancy and childbirth as a major life event for women and their family, with much stress and anxiety experienced. Psycho-social studies which ask women about the experience, however, rarely ask about how this relates to the maternity care they received. One exception is a study of labour carried out by Green, 1988 which enquired about both feelings and care received. They asked in a survey of 656 women six weeks after giving birth, 'in general, did you feel in control of what staff were doing to you during labour?; 27% of women reported 'yes they always felt in control', 53% most of the time, however, 14% stated only some of the time and 7% hardly at all. In addition, 41% reported being 'frightened' during labour, 18% felt 'out of control' and 18% felt helpless. Only 23% reported feeling 'confident' and 'in control'.

A theme emergent from the psychosocial studies is the role of social support for women during the childbirth experience. There has been a large body of work which has examined the effects of enhanced social and psychological support during pregnancy (see, for example, Oakley's, 1985, review of the evidence related to increasing low birth weight). A review of the randomised controlled trials (Carpenter et al, 1968; Elbourne et al, 1987; Elbourne and Oakley, 1989; Heins and Nance, 1986; Lovell et al, 1986; Lovell et al, 1987; Olds et al, 1986a, b; Reid et al, 1983; Shershefsky and Lockman, 1973; Spence Cagle, 1984; Yanover et al, 1976; Yauger, 1972) carried out by Elbourne et al, 1989a & b suggested beneficial psychological, behavioural and physical effects of social support. It found no negative effects of enhanced social and psychological support during

pregnancy and stated that, in the light of this, maternity care should adopt these forms of enhanced support forthwith. In parallel to the research on general social support during pregnancy, work has specifically focussed on the effects of support from care givers during labour. Hodnett, 1995, in a systematic review of the evidence (Breart et al, 1992; Cogan and Spinnato, 1988; Hemminki et al, 1990; Hodnett, 1989; Hofmeyr et al, 1991; Wolman et al, 1993; Klaus et al, 1986; Sosa, 1980) concluded that the continuous presence of a trained support person who had no prior social bond with the woman reduced the duration of labour, and the likelihood of use of pain relief, operative vaginal delivery and a 5-minute Apgar score <7. Hodnett in discussing the implications of these findings raised the concern that in many Western settings, labour wards are very technologised and suggested that the continuous presence by a specially trained support person (midwife, nurse or doula) will often require re-training of staff as well as the adoption of more flexible methods of staffing labour wards.

The studies above indicate the potential for women's anxiety during pregnancy and childbirth to be reduced by social support both by care givers and partners. A criticism of the above studies is that they only focus on particular aspects of women's total experience, however, and traditionally have very rarely raised implications for care providers (note exceptions provided in the reviews by Elbourne, 1989a & b and Hodnett, 1995). Some may argue that is the nature of research that there is a need to keep to narrowly defined research questions. However, arguments have been made for research to be conducted in a social model of health paradigm (Open University, 1992) which would consider all aspects of a woman's life in relation to her pregnancy. This type of research, it is argued, could be more practice and policy relevant. Concluding from the examples above, however, there appears great potential for maternity care givers to provide women with supportive and individualised care.

Satisfaction with maternity care

Importance of examining satisfaction

Historically, research on consumer satisfaction with care developed during the 1960s when changes in the age structure of society began to raise implications for clinical care. That is, there was a recognition that more people would require long-term medical and social care and thus the best way into providing quality care, from a user's perspective, began to be examined. This interest in consumer views developed at the same time as academic interest in interpersonal relations. This combination gave rise to studies of practitioner - consumer relationships which demonstrated the importance of asking what people think about their care (Cartwright, 1964; 1967 provides examples of this early work).

There are a number of reasons why measuring consumer satisfaction with care is important. Firstly, it has been argued that on ethical grounds consumers should be asked their views (Pollitt, 1988). According to this view, consumers of public services should participate as far as reasonable in setting the standards for the services for which are ultimately funded by them and which are to service their needs. It is part of their fundamental right as a citizen.

It has been shown that often systems of care are maintained for decades without being questioned either by practitioners or policy makers. In this scenario, staff can become entrenched in the familiar, support systems of care which embody their own values and may sabotage new ideas. Chalmers et al, 1989, in their comprehensive review of maternity care provided evidence of such practices. For example, they stated that widely used procedures such as perineal shaving in labour and routine use of enemas in labour are demeaning, confer no benefit to women and should be completely abandoned together with, for example, a recommendation of a wider introduction of systems which aim to improve continuity of care.

A consumer can provide a completely different perspective from practitioners and policy makers because they have actually experienced the effects of a particular system of care or policy and can say from their point of view what was good or bad. Evidence such as that from Chalmers et al (*ibid*), suggests that stagnation occurs if the consumer point of view is not sought.

Traditionally, practitioners and policy makers largely decided on practice in, what they would think, was in the best interest of consumers. What this way of providing NHS services failed to acknowledge was the power relations both within the NHS and with its relations with consumers. Power relations exist between the various professional groups in the NHS and at an individual level practitioners have different values. At an individual level if practitioners and policy makers are not made to be accountable they may not question their own practice and with professional rivalries become entrenched in their own point of view. This can impact on services provided, with mistrust between professional groups and lack of co-operation so that the best service to the consumer is not provided.

In further relation to power relationships, from a consumer perspective, practitioners are viewed traditionally by consumers as the 'experts' (Bluff and Holloway, 1994). Traditionally consumers are grateful for a NHS service which they view as free, although in the 1980s and 1990s more questioning of NHS practice by consumers is evident in line with developments such as the Consumer's Charter. The influential Griffiths report '*Working for Consumers*' (Griffiths, 1989) set the emphasis in the United Kingdom on consumer sovereignty; with health services expected to be formulated and reconfigured by consumer demand and preferences. Enabling the consumer voice to be heard in a more focused manner through reorganisation of Community Health Councils also featured prominently. Practitioners and policy makers must be made accountable to the consumer then and one mechanism of doing this is by examining what consumers think about the services they have received so that services are changed to be more responsive to consumers needs.

Asking consumers what they think of services and involving them in decisions has been linked with other benefits. Satisfaction with involvement in care has been related to consumers being better informed about their own health (Evans, 1996). Acceptance of advice has been found to be related to satisfaction with the consultation (Kincey et al, 1975). Satisfaction with care has been found to be an important influence determining whether a person seeks medical advice, complies with treatment and maintains a continuing relationship with a practitioner (Larsen and Rootman, 1976). Roghmann et al (1979) have found satisfaction

was related to re-attendance for care with others finding the variable is related to compliance with care (Ley, 1980; Inui & Carter, 1985).

Further to above findings, studies have found satisfaction with care related to improved psychological and physical well being. For example, Fitzpatrick et al (1983) in a longitudinal study of the medical management of headaches found consumers who were more satisfied with their care had a better health outcome. Green et al (1988) found a relationship between satisfaction with information and feeling in control to not only women's experience of birth but also to their subsequent emotional well-being and Joos & Hickman, 1990, also found a relationship with satisfaction and improved psychological health.

In relation to maternity care, measuring women's satisfaction has been endorsed by three influential policy documents (House of Commons Health Committee, 1992; Department of Health, 1993; Scottish Office Home and Health Department, 1993). The Changing Childbirth report (Department of Health, 1993) states that satisfaction should be seen as an outcome of care in its own right and as such should have similar status to clinical concerns. This endorsement is an acknowledgement of wider government policy to make to the NHS more consumer-orientated. For example, the Consumer's Charter for Maternity Services (Department of Health, 1994) which was launched in 1994 explicitly states women's rights in relation to their care. The Charter serves as an example of this support for measuring women's views of their care as part of the wider government agenda of consumer sovereignty.

To summarise, there is an argument that satisfaction with health care should be measured on ethical grounds, making the NHS accountable to the people who indirectly fund it. Further to this, evidence indicates that there is a need to measure satisfaction so that services continue to improve. The importance of examining consumer satisfaction was expounded as early as 1966 by Donabedian, who stated: "*achieving and producing health and satisfaction, as defined for its individual members by a particular society or subculture, is the ultimate validator of quality of care.* (p166)" In addition, satisfaction has also been found to be an important variable affecting other health behaviours and health outcomes. Further to these factors, it is now politically expedient to study this phenomenon. However, traditionally mortality and morbidity data have been employed by clinicians and politicians to assess the effectiveness of health services. Although unsurprisingly, the reliance on clinical data has tended to undermine the importance of satisfaction data (Lane et al, 1975; Department of Health, 1993) and still remains part of the dominant culture in the National Health Service.

Theoretical perspectives

Several different theoretical approaches inform this thesis, particularly from feminist theory, feminist psychology and the theory of attitudes from social psychology. The literature review indicated that most theory building in consumer satisfaction research had been based in social psychology theory, in particular attitudinal theory. This finding accompanied with the researcher's background in psychology and knowledge of attitudinal theory led to a utilisation of this theory as a theoretical framework for the study in relation to what factors should be considered when examining satisfaction. Conceptualisations of attitudes and their relationship to behaviour will be important when considering the findings of the current study. Before considering attitudinal theory and

specific theories of consumer satisfaction, however, the relevance of feminist theory to the current study of women's satisfaction with midwife managed care will be examined.

Feminist theory

Feminism seeks to identify women's role in a patriarchal society and addresses issues that concern the subordination and oppression of women in everyday life (Roberts, 1981). It challenges the socialisation and stereotyping of women within a society run by men for men's benefit. To take on board feminist thinking challenges many of our existing beliefs and ideologies concerning gender issues. For example, feminists have had to challenge one of the most damaging assumptions about motherhood - that as women, we are biologically equipped to bear children and have instinctive knowledge about how to mother (Polatnick, 1983).

Feminist theorists have argued that the 'neutrality of science' is a myth (Rose, 1982) and that medical science has been one of the most powerful sources of sexist ideology in our culture (Roberts, 1985). Evidence exists to support this in maternity care. As described in Chapter 1, the development of medical science and technology in maternity care by men was portrayed as a safety issue with disregard to the role and status of female midwives, the traditional carers for women during pregnancy and childbirth.

In maternity care, there has been a history of feminist research, writing and campaigning. Feminist writers (Dally, 1982; Oakley, 1984) have challenged society's double standards where on one hand motherhood is idealised and on the other it is trivialised and undervalued. Roberts, 1985, concluded:

"In one crucial area, that of childbirth, and thanks largely to the work of feminists, we do know something about the feelings of 'consumers' and what is more, this work has had wide-ranging effects. If enough customers are unhappy, if enough women complain, then even the most intransigent of physicians feel compelled at least to think about the service they are providing (whether they publicly acknowledge the reasons for their reappraisal is another matter." (p5)

Thus, the researcher when asking women their views of the maternity care they received considered that the underpinning of a theoretical framework, although this would include an examination of other relevant theory such as attitudinal theory, should be influenced by feminist theory.

Of specific relevance to this study, Segal's (1987) contention that it is only through feminist theory that women can begin to comprehend their position within this society and with this knowledge can then acquire the skills generally associated with men: assertiveness, self-confidence, the ability to shape their own destiny was considered in relation to a theoretical framework for the literature review and the study in general. For example, throughout the research process the social context in which women have babies and the gender inequality they experience was always paramount in the author's mind. To extend this further, Roberts', 1992, argument that doing research on women's health is a social process itself and researchers, in particular, need to consider the total context in which they carry out their research was also consistently used as a framework for carrying out this piece of research. It was also very important to consider the contention in feminist theory that in the

dominant research culture generalisations can be made only from quantitative data. Roberts (*ibid*) argues that while quantitative data have their place they are not sufficient to encompass all the important questions raised in studying women's health.

Feminist psychology

Feminist psychology is highly critical of mainstream psychology. It was therefore important to consider the tenets of feminist psychology as it was planned to utilise mainstream social psychology and in particular attitudinal theory in the current study.

It has been argued that mainstream psychology has polarised 'science' (pure, objective scholarship) against 'politics' (ideologically biased advocacy), and has actively resisted feminist psychology which is informed by the political aims of the feminist movement (Unger, 1982; Wilkinson, 1989). The feminist activist and psychologist Naomi Weisstein (1993) stated that:

'psychology has nothing to say about what women are really like, what they need and what they want...because psychology does not know.' (p197)

Unger and Crawford, 1992, consider that feminist psychology reflects the principles of feminism in two ways: it considers that research about women should be valid in its own right, not just in comparison with work about men; and that the work should recognise the need for social change on behalf of women. Wilkinson, 1991, stated:

'When a feminist psychologist addresses feminist questions in feminist terms, we can begin to expose psychology's role in women's oppression; to challenge its - sometimes attractive - ideologies; and to undermine its structures.' (p16)

Thus, feminist psychology is different from other 'psychologies' critical of mainstream psychology as the aims of feminism are the priority and not just criticism of the traditional 'scientific' psychological approaches. For example, the contrast between the aims of feminist psychology and 'critical social psychology'. Critical social psychology adopts postmodern approaches such as discourse in criticism of traditional psychology which has at its heart the idea that the practice of psychology should be to discover scientific facts (see Ibanez, 1997 for an analysis of critical social psychology). Some feminist psychologists have, however, opposed discursive or postmodern approaches for being relative and for failing to recognise power relations and the effects of oppression (see Wilkinson & Kitzinger, 1995). Gilligan, 1994, states of postmodernism:

"I think it's a kind of nihilism...To me it's very important to say the Holocaust happened and the Middle Passage - you know, the slave trade - happened; and an incestuous act happened. And it wasn't just someone's interpretation. I mean I think it is extremely *dangerous when women are talking about what happened - 'He hit me'; 'He beat me up'; 'He raped me'. It's very dangerous to say, 'Oh well, there's no external reality, there's only stories, nothing really happens'...That's not to say that there aren't different interpretations but it can get*

to the point where nothing's real, nothing happened, nothing matters, and nobody knows - and I think that's a dangerous thing for feminists to be saying." (Gilligan C, in Kitzinger, 1994, p412).

Feminist psychologists use both traditional and postmodern frameworks with many strongly defending the use of traditional methods such as experiments, questionnaires, tests and scales (Shaw-Barnes and Eagly, 1996; Shields & Crowley, 1996; Unger, 1992, 1996; Weisstein, 1993). As such, the principles of feminist psychology in the sense of using the most appropriate theoretical frameworks and methodologies is very similar to the principles of health services research. These were the guiding principles for the current study. Thus, although the social psychological theory of attitudes has been conducted under the 'scientific paradigm', the current study utilised a wider understanding of social reality.

Utilisation of attitudinal theory in satisfaction research

Much of the work on satisfaction as indicated earlier (see p29) has examined the construct as a variable dependent on either features of individual clients/ client groups or of services, or as a variable predictive of subsequent behaviours. However, there has been a lack of theory explaining the associations between satisfaction and consumer or service characteristics, or between satisfaction and subsequent behaviours. Locker and Dunt, 1978 stated:

"Though conceptual and theoretical matters are logically prior to discussions of methods and measurement, they have been somewhat neglected in the literature. For example, it is rare to find the concept of consumer satisfaction defined and there has been little clarification of what the term means either to researchers who employ it or respondents who respond to it. Another important issue that needs to be considered is the process by means of which respondents decide whether they are satisfied or dissatisfied. Given the preoccupation of most researchers with the identifying of socio-demographic variables associated with satisfaction, little attention has been directed towards developing a well-defined sociopsychological theory of satisfaction." (p285)

In the 1990s there still is little agreement about a definition of satisfaction and lack of agreement over a theoretical framework with much more available on how to measure satisfaction in a quantitative paradigm. The theoretical work which has been carried out in consumer satisfaction research can be traced to the social psychological theory of attitudes. Bond, 1992, for example, utilises Herzberg's 1966 theory which states that whereas satisfaction tends to be explained in terms of feelings of personal growth, achievement and belonging, dissatisfaction is expressed in terms of physical amenities and environmental factors. Bond argues that in the context of influences on satisfaction with health care improving the former may then cause dissatisfaction with the latter to disappear. Another example is where Linder-Pelz, 1982, in an attempt to build a theory of satisfaction utilised Fishbein and Ajzen's (1975) theory of attitudes.

Attitudinal theory

It is argued that the concept of an 'attitude' is central to any study of satisfaction as in attempting to measure satisfaction one is attempting to gauge an 'attitudinal response' to a given topic. The term 'social attitude' can be traced back to the beginning of this century (Thomas and Znaniecki, 1918). Eagly and Chaiken, 1993, state

that there are two theoretical positions about how attitudes should be defined. One is that an attitude is a combination of affective, behavioural and cognitive reactions to an object (Breckler, 1984; Rajecki, 1982; Judd et al, 1991). Other theorists have proposed conceptualisations that emphasise the evaluative nature of attitudes as their most important or even sole component: 'the term *attitude* should be used to refer to a general, enduring positive or negative feeling about some person, object or issue' (Petty and Cacioppo, 1986; Zanna & Fazio, 1982). In a review of the evidence Chaiken and Stangor (1987) stated no conclusion could be made about the efficacy of the two models. Others (Breckler, 1984) have argued that differences may occur in the mechanism depending on the number of beliefs held (i.e. if many beliefs are held and are complicated and at least partly contradictory, a simple evaluative response will not represent the whole attitude structure). Empirical work (Schlegel, 1975; Schlegel and DiTecco, 1982) supports this view.

Historically, a great deal of work which still holds credence today was carried out on the function of attitudes (Katz, 1967; Smith et al, 1956; McGuire, 1969) with the conclusion that there is a motivational root to holding attitudes. Katz, 1967, for example, argued that people have a need to express attitudes that reflect their own central values which can provide great satisfaction; they also help people reach desired goals, or avoid undesirable goals and they also serve to 'filter out' information as otherwise each individual would suffer from information overload. This 'filtering out of information has been argued to be biased, however. Heider's, 1944; 1946, theory of cognitive consistency states that individuals try to have their own cognitions (beliefs, attitudes, perceptions of own behaviour) organised in a non-contradictory way. Sherif and Hovland, 1961, argue that attitude statements expressed that are close to our own are perceived as resembling our own attitudes even more than they actually do and will be evaluated very positively. Statements which seem discrepant from our own position are evaluated as being unfair. Further to this, Festinger's, 1957, cognitive dissonance theory argues that people are motivated to expose themselves to (attitude-) consonant information and to avoid (attitude-) dissonant information. Empirical testing indicates support for this theory (Frey and Rosch, 1984; Frey, 1986) although other theoretical stances have developed (e.g. Bem's self perception theory, 1965). Further to these biases, early work on social attitudes (Levine and Murphy, 1943) argued that information that supports our attitudes is better remembered than contradictory information to our attitudes. Roberts, 1985, in an overview of the relevant studies concluded that the empirical data demonstrate a reliable but modest relationship on this issue. Further to these considerations, it has been demonstrated there is bias to the process with people using 'heuristics' or rules of thumb when processing information (Tversky and Kahneman, 1974; Chaiken, 1987; Chaiken et al, 1989).

Although a consideration of the function of attitudes and biases inherent in this process is relevant to the current study, of more importance is the relationship between attitudes and behaviour. The fact that the relationship between attitudes and behaviour is not a direct one has been covered earlier in this subsection. Social psychological studies have reported contradictory findings, perhaps indicating the complexity of this relationship. Influential work by La Piere, 1934; Corey, 1937; Ajzen and Fishbein, 1970 failed to find a relationship between attitudes and behaviour. Other studies have found a relationship (e.g. Fishbein and Coombs, 1974; Newton and Newton, 1950). However, Kraus, 1995, concluded that attitudes significantly and substantially predict future behaviour. Indeed, Kraus (*ibid*) calculated that there would have to be 60,983 new studies reporting a zero correlation before this conclusion would have to be revised. The importance of the

social world has to be acknowledged, however, and the theories of reasoned action (Fishbein, 1980) and planned behaviour (Ajzen, 1991) have great resonance here. Testing of these theories (Ajzen & Madden, 1986; Fishbein & Stasson, 1990; Madden et al, 1992) has found that specific attitudes combine with social factors such as subjective norms and perceived behavioural control to produce behaviour which is, however, largely dependent on the strength of the attitude. In addition to the social world, personality has to be considered as an important factor also (Brehm and Kassin, 1997) although it may be argued that an individual's 'perception of behavioural control' will be related to personality factors anyway.

To summarise, attitudes appear to include an evaluation of a topic. In that evaluation, beliefs, intended behaviour and actual behaviour affect the attitude and subsequent behaviours although the way this process works is not unbiased. A consideration of attitudes should also consider the individual's social world and personality. For the purposes of the current study, it was important to acknowledge the possible effects of beliefs, behavioural intention and behaviour, social world, personality and expectations in relation to attitude measurement. The effect of attitudes on future behaviour would be important when considering the study findings. To date, no conclusion is available about the most efficient model of attitudes. This study, as other practical research has chosen to do (e.g. Dawes and Smith, 1985) utilised the unidimensional theory of attitudes as measurements can be derived more easily. Thus the concentration is on the affective response, that is how individuals feel, what they like and dislike about attitude objects. As it was aimed to involve a large sample in the current study, it became obvious a survey method would be needed. Thus, it was important to consider theoretical conceptualisations about how attitudes are measured.

Attitude measurement

As an abstract concept, it is obvious that attitudes cannot be measured directly. A great deal of earlier work in the 1930s was carried out to identify indicators of the attitude which can be measured by the opinions or beliefs about the attitude object (e.g. Thurstone, 1931; Likert, 1932). This work has remained influential to the present day with the Likert self rating scale (Likert, 1932) used in the measurement of attitudes although other scales have been developed (see Dawes & Smith, 1985; Robinson et al, 1991; Crites et al, 1994). The popularity of the Likert scale (1932) is in its low development cost and acceptability to participants. Likert scales (*ibid*) typically have five possible responses (strongly agree, moderately agree or agree, neutral or undecided, moderately disagree or disagree, and strongly disagree), although some are utilised with a seven point scale. The advantage of Likert scales are that they can be constructed without the help of many judges. Psychometric properties of these types of scales is a vital consideration. The validity (i.e. does the scale measure what is says is measures) and the reliability (i.e. does the scale achieve similar results when re-tested on the same participant) should be assessed.

Theories of consumer satisfaction

As described above much of the work in consumer satisfaction research has focussed on methodological and measurement issues. There have been, however, continued attempts to provide a theoretical underpinning to consumer satisfaction research. Bramadat and Driedger, 1993, have commented:

"Theorists undeterred by vague concepts and uncertain empirical results, have forged ahead and developed theoretical models of consumer and consumer satisfaction." (p23)

Theoretical models have included fulfilment or discrepancy models (Linder-Pelz, 1982; Pascoe, 1983; Hunt, 1977; Ware et al, 1983). Fulfilment theory relates consumer satisfaction to the outcome (s) of the experience. Pascoe, 1983, states satisfaction relates to 'the amount received from the experience, regardless of how much one feels they should and / or want to receive'. Driedger, 1991, concluded from empirical work, however, that a fulfilment theory of satisfaction was not supported: 'had the outcome (a healthy baby) been the only factor used to rate childbirth, all women would have had a satisfying experience, since all gave birth to a healthy infant'. Women indicated, rather, that satisfaction is an evaluative response resulting from the interaction of the event with their expectations and desires.

Discrepancy theories predict satisfaction or dissatisfaction based on differences between what is expected or desired and perceived outcomes (Risser, 1975). Further developments on this model, used in studies of consumer satisfaction, are the value-expectancy and social comparison models. These models, take into consideration, respectively, the value that participants place on an event or outcome, and their sense of the type or quality of care to which they are entitled (Linder-Pelz, 1982). Pascoe (1983) has argued, however, that the discrepancy theory in its basic form is logically inadequate, since it predicts that any experience that differs from expectations will result in dissatisfaction, even if the experience is better than expected. Thus it has been concluded that both the fulfilment and discrepancy models may be too simplistic to explain consumer satisfaction, and argued that psychologically based models used to research consumer satisfaction with products or services may be more suitable (*ibid*).

Bramadat and Driedger, 1993, have outlined the three models used most frequently in consumer satisfaction research in an attempt to assess their relevance to childbirth. The three models are the contrast, assimilation, and contrast-assimilation models (Hunt, 1977; Day, 1977), which offer different explanations, as compared to fulfilment and discrepancy models, of how consumers behave when their expectations are not met. The models are again based on psychological research (e.g. cognitive dissonance theory, Festinger, 1957). Contrast models predict that when consumers perceive a discrepancy between expectations and outcome, they will magnify the difference. If the outcome is better than expected, the response will be highly favourable, but if the outcome failed to measure up to expectations, the response will be highly unfavourable. The assimilation (cognitive dissonance) model predicts that inconsistencies between expectations and outcomes will be reduced or assimilated, and that consumers will adjust their perception of the outcome to be consistent with their expectations. The assimilation-contrast model incorporates both psychological perspectives, and predicts a non-linear response in which assimilation occurs within a certain range of discrepancy between what was anticipated and what was perceived to occur. Outside that range of latitude, contrast theory applies (Day, 1977). Bramadat and Driedger, 1993, however, concluded that the relevance of these models to satisfaction with childbirth has yet to be explored. Further to this, the authors stated:

"Although patients commonly are viewed as consumers of health care services, drawing parallels between consumer satisfaction with a product and patient response to health care requires a substantial leap of faith." (p24).

In his discussion of satisfaction with health care, Carr-Hill (1992) draws on early extensive work by Campbell et al (1976) in America which examined the concept 'human satisfaction'. Campbell et al (1976) concluded that 'human satisfaction' is a complex concept that is related to a number of factors including life style, past experiences, future expectations and the values of both the individual and society. The author accords with this view and does not concur with any one theoretical model of consumer satisfaction as, as yet, conceptual models have failed to explain the mechanism by which satisfaction works.

Satisfaction theory - related issues

Political issues

In considering theoretical conceptions of consumer satisfaction, it has been suggested that researchers need to be aware of the political context of the term 'consumer' (Carr-Hill, 1992; see also Bramadat and Driedger's, 1993, concerns in relation to this issue which is discussed previously in this subsection). The term arises from market research and its applicability to the National Health Service has been questioned (*ibid*). Scrivens, 1986, in criticism of consumer satisfaction surveys and the general market research approach stated:

"The 'supermarket model' of health care denies consumers the right to consultation about investment, to what should be 'on the shelves' and does not encourage customers to seek redress if the products are faulty." (p132)

Thus traditionally in satisfaction with health care research, the term 'consumer' has been utilised. The current study utilises the terms 'woman', 'consumer' or 'client' interchangeably, however, as the underpinning theoretical framework is feminist.

Measurement considerations

Theorists have argued that it is not enough to measure satisfaction alone (Locker and Dunt, 1978). In which paradigm *(ibid)* it is insufficient to measure just the level of satisfaction both the aspiration and self-perceived status have to be measured; for the former might be unrealistic given the resources that are available and the latter may, for some people, be wildly different from the actual or 'objective' status. In practice, perception of health status is unlikely to be measured in a satisfaction survey or from interviews. In addition, the requirement to assess people's expectations is complex, for expectations depend upon people's images of health, what is expected of the health care system, and their own experience. Calnan (1988) suggests a conceptual framework of lay evaluation of health care which incorporates the following elements: the goals of those seeking health care; the level of experience of use of health care; the socio-political values upon which the particular health care system is based and the images of health held by the lay population. Carr-Hill, 1992, has suggested, however, that such a model for satisfaction measurement although conceptually comprehensive, poses considerable (impossible?) demands upon the traditional tool for satisfaction measurement, the questionnaire. Williams and Calnan, 1991, claming to follow this model, included no questions on socio-political values or images of health held by the lay population. The link between theory and practice is further criticised (Carr-Hill, 1992) in terms of the following: Calnan (1988) gives no framework as to how to pose questions on goals. It was argued that the extent to which people have clearly defined goals will depend on their prior knowledge and possibility for independent action.

In relation to the expectations, as intimated above, theorists have suggested that satisfaction is related to perception of the outcome of care and the extent to which it meets their expectations (Stimson and Webb, 1975; Locker and Dunt, 1978). Empirical testing of this theoretical conceptualisation has found support for this (e.g. Larsen and Rootman, 1976, found a strong relationship between satisfaction and doctor's role performance which remained statistically significant after controlling for socio-demographic factors and level of contact).

However, other contradictory theories have been forwarded about the role of expectations. One test of a theoretical model (Friedson, 1975) made a delineation between ideal and practical expectations, with the former being defined as the preferred outcome given the consumer's evaluation of their problem, and the latter being the anticipated outcome based on the individuals own experiences, the reported experiences of others, or knowledge from other sources. The consumer may express satisfaction because her/his practical expectations were met, although the care they receive does not meet all their goals. In contradiction to this theoretical supposition, Fitzpatrick and Hopkins, 1983, showed how any tentative expectations were raised *in light* of experience of attendance. Carr-Hill, 1992, has utilised social psychological attitude theory to explain these apparently contradictory results. Tversky and Kahnemann, 1974, argue that negative experiences are more available in memory. Alternatively, cognitive dissonance theory (Festinger, 1957) argues that personal negative experiences are discounted thus introducing bias as a focus to the positive.

A further theorist, Michalos, 1985, argued that the perceived achievement - aspiration gap is the single most important factor to reported satisfaction across all domains of life. Carr-Hill (1992) stated however that he made no attempt to compare that model against one which assumes that the single most important contributory factor is the perceived current status of the self in the domain of interest. Carr-Hill (1992) stated that measured achievement-aspiration gaps in the Michalos, 1985, approach may well be rationalisations rather than the cause of satisfaction ratings. Indeed, most of these analyses have failed to partial out effects which could be attributed to a simple relationship between achievement and satisfaction. Wright, 1985, carried out a detailed study of the interrelationship between self-rated achievements, self-rated aspiration and self-rated satisfaction. He found that satisfaction was not a function of the calculated gaps between perceived health status and aspirations. Instead, it was proposed (*ibid*) that it is crucial to ask about perceived current status, as this is the main determinant of satisfaction.

Carr-Hill (1992) in his analysis of theory argues that the current theoretical conceptualisations of satisfaction still remain mechanical: consumers arrive with goals; doctors do something (or not); the 'satisometer' registers the 'result'. Carr-Hill acknowledges that whatever satisfaction means it should reflect in part the relationship between doctor and consumer. An analysis of power differentials is provided *(ibid)*. The relationship, structurally, is characterised by differences in expertise, knowledge and therefore potentially power; the extent to which consumers perceive themselves to be powerless will influence the way in which they frame their expectations. Crudely, in situations where consumers have, or perceive themselves to have control, they are more likely to pursue their own goals; where consumers see themselves as powerless, then expectations will be redefined to match the probable outcome. Carr-Hill concludes, goals (expectations, aspirations) cannot, therefore, be measured in a vacuum; they have to be situated in the context of the structural relationship between the consumer and practitioners. It was further concluded (*ibid*) that those who set out to 'measure satisfaction' are probably on a hopeless quest and the best one can hope for is measuring aspects of (reactive) consumer satisfaction. The researcher would also add that in research a consideration should be given to the summation of an individual's previous experiences and future expectations which affect current satisfaction and the individual's relationship to their social world is vital to a complete understanding of which aspects of care will be important to them in deriving satisfaction.

Definitions of satisfaction

Satisfaction has been described as a concept that has a common-sense meaning but one which is rarely subject to public scrutiny (Fitzpatrick, 1991). Unlike clinical information, where objective calculations and calibrations can be easily carried out satisfaction is subjective in nature. Satisfaction involves a psychological response to events. The concept has been described as a feeling (Bramadat and Driedger, 1993), although a more utilised view is as an evaluation of an event (Hunt, 1977; Linder-Pelz, 1982). Fitzpatrick (1991) in a review of satisfaction studies found it was sometimes treated as an attitude or set of attitudes but was more usually treated as an evaluation or set of evaluations by the consumer. However, this utilisation as an evaluation inevitably involves the consideration of underlying attitudes to events. For example, in relation to the evaluative nature, Hunt, 1977, distinguishes between the feelings a person has about an experience and the evaluation of the event, noting that satisfaction is not just an emotional response but an evaluation of an emotion, and therefore a quasi-cognitive construct (note the similarities to attitudinal theory as described earlier in this section). Hunt (*ibid*) further argues that satisfaction is determined by stepping back, or distancing oneself, from the situation and without this process, it is further argued that satisfaction would be identical to the pleasure or happiness created by experience. Other theorists argue a slightly different meaning, however (e.g., Day, 1977), with satisfaction viewed as a feeling that results after positive evaluation of the experience. The many definitions of satisfaction have lead to theorists concluding that it is a complex concept within which the mechanisms at play cannot be easily defined (Locker and Dunt, 1978; Carr-Hill, 1992) although most research has focussed on the 'evaluations of events'. Common themes across definitions of satisfaction include, however, the influence of expectations, experience and values on perceptions / attitudes / beliefs about care (Hunt, 1977; Locker and Dunt, 1978; McLachlan, 1978; Linder-Pelz, 1982; Ware, 1983; Pascoe, 1983; Carr-Hill, 1992; Bramadat and Driedger, 1993). McLachlan (1978) describes satisfaction somewhat pragmatically with satisfaction described as largely reflecting the degree to which people's expectations are met without regard to the reasonableness to the expectations.

There is debate then as on the definition of satisfaction with health care. The concept appears, however, to be inextricably intertwined with the idea of 'quality of care'. Donabedian, 1980, defined quality care as divided between technical and interpersonal competencies with also the amenities available for care vitally associated with the quality of care provided. These components are also generally considered when deciding how to measure satisfaction with care. In the field of satisfaction with childbirth and maternity care, the situation is no different with satisfaction with childbirth being frequently discussed but poorly defined and acknowledged as a complex subject (Lumley, 1985; Seguin et al, 1989; Shearer, 1983). As a working definition, the author accords with Pascoe, 1983, who has defined satisfaction as a health care recipient's reaction to their service experience. In this conceptualisation, satisfaction is assumed to consist of a cognitive evaluation and an emotional reaction to Donabedian's, 1966, 'structure, process and outcome' of health services.

Although there is little clarity over a definition of satisfaction, it has been shown that factors such as attitudes are important and the evaluative nature of the concept is vital to an understanding of how to examine satisfaction.

There is wide agreement, however, that satisfaction is not a unitary concept and many studies have examined key components of satisfaction.

Components of satisfaction

Maternity care research has illustrated that multi-dimensionality of satisfaction exists in this area of care. Seguin et al, 1989, for example, after carrying out a factor analysis of 938 surveys in Canada determined five dimensions of women's satisfaction. The five dimensions were: the delivery itself, medical care, nursing care, information received and participation in the decision-making process, and physical aspects such as aspects of the labour and delivery rooms.

Factor-analytic studies of instruments have suggested there might be a common factor in satisfaction (e.g. Health Policy Advisory Unit, 1989) but influential research (Ware et al, 1983; Pascoe, 1983) argues that various aspects or dimensions of satisfaction are distinct. Ware et al, 1983 considered that the following were essential components in any consideration of satisfaction:

- *Interpersonal manner:* features of the way in which providers interact personally with consumers (e.g. concern, friendliness, courtesy, disrespect, rudeness).
- *Technical quality:* competence of providers and adherence to high standards of diagnosis and treatment (e.g. thoroughness, accuracy, unnecessary risks, making mistakes).
- *Accessibility / convenience:* factors involved in arranging to receive medical care (e.g. time and effort required to get an appointment, waiting time at office, ease of reaching care location).
- *Finances:* factors involved in paying for medical services (e.g. reasonable costs, alternative payment arrangements, comprehensives of insurance coverage).
- *Efficacy / outcomes:* the results of medical care encounters (e.g. helpfulness of medical care providers in improving or maintaining health).
- *Continuity:* sameness of provider and / or location of care (e.g. see same physician).
- *Physical environment:* features of setting in which care is delivered (e.g. orderly facilities and equipment, pleasantness of atmosphere, clarity of signs and directions).
- *Availability:* presence of medical care resources (e.g. enough hospital facilities and providers in area).

Ware (*ibid*) stated that the order of the above dimensions reflected their frequency in previous studies of consumer satisfaction. The first four aspects (interpersonal relationships, technical quality, accessibility/convenience, and finances) were by far the most commonly measured in consumer satisfaction. Further studies have reached similar conclusions. Cleary and McNeil, 1988, for example, in their overview of satisfaction research found that the most frequently measured aspects of care were:

- the technical quality of care,
- accessibility and availability of care,
- continuity of care,
- client convenience,
- physical setting,

- financial considerations,
- efficacy.

Although the order of importance may differ for the most frequently measured aspects of satisfaction from Ware's (1983) and Cleary and McNeil's (1988) research, similar components are evident. As most of this research was based in the United States, the applicability of 'financial considerations' in consumer satisfaction research in the United Kingdom may be questioned. Increasingly, however, satisfaction research in the United Kingdom has considered convenience as including financial considerations (e.g. loss of earnings for attendance for care, and travel costs). Given that satisfaction is multi-dimensional, then, it is important to consider theoretical issues of examining different components of satisfaction and in particular how to examine the most important aspects of care.

Measurement of satisfaction

As an abstract concept measures of individual satisfaction are ultimately based on self reports. This raises a number of theoretical problems. Stahlberg and Frey, 1988, include the following in consideration of such self-reports. Self-report measures start from the assumption that the person who responds is able and motivated to disclose her or his true attitudes. However, Stahlberg and Frey (*ibid*) argue that there is a lot of evidence that people have a tendency to provide socially desirable answers. In addition, for certain aspects some people may not possess any explicitly or clearly formulated attitudes. In being asked to make statements about these attitude objects, they are urged to express a certain well-defined position. Sometimes, therefore, the process of attitude measurement itself will develop attitudes which would not otherwise have been formulated.

In relation to the examination of different components of satisfaction, the fact that interpersonal aspects of care are the most frequently measured is not surprising. However, this may account for high satisfaction ratings as most providers, one would assume, are pleasant and courteous. In relation to technical care, Cleary and McNeil, 1988, stated that although the definition of what constitutes quality technical care is complicated, there was a well-developed body of knowledge in this area. However, they concluded that satisfaction research up until this point had frequently overlooked the role consumers can play in defining what constitutes quality care by determining what values should be associated with different outcomes. Donabedian (1980) has argued that researchers need to consider that the quality of interpersonal interactions may affect the quality of technical care provided.

Although there is a general consensus that satisfaction is multi-dimensional, studies have been carried out which examine only global components. Carr-Hill, 1992, for example, stated that the naive approach 'how satisfied were you with the (nurses/doctors) employed in certain studies (e.g. Health Services Research Unit, 1990) will not do. The criticism being that far too many claim they are 'satisfied' and the extent of dissatisfaction does not tell us what needs to be changed. Researchers have to consider the motives of such research and the funding of such research. Indeed, much consumer satisfaction research has been criticised as being purely a public relations exercise (Carr-Hill, 1992).

The multi-dimensionality of satisfaction has been found in maternity care studies with women being satisfied with one aspect of care and dissatisfied with another (Bramadat, 1990; Driedger, 1991; Shaw, 1985; Shields, 1978). Thus studies of satisfaction with maternity care must consider different dimensions of satisfaction and care, as a single measure of satisfaction may be misleading. Some studies have shown, however, that an overall measure of satisfaction can detect variations within different aspects. Green et al, 1990, identified four areas with which women were or were not satisfied: decisions concerning major interventions, coping with pain, decisions concerning minor interventions, and staff care. Analysis indicated that the overall measure of satisfaction was a sensitive measure of the various dimensions. The authors concluded that placing the overall measure item at the end of the survey, after women had had the opportunity to describe in detail their experience may have contributed to its sensitivity.

Factors associated with satisfaction

A criticism of studies of consumer satisfaction has been that researchers have concentrated on identifying correlates of satisfaction rather than clearly defining the underlying construct or developing a solid theory of satisfaction (Locker and Dunt, 1978; Pascoe, 1983). Thus, much research evidence is available on factors associated with satisfaction. Hall and Dornan (1988a) in a meta-analysis of studies measuring satisfaction with medical care concluded that although many studies had been conducted in this area from the 1960s onwards, much of this research had a weak theoretical basis and was all too often the product of combining satisfaction with whatever other variables were collated in the research. They further concluded that although this approach does not invalidate the results, it gives the field of client satisfaction research a lack of direction and mitigates progress to answering specific questions, in particular what creates or detracts from satisfaction with care. These criticisms have been concurred with elsewhere (Cleary and McNeil, 1988; Calnan, 1988).

Cleary and McNeil, 1988, concluded in their overview of the satisfaction literature that the main client characteristics related to satisfaction are age, gender and health status, but the relationship reported between these variables and satisfaction were weak and the lack of an organisational framework makes it difficult to interpret results. Further studies have attempted to define the relationship between satisfaction and other variables, in particular expectations, provider behaviour, consumer health status and socio-demographic predictors of satisfaction. Several studies have found a relationship between expectations and satisfaction. Green et al, 1990, found a positive relationships between women's expectations of childbirth and overall satisfaction with maternity care. Abramoritz et al, 1987, found that expectations of hospital care, together with satisfaction with nursing care, accounted for 24% of the variance in overall satisfaction with hospital care. Although meta-analyses has shown a relationship between provider behaviour, such as the practitioners communicative behaviour and technical competence (Hall et al, 1988b), and consumer health status (Pascoe, 1983), correlations are not high. In relation to socio-demographic characteristics, the theoretical arguments (Carr-Hill, 1992; Strong, 1979) are that different groups may have different response tendencies; for instance, older people may be more mellow, and more educated consumers may apply higher standards in their evaluations. In addition, it has been argued that different groups may be treated differently in the process of care: older consumers may be treated more gently, and doctors may communicate more with middle-class consumers. Empirical evidence from meta-analysis (Fox and Storms, 1981; Hall and Dornan, 1988b) does not

support these assertions. However, findings from maternity care studies (Macintyre, 1982; Nelson, 1986; Fleissig, 1992; Scottish Health Feedback, 1993), which will be considered later in this section, provide contradictory evidence.

Hall and Dornan, 1988a, suggest two ways of rectifying lack of theoretical underpinning to satisfaction research. One would be to do more research that is based on theory. Linder-Pelz, 1982, provides an example of this type of work where she aimed to test theoretically a model of satisfaction as a function of client's values, expectations and actual experience. Hall and Dornan, 1988a, in their meta-analysis provide another method. By conducting the meta-analysis they suggest that greater knowledge will be gained about over and under studied questions and about the magnitude of cause and effect relationships in satisfaction. However, some relationships are evident. For example, Cleary and McNeil (1988) concluded in their review that good communication skills, empathy and caring appear to be the strongest predictor of how a client will evaluate the care received.

Issues in the measurement of satisfaction

Who measures, what is measured and how measurement takes place all affect an understanding of satisfaction. For example, often consumer satisfaction measures have considered what is important to the researcher which may or may not be of similar importance to consumers. Thus, consumers should be involved in developing tools of measurement. This sub-section considers further issues involved in the measurement of satisfaction.

Reports vs Evaluations

Most satisfaction research has examined the client's 'evaluation' rather than 'reports' of services. However, consideration must be given to the implications of these different approaches. Cleary and McNeil, 1988, provide an example. An evaluation question might ask how satisfied the individual was with the amount of information they received whereas a 'report' question might ask whether or not the individual was told about the potential side effects of a particular drug. The report therefore has to have previous knowledge about what is right and wrong, or what the individual should and should not expect to experience. Thus the evaluative question allows the respondent to define what they feel is acceptable (e.g. they may not want any information). The evaluation question allows the respondent to state their feeling about amount of information regardless of the type or actual amount of information received. These authors (*ibid*) have further described the lack of consistency between researchers as to the conceptual meaning of these 'evaluations'. Ware, 1981, argues, however, that it is wrong to equate all information derived from consumer surveys with consumer *satisfaction*. He makes a distinction between consumer satisfaction *ratings* and *reports* about providers and care. Reports are described as intentionally more factual and objective with satisfaction ratings intentionally more subjective. He further argues that satisfaction ratings attempt to capture a personal evaluation of care that cannot be known by observing care directly. Similar to Cleary and McNeil, 1988, Ware, 1981, provides an example: 'consumers can be asked to report the length of time spent with their provider or to rate whether they were given enough time' (p247). It was further stated (*ibid*) that although satisfaction ratings are sometimes criticised because they do not correspond with reality or with perceptions of providers or administrators of care, this was their unique strength. In addition, it was argued that differences in satisfaction mirror the realities of care to a substantial extent, with the influence of personal preferences and expectations also acknowledged.

Time factors

Locker and Dunt, 1978, in their review of theoretical and methodological issues related to satisfaction state that satisfaction is likely to be defined very differently by different people and by the same person at different times. Carr-Hill, 1992, argues that the longer the gap between the use of services and the measurement of satisfaction, the greater the chance of recall bias, of respondents overlooking matters that affected them during their care episode, and of changes in their appreciation of services. However, in maternity care research, women with caesarean sections have found to have more considered responses to their experience 6 to 7 months after birth than immediately after childbirth (Lumley, 1986; Shearer, 1985). In addition, Bennett, 1985, found satisfaction with medical procedures and preparation for childbirth dropped from 6 weeks postpartum to 2 years following the event. Thus it has been argued (Lumley, 1985) that it is important to follow-up satisfaction in the longer term as a different measure of satisfaction may be elicited.

Captive audience

As discussed earlier, consumers often feel grateful for NHS services although they indirectly fund these services. Thus, consumers may find it difficult to question the care they receive. Further to this, consumers have tended to view practitioners as 'experts'. For example, maternity care research has shown that women trust midwives as the latter are viewed as experts who 'know best' (Bluff and Holloway, 1994).

High ratings

Further difficulties ensue in the measurement of satisfaction as studies have consistently found a rating of over 80% satisfied by consumers (Porter and McIntyre, 1984; Fitzpatrick, 1991). One suggestion is that if very general questions on satisfaction are asked respondents are unlikely to respond in the negative (McIver and Carr-Hill, 1989). High levels of satisfaction are therefore achieved. Carr-Hill, 1992, argues direct questions appear to function as probes to elicit dissatisfaction with aspects of care which have less impact than those mentioned in response to open-ended questions. Both kinds of questions, it is argued should be included to avoid under-reporting and to assess consumers priorities.

Multi-dimensionality

Researchers must view satisfaction as a multi-dimensional concept (Ware et al, 1984; Hall and Dornan, 1988b). Dimensions of satisfaction identified are, for example, interpersonal relationships with staff, technical competence , choice and decision making and continuity of care. Further support for this theory is that researchers have found differentiation between different dimensions of satisfaction. Consumers have felt more comfortable discussing interpersonal aspects of care such as how pleasant staff were but found difficulty in rating the technical quality of care (Shearer, 1983). This may relate to the finding discussed above that professionals are viewed as 'experts' (Bluff and Holloway, 1986). Williams and Calnan, 1991 argued that there are general and specific aspect dimensions across a broad range to each area of health care. Carr-Hill, 1992, argues, however, that their analysis is weak with no explicit testing of the (dis-)similarity of effects. Hall and Dornan, 1988a, in their meta-analysis of consumer satisfaction studies categorised the aspects covered as follows: humaneness (65%), informativeness (50%), overall quality (45%), overall technical competence (43%), bureaucratic procedures (28%), access or availability (27%), cost (18%), physical facilities (16%), continuity (6%), outcome (4%), handling of non-medical problems (3%). The rationale for distinguishing humaneness from the other aspects which can be more or less humane and from overall quality has been queried (Carr-Hill, 1992). Fitzpatrick (1991) has concluded that the most convincing studies in satisfaction research are those in which particular issues are explored in relation to a particular client service. In the United Kingdom, the York database of consumer feedback surveys indicates that only access, information and overall quality of the process of care are measured consistently (Carr-Hill, 1992).

Essential components

Hall and Dornan, 1990, in considering their meta-analysis argued that the essential conceptual components of satisfaction measures are directness, specificity, type of care and dimensionality. Directness refers to whether the consumer is asked to give a satisfaction rating or whether the researcher infers satisfaction from answers to questions about care. About half the studies were of each kind. Specificity is a continuum from a specific referent event (e.g. a particular event) or the evaluation of health services in general. This criterion also split the studies equally. Type of care refers to the kind of care or service being evaluated. Dimensionality refers to the different aspects of care inquired about. Most of the studies (76%) reviewed by Hall and Dornan, 1988a, 1990, measured only a few (less than four) aspects.

Measurement tools

In relation to measurement of phenomena, self-report questionnaires have been widely used. In a review of methodological issues (Bond, 1992) it was concluded that interviews were preferable to questionnaires. Fitzpatrick, 1991, argues, however, that there is no reason that a carefully developed and piloted questionnaire should be such a second choice.

Correlates

In relation to correlates of satisfaction, Hall and Dornan, 1988a, 1990, examined the relationship between 16 variables that are not often (or cannot be) varied within a study. They found no significant difference between studies according to provider types (medical, non-medical, or both); medical speciality; 'authentic' (own experience) or analogous (e.g. vignette); experimental design or correlational; where (e.g. home or hospital) satisfaction was measured; how long after the event satisfaction was measured; part of the world; where satisfaction was measured directly or indirectly; and year of publication. However, six between-studies variables did show significant differences. Consumers reported more satisfaction with less experienced practitioners; more specific events; particular kinds of care (compared with care in general); when sampled from a particular health care system; when fewer items were included; and with measures devised by the researcher carrying out the work (rather than previous standard measures). Carr-Hill, 1992, stated however that 'there remains a sense that the methodological variations between studies vitiate this kind of meta-analytic comparisons' (p243). Carr-Hill, 1992, further argues that if we did accept that satisfaction results can be compared in this way, with the implied suggestion of an underlying concept of satisfaction, the absolute percentage satisfied is of limited value; the interest lies in comparison. It is more fruitful to examine ways in which satisfaction results are sensitive to specific design features. Who is sampled, the timing of the study, the type of tool used and how satisfaction is rated all make comparisons extremely difficult (Carrwright, 1983).

Theoretical context of current study

Health services research

The work carried out in this thesis should be interpreted as a piece of health services research within a feminist context. Thus a number of disciplines such as feminist theory, psychology and sociology influenced the conduct and context of the study. Distinctions have been made between different types of health services research (Ong, 1993). 'Pure' research in this paradigm is described as the advancement of knowledge and uni-disciplinary and academically dominated. Policy oriented research is directed towards outcomes, and reflects organisational aims and objectives with research perceived as action, to assist informed decision-making, implementation and evaluation. Its main audience are the policy makers. Applied research can be research driven or instigated by policy makers. It has the purpose of extending knowledge in one particular area of social problems, and as a result appeals to both academics and policy makers. It has been stated, however, that social science research has hardly contributed to changes in health policy (Hunter, 1990) although it has been argued that health services research, to be successful, has to operate within the policy field, at local and national levels (Ong, 1993).

This study was largely defined by the priorities of policy makers, as the funders of the research and may be argued to fall into the category of 'policy oriented' research. However, the research protocol, including definition of the programmes of care and research methodology, was defined by a multi-disciplinary group of clinicians and academics not by policy makers and was therefore not dominated by one perspective. It is generally accepted that health services research comprises many different activities with differing aims and methods (Ong, 1993; Crombie and Davies, 1996; Peckham, 1996). It has been argued that all health research should be multidimensional and multi-disciplinary as health is not a unitary concept but a multidimensional concept (Blaxter, 1995). The research work carried out also reflected a multi-disciplinary approach with a social scientist, epidemiologist, research midwives, and health economists involved, as well as a multi-disciplinary steering group.

In accordance with theories of health services research (Ong, 1993; Crombie and Davies, 1996; Peckham, 1996), the researcher had to cast aside entrenched theoretical or ideological positions in order to fully consider the possible contribution to the understanding of the complexities of the health experience, and the variety of policy and service responses. Thus, the researcher had to choose from a range of possible methodologies. Further in line with recommendations (Ong, 1993; Crombie and Davies, 1996; Peckham, 1996), attention was given to creating a research design which was capable of tackling the issue by drawing on the most effective and efficient combination of scientific methods. In addition, it was important to be explicit about why particular approaches were selected (Hakim, 1987). Given this background, it is aimed to describe the consideration of theoretical and methodological issues for the present study.

Influence of academic disciplines and methodologies

The author's background in social sciences, particularly psychology, and public health, led to consideration of various theoretical stances and methodologies. Psychology has a tradition of an empirical and scientific quantitative approach although recently qualitative methods have emerged as an alternative (Banister et al, 1994). Other branches of social sciences have a traditional focus on qualitative methodology. For example, sociology is about how society works at the levels of institutions and organisations and what beliefs and attitudes (ideologies) support or challenge this (Thorogood, 1992). The subject is based on critical analysis whereby nothing is taken for granted (Berger, 1963), not even the existence of sociology. Medical sociology has developed as a specific discipline questioning the 'medicalisation of social life' (Illich, 1975). Medical sociology has contributed a great deal of study to women's experience of childbirth and maternity services. Until very recently psychology has had little interest in research into health services. However, the development of feminist psychology as previously described in this section is beginning to address this. The study recognised a perspective of a 'social' model of health, rejecting the traditional medical model (Open University, 1992) underpinned by feminist theory. The influence of such theories led to a consideration of women's satisfaction with maternity care within the context of their lives and the gender inequality they experience.

Quantitative methods were essential, in terms of examining women's satisfaction in this study as it was aimed to address the issue of efficacy of midwife managed care. Efficacy is concerned with whether an intervention works in ideal circumstances and should not be confused with effectiveness which is whether the intervention

works in usual practice (Tugwell et al, 1985). Nor should efficacy be confused with efficiency. Efficiency is concerned with the relative value of the intervention, usually tallied as some ratio of inputs and outputs (Tugwell et al, 1985).

Randomised controlled trials are generally viewed as the definitive method in assessing efficacy (Goel and Naylor, 1994) with those from nursing and midwifery backgrounds also agreeing that the randomised controlled trial is the most robust way of answering questions of the impact of clinical practice on clients (Seers and Milne, 1997) although very few systematic reviews of trials exist which nurses and midwives can base their practice on (Cullum, 1997). The primary consideration for the design, the randomised controlled trial, in this study was the clinical safety of midwife managed care. As large numbers were required to examine safety, the most comprehensive way of measuring satisfaction was to utilise a quantitative survey method.

The study aimed to also employ qualitative methods such as using semi-structured interviews in data collection to illuminate women's experience. It was aimed to carry out interviews in the literature review/evidence gathering initial stages of the study, in order that local women's experience were reflected in the evidence basis of the research. Notably, this approach has been advocated as a necessary preliminary to *quantitative* research (Mays and Pope, 1995). From an ethical point of view it was felt also important to give respondents an opportunity to describe in their own words their experience of care (Pollitt, 1988). This also often gives a more illuminating view of care received. There are difficulties in interpreting the generalisability of data from this approach, however.

The study aimed to 'mix methods' then. The aim of 'mixing quantitative and qualitative methods' (DePoy and Gitlin, 1993) is to illuminate a particular issue from a variety of angles and to look at different aspects of the phenomenon. This should not be confused with 'triangulation' (Denzin, 1970) where the findings generated from one particular approach are aimed to be confirmed or rejected by another. The current study employed a 'sequential' strategy of mixing methods (DePoy and Gitlin, 1993) where qualitative techniques, unstructured interviews, were employed initially to explore the issue of women's satisfaction with care at Glasgow Royal Maternity Hospital, then a questionnaire was developed on the basis of these interviews and a literature review. Interviews were also planned during the survey. It was felt the interviews would allow the opportunity to explore in-depth women's experience of midwife managed care as compared with the questionnaire, where the data is largely determined by the researcher's agenda.

Research context

The fact that studies which focus on the consumer's view of maternity care are a relatively recent phenomenon has been covered in the preceding discussion with a traditional concentration in social science research that described service users in sociodemographic, psychometric or psychological terms. In similarity to this study, the majority of studies of consumers' views have used questionnaires or interviews. Reid and Garcia, 1989, in their comprehensive review of women's views of care during pregnancy and childbirth found, however, that many of the studies were small scale. In addition, most of the studies lack a control group which also makes data more generalisable. As well as these problems, the authors also acknowledged the difficulties of measuring

attitudes which has been traditionally described as 'soft' data and making it is difficult to arrive at 'definitive' answers about an issue.

There is now, however, a growing recognition that consumer views are a legitimate way of evaluating quality of services (Department of Health, 1993). The randomised controlled trial is still traditionally viewed as the gold standard for determining whether services are efficacious, however (Grimshaw and Russell, 1995). Consumer representatives (Robinson, 1996) also agree that, in the context of evidenced based medicine, increasingly medical care offered to consumers will be based on randomised controlled trials (RCTs). Alexander (1995) has pointed out that there is still the belief that in RCTs everything has objective reality and can be controlled and quantified and that consumer views are about experience and attitudes and, as such are difficult to quantify. However, feminist theory would challenge the view that anything under study is objective. Further to this, many RCTs are pragmatic involving 'intention to treat' which means that those randomised to a particular group remain in that group for the purposes of analyses even though they may subsequently withdraw from the trial. Thus, there are limits to the 'objective reality' to which RCTs claim. Haines and Jones, 1994, argue that in the field of medicine there is now growing recognition that qualitative research is important. They state that traditional quantitative methods are the appropriate means of testing the effect of an intervention or treatment such as in randomised controlled trials. However, qualitative explorations of beliefs and understandings are likely to be needed to find out why the results of the research are often not implemented in clinical practice. From a consumer point of view (Evans, 1996) if evidence from this source is not consulted health care might not improve.

Jones (1995) states that the reasons for clinical scientists having difficulty in accepting the research methodologies of the social scientists is that generation of hypotheses often replaces the testing of the hypotheses, explanation replaces measurement, and understanding replaces generalisability. However, Greenhalgh and Taylor (1997) have argued that the traditional high value on numerical data by the medical profession may in reality be misleading, reductionist and irrelevant to real issues. It has been stated that as well as ensuring that the right methodology is brought to bear on the right question, a creative dialogue between the two traditions is likely to be of considerable benefit in terms of closing the gap between the science of discovery and the science of implementation (Jones, 1995). Although scientific evidence, in the form of randomised controlled trials, is traditionally regarded by many academics as the most important evidence, the recent government acknowledgement of consumer studies (House of Commons Health Committee, 1992; Scottish Office Home and Health Department, 1993; Department of Health, 1993) helps the argument that these should be equally valued.

Studies of consumer satisfaction with maternity care

As discussed earlier in this section, some of the most influential research in maternity care was carried out at the inception of this type of research during the 1970s which questioned the increasing medicalisation, routinisation and institutionalisation of childbirth. Kitzinger (1975) in describing the experience of women who had attended National Childbirth preparation classes found many of the 614 women who had been induced disliked the process of this procedure. Induction was started without consent or knowledge for many women and inductions

had also been started and stopped over several days, so that labour only took place in the daytime causing extreme distress to women. Cartwright (1979) reported on a national study carried out by the Institute for Social Studies in Medical Care (ISSMC) in 1975. A random sample of over 2000 women was sent a questionnaire 6 weeks after their birth. The high induction rate within women experiencing a normal healthy pregnancy was questioned. These two studies had great exposure by the media and government where the medicalisation of childbirth was questioned. Other studies around this time also found that routine screening tests were so embedded in pregnancy that women were hardly aware of them (Macintyre, 1982). Macintyre (*ibid*) reported more information was likely to be given when non-routine tests were being performed. The influence of these studies was found in other studies where the routine adoption of other procedures such as giving enemas and shaving the perineum were questioned (Chalmers et al, 1989).

Contradictory evidence (Morgan et al, 1984) has, however, been presented as regards women's feelings about the 'medicalisation' of childbirth. Six hundred and thirty two women out of a 1000 who had a normal delivery returned the questionnaire one year after their birth. They found 85% of their respondents disagreed with the statement 'since pregnancy and childbirth are normal events mothers should not have so much medical attention'. The paper concluded that mothers roundly rejected 'the equation of medical attention in labour with unwanted interference causing childbirth to be seen as an illness'. However, Oakley (1984) in a correspondence about this study argued the conclusions made from this paper have no direct evidence from the information collected. In addition, there appeared to be a social class bias in the sample. In addition, in contradiction to the Morgan, 1984, study and in support of the earlier work (Cartwright, 1979), another national study (Jacoby, 1988) carried out by ISSMC of women's preferences and satisfaction with procedures during childbirth concluded women preferred not to have 'interventionist' labours. In this study women were surveyed 4 months after the birth of their baby, 1508 questionnaires were returned (75% response). Views about the management of labour were clearly related to procedures actually experienced (*ibid*). The Royal College of Midwives in their Towards a Healthy Nation report, 1991, recognise this as still a major issue,

"...organisations representing consumers have expressed concern about the levels of intervention and it is evident that some women experience interventions determined by clinical protocol rather than their needs... all interventions whether medical or non-medical should be validated by research and interventions should be justified by the individual women's needs." (p33)

Further work on women's satisfaction with care during labour (Seguin et al, 1989) has indicated five main dimensions to satisfaction during the intrapartum period: the actual experience of delivery, nursing care, medical care, information and participation in decision-making, and physical aspects of the delivery rooms. This factor analytic study of 938 respondents, who were surveyed 4-7 months after birth, reported a link between pain, complications and length of labour in the importance of the delivery experience itself. More participation in medical care was desired as was more information from nursing care. Physical environment did not affect satisfaction. However, the response rate to this survey was poor at 52%. A study (Bramadat, 1990) with a convenience sample of 102 primiparous women undergoing either induction, augmentation and spontaneous labour reported that the strongest predictor of women's satisfaction was control. In addition, 24-48 hours after delivery women experiencing spontaneous labour were significantly more satisfied than those undergoing

augmentation but no difference to those who were induced, however, at 4-6 weeks after birth there were no differences. The findings illustrate the difficulties in measuring satisfaction as views may change over time (Lumley, 1985).

The 1984 ISSMC study (Jacoby, 1988) also asked mothers' views about satisfaction with information and advice during pregnancy and childbirth. Of the 1508 mothers 59% were satisfied in general with the amount of information received, 20% said they were given too little information and the other 20% said they were given too much information about some issues and not enough about others. More women were fully satisfied with information during labour (80%) with the other 20% saying they would have liked more explanation about certain issues. In the postnatal period the finding was the same - 20% of women felt things were ill explained. In 1989 another national survey (Fleissig, 1993) using the same methodology surveyed a random sample of 1996 women (76% response). Fleissig (*ibid*) reported women's satisfaction from this survey with information during labour and delivery. The findings were similar to the 1984 study with around 20% of women wishing more information. Those who felt ill informed during labour and delivery had raised anxieties. The conclusion made was that one way to increase women's confidence and satisfaction with childbirth was to make sure they understood what was happening to them.

Further evidence about the importance of specific information, has been found in qualitative work. A qualitative study (McIntosh, 1989) reported the experience of 80 working class primparae during labour and delivery through pregnancy to 3 months postpartum. Although women generally were satisfied with communication with staff, a substantial number of women felt individual procedures (e.g. episiotomy, augmentation and the use of forceps) had not been explained to them. Women reported lack of information tended to compound their anxieties. Further to this those who experienced difficulties with communication did not ask staff for information. The author concluded that although the findings were encouraging there was still considerable room for improvement when communicating with women. The importance of information and control cannot be emphasised enough in reassuring women. Hillan (1992a) in a study of 50 primigravidae women delivered by emergency caesarean section with matched controls reported that 3 months after delivery, 20% of women in the study group did not know why the procedure was carried out or had completely mistaken the reason. The importance of information is confirmed in a more recent randomised controlled trial of giving information about prenatal testing (Thornton et al, 1995). This study found that women offered extra information had improved understanding and were more satisfied with information received; satisfaction with decisions about prenatal testing was unchanged. The offer of individual information reduced anxiety later in pregnancy.

In relation to labour and social support, Morgan et al (1984) found the traditional role of the midwife in providing emotional support was more valued by mothers than were all forms of pain relief. A recent meta-analysis (Zhang et al, 1996) of the seven available randomised controlled trials confirmed that professional support from a doula (professional birth attendant) for primiparous women during labour improves labour outcomes such as satisfaction with delivery, duration of labour (mean pooled difference 2.8 hours, 95% CI: 2.2. to 3.4 hours), oxytocin use (relative risk 0.44), and mode of delivery (78%: 45% of women with support.

$p<.001$). Previous research (Klaus et al, 1986) of a randomised controlled trial of social support from female companions reported similar findings including fewer caesarean sections (7% vs 17%, $p<0.01$).

The studies described so far have tended to consider research in relation to the intrapartum period. Studies have highlighted that the availability of information during the antenatal period is important (Brewin and Bradley, 1982; Newton, 1991) with those attending reporting feeling better prepared for labour and delivery. One intervention to increase information which has proved popular with women is *The Pregnancy Book* which all primiparous women now receive when booking for antenatal care. Dickinson (1985) reported that women generally preferred it to other leaflets they had seen, and intended to keep it. They liked the fact that it contained detailed information about pregnancy and childbirth. Earlier work had highlighted the mixed messages women received from antenatal publications moving from pregnancy as a medical condition and pregnancy as a 'natural' phenomenon (Graham, 1977). Reid and Garcia (1989) in a review of the two randomised controlled trials (Elbourne et al, 1987; Lovell et al, 1986) of women carrying their own casenotes concluded that this should be more widely adopted. Benefits included feeling more in control of their antenatal care, more able to communicate effectively with their caregivers, and wanting to hold their notes in a future pregnancy.

In relation to antenatal care, a study (O'Brien & Smith, 1981) of 3000 women was carried out in 1981. A response rate of 91% was achieved. They found that continuity of care was an important factor in satisfaction. There was a consistent 20% difference in satisfaction in those who received care from 1 to 2 people versus those that received care from different people at each care episode. This was found for both hospital and general practice based antenatal care. For example, 75% of those who had reported their care as 'very good' had had care from 1 to 2 people versus 57% of those seeing different people rating their care as 'very good'.

Oakley, 1979, in interviews with 66 women found not being able to ask questions or not having questions answered properly was one of the 3 most common complaints about antenatal care. Graham and McKee, 1979, found although 90% of their sample of first and second time mothers thought antenatal care was important, 17% reported not learning anything about the baby or their pregnancy at their appointments. In addition, only 31% stated they had enjoyed the check-up. O'Brien and Smith, 1981, found antenatal visits were more time consuming, independent of place of care, for working class rather than middle class women, 114 and 101 minutes respectively. They concluded this difference was due to travelling time.

Studies of antenatal clinics in Glasgow in the 1980s (Reid and McIlwaine, 1980; Reid et al, 1983) found the major sources of dissatisfaction with care to be waiting times and the 'cattle market' nature of hospital based clinics. Women resented the travel, long waiting times and impersonal nature of the hospital clinics. That is clinics were found to be overcrowded, with little facilities and the end result often being a 5 to 10 minute consultation with someone women had never met previously, 39% of women did not find out all they wanted to know with women also stating they would like more reading material at the clinic and films about births and baby care (Reid and McIlwaine, 1980). Garcia (1982) and Macintyre (1984) in reviews of women's views of antenatal care in the United Kingdom confirm these findings with descriptions of long waiting times, lack of

time with the clinician, lack of continuity of care and carer, and lack of facilities. Buckley (1991) in a study of the whole of Trent region in England continued to find problems with waiting times.

A randomised controlled trial study (Reid et al, 1983) comparing hospital (n=78) and community based clinics (n=75) found that women preferred peripheral community clinics. Women found it easier to attend, travel was cheaper and quicker and waiting time at the clinic was shorter. Women also reported knowing more of the names of staff at the peripheral clinic, of finding this clinic more personal and less formal than the hospital antenatal clinic, felt they were given greater options for care, more involved and reported receiving more information. Women also received less continuity of care (i.e. saw different members of staff) at the hospital-based clinic. However, there was no difference in attendance between the two clinics. In addition to these findings women wished for more information about procedures, and expressed anxiety about lack of knowledge. The recommendations from this study included principles of continuity of care, active involvement of women as consumers, and that women should be given information regarding benefits and hazards of technical procedures.

Support for community-based antenatal care also comes from studies from other European countries. For example a study utilising quantitative (n=408 surveys) and qualitative information (n=63 interviews) in Finland reported enhanced satisfaction (Kojo-Austin et al, 1993). Williams et al (1989) reporting on the introduction of community based antenatal care (n=1843) found that women wished more information on specific questions and wished more individualised care (i.e. 70% wished more privacy, 76% shorter waits, 75% more opportunity to ask questions, 81% more information about the baby), however, only 4% reported care as unsatisfactory. A finding arising from this study was that continuity of midwifery care was highly valued with 68% of women responding they would have liked regular contact with the midwife during pregnancy.

One of the issues which is controversial in providing continuity is the extent to which women need to know the person who cares for them during labour. At the time of the literature review, only two small scale studies were found to have examined this issue (Lee, 1994; Farquhar et al, 1996) and one larger study (Green et al, 1988). In Lee's, 1994, small study of all risk team midwifery care, most of the 32 women had previously met their labour midwife, and those who had were significantly more satisfied than those who had not. In addition, knowing the midwife during labour was rated highly in an 'ideal system.' However, having access to a bleep system was rated more highly. Similarly, the following were all rated as more important than a midwife 'who is known to you': 'inspiring confidence and trust', 'safe and competent care', 'approachable and friendly', and 'involved in choices and decisions'. The second midwifery team study (Farquhar et al, 1996) found that 34% (n=322) had met all the midwives who looked after them during labour and delivery, 36% (n=334) reported they had met some with the remainder having met none. Of those who had met at least one of their labour/delivering midwives, 84% reported the contact made them feel more at ease, whilst 81% of those who did not have such a meeting before delivery reported it 'did not affect them one way or the other' (Farquhar et al, 1996). In this study the ambiguity around 'meaningful continuity' is evident (i.e. does having 'met' the midwife constitute 'knowing' them?). Green et al, 1988, found of 825 women that 'having one caregiver throughout labour was very important, but having met that person before was not significantly related to any of the outcome measures.

In further relation to continuity, the need was previously found by Hall et al, 1980; Hall and Chng, 1982, in studies of antenatal care in Aberdeen which questioned duplication of care. They found large numbers of women experiencing relatively normal healthy pregnancies had large numbers of visits from the different professional groups providing antenatal care (midwives, GPs and obstetricians). They concluded that the clinical and diagnostic productivity of antenatal visits was low and that the number of visits should be fewer and more purposeful. A recent large randomised controlled trial (Sikorski et al, 1996) compared the clinical and psycho-social effectiveness of the traditional United Kingdom antenatal visit schedule (n=1416) with a reduced schedule of visits (n=1378). It was concluded that, although clinical effectiveness was similar for the variables studied, uncertainty remained as to the clinical effectiveness of reduced visit schedules as women with this intervention had less day admissions, ultrasound scans and were less often suspected of carrying fetuses that were small for gestational age. In addition, women with the intervention had some poorer psycho-social outcomes; they were more worried about fetal well-being antenatally and coping with the baby after it was born, and they had more negative attitudes to their babies, both in pregnancy and postnatally. They were also more dissatisfied with the number of visits they received. When variables which predict women's satisfaction with traditional and reduced antenatal visit schedules were examined (Clement et al, 1996), it was not easy to identify groups which would be most likely to be satisfied with either reduced or traditional schedules and individualised care was viewed as a necessity. However, it was found that social support for depressed women needs to be safeguarded if reduced schedules are introduced and by improving the psychosocial quality of antenatal care, reduced visit schedules may be more acceptable to women. A different interpretation of the findings may be that 'what is must be best' (Porter and MacIntyre, 1984) is influential and to tell women they will have 'less' care will affect outcomes. Further evidence for the importance of social support in the antenatal period has been highlighted by the review carried out by Oakley, 1985; Elbourne, 1989a &b, as described earlier in this section.

Choice has also been considered in studies. In 1979 Oakley (Oakley, 1980) reported in the interviews of 55 women that 61% were not offered a choice of hospital by their general practitioner. A study (Scottish Health Feedback, 1993) in Lothian of 788 women found that this had improved with 65% offered a choice of hospital and choice about type of delivery (e.g. domino delivery, home birth). The study also indicated variation by geographical area, in one area 86% were offered a choice and in this area women were twice as likely to be offered a home birth. In addition, a class difference was reported with 72% of middle class women offered choice compared to 62% of working class women.

In relation to maternity care overall, Melia et al (1989) in a large scale study of implications for change and quality assurance in maternity care concentrated on four main outcome variables: length of postnatal stay, importance of home-like environment and continuity of care and familiarity of delivering midwife. They received 1434 questionnaires (79% response) from a cross-section of women. Women who were surveyed included those at 33-36 weeks pregnancy and 5-6 weeks postnatal. They concluded that schemes to increase continuity of care and provide a home-like environment should be welcomed. Over 65% of the sample rated continuity of care as important, with 75% rating a home-like environment as such. Over 70% attached some importance to knowing the delivering midwife. On the issue of postnatal stay women in three districts preferred shorter stays (<48 hours). In the other district, however, the majority of women preferred a longer postnatal

stay. The authors concluded with Porter & McIntyre's (1984) idea of 'what is must be best' with women being fairly ready to accept what had been advised. Further evidence (Scottish Health Feedback, 1993) reported a link between continuity of carer and satisfaction. For example, 69% who reported the same doctor at every hospital visit rated their antenatal care as 'very good' compared to 49% for those reporting that the only saw the same doctor on some occasions, and 38% who never saw the same doctor.

Postnatal care has been identified as a problem area for maternity services (House of Commons Health Committee, 1992). However, research has identified the postnatal period as a time of tremendous change for women and their families with many women experiencing both health problems and psycho-social upheaval (Glazener et al, 1993a, 1993b; Sleep, 1991; MacArthur et al, 1991; Cox et al, 1987; Astbury et al, 1989; Ball, 1989; Oakley, 1993). With increasingly early discharge from hospital being encouraged, the bulk of postnatal care is undertaken by community midwives (Howard, 1992). A recent survey (Dowswell et al, 1997) of 720 potential respondents (72% response rate) has raised concerns about short postnatal stay. For example, those women who felt their stay too short had significantly higher depression scores. In relation to care received at home postnatally, only two evaluations have examined women's reactions to community midwifery (Murphy-Black, 1989; Howard, 1992). These evaluations found, however, that women were generally very satisfied with the care they received from community midwives postnatally. For example, Howard's (1992) study of 191 postnatal women found that 74% of mothers were satisfied with the number of visits they received and 80% with the information they received.

In relation to choice during postnatal care, one of the changes that has been readily accepted by women and midwives is postnatal visiting according to women's needs instead of traditional daily home visits as prescribed in the Midwife's Code of Practice until 1986. Garcia et al, 1994, found that in almost all English NHS districts the policy of daily home visits had changed to selective home visits. Evidence shows that selective visiting brings benefits. In Glasgow, a programme of individualised postnatal visits was introduced in 1992 after concerns about lack of continuity of care during home-based care. The results showed improved continuity of care (i.e. average number of different midwives visiting fell from 3.7 to 2.5), acceptability to women and envisaged cost savings (average number of community postnatal visits fell from 6.5 to 5.7) (Twaddle et al, 1993). Further in postnatal care, lack of support and conflicting advice for women (Hillan, 1992b; Oakley, 1993) has been identified as an issue. In particular, lack of support and conflicting advice in relation to breastfeeding has been raised in the postnatal period (Moss et al, 1987; Ball, 1989; Rajan, 1993b).

A further issue which should be considered in consumer satisfaction studies is the effect of social class. Nelson (1983) in a study of 226 women in the United States found differences in what middle and working class women preferred for their labour. Middle class women wanted active labours with little obstetric intervention. Working class women preferred passive labours with more electronic monitoring and medication. However, working class women's preferences for style of birth was closer to middle class preferences if working class women had read about childbirth or attended preparation classes. Evidence of different treatment according to social class has been reported. For example, Macintyre (1982) stated that euphemisms can be misleading and that caregivers tend to use them more when talking to working class women than to middle class women. A recent study

(Scottish Health Feedback, 1993) found that of 788 women predominantly middle class women were more likely to feel their preferences for labour and delivery were taken into account than women of lower social class. This finding was similar to Cartwright (1979) in which, regardless of social class, women had a strong desire for information during pregnancy. However, middle class women were more likely to report being able to elicit that information from staff. Fleissig, 1992, also found that staff had most difficulty communicating with single women and those belonging to minority ethnic groups. Thus there the need for individualised care is highlighted.

Further support for individualised care was found in a study in Scotland by Bostock, 1993, which involved 15 women's focus groups. The study (*ibid*) concluded that women want health professionals to acknowledge them as individuals with different and specific needs. Further to this, Kirke (1980) in her study of women's views of labour stated that if care providers are to be more supportive to women they would have to give greater consideration to the psychological and social aspects of care. A study utilising a wide variety of data sources and utilising both quantitative and qualitative methods by Hillan (1992a) of 100 women also reported a lack of realistic preparation for labour, delivery and parenthood. This point is further reiterated in the current study in relation to an in-depth examination of postnatal care (Shields et al, 1997). Given that evidence suggests improving the 'social' side of care can improve hard outcomes such as birthweight (Oakley, 1985; 1992) and have long term implications (7 years after birth; Oakley et al, 1996), these are important considerations in maternity care.

In summary, the studies on consumer satisfaction show consistently that elements of care such as relationships to staff, information-giving, choice and continuity are important to women. A meta-analysis (Hall and Dornan, 1988b) of the satisfaction literature in general (107 studies) reported humaneness and technical quality of medical care and information were ranked near the top. Recent studies (Hardy et al, 1996; Berg et al, 1996) using factor-analysis reported that the aspects of care that best predicted satisfaction with care were nursing and medical information practices, socialisation procedures and consumer participation. Thus the importance of consumer involvement, information, choice in enhancing satisfaction have been confirmed within meta-analytic paradigm. A study utilising in-depth interviews at follow-up and original records of 20 women 15 to 20 years after the birth of their baby (Simkin, 1991) concluded that control over what was happening and decisions about care were important in long-term satisfaction and in women's subsequent self image. Thus, the importance of considering women's views fully and in the context of their lives is of paramount importance.

Section 3 Midwife managed schemes

Aim

Section 3 deals specifically with studies of midwife managed care as the thesis is concerned with women's satisfaction with such a scheme. It would be important to consider the findings of the current study in the context of findings from different types of midwife managed schemes. Therefore, an explanation of different midwife managed schemes as well as their implications for women is included. As well as women's satisfaction a consideration of clinical and economic outcomes is required when ascertaining overall acceptability to women and thus real world applicability of schemes examined in research projects. The randomised controlled trials comparing midwife managed care and existing care (namely shared care) are reviewed in depth in this section. In addition, evaluations of midwife managed schemes are described.

Different schemes and concepts

There are several different schemes where the midwife takes on her true role as carer to normal, healthy women. These schemes usually involve the development of outset risk and transfer criteria, mainly clinical complications (e.g. if the women previously had three or more miscarriages) to identify women who would be eligible for this type of care. Women not eligible would receive care under the direction of a consultant obstetrician. The development of these schemes are in the context of a wide range of innovative systems of midwifery care. Murphy-Black (1992), for example, in a survey of systems of midwifery care in 53 hospitals in Scotland found than in more than half the hospitals at least one of the following systems of care was in place or was about to be introduced: primary midwifery, individual care plans, patient allocation, DOMINO schemes and team midwifery. These systems are all being introduced in an effort to overcome the fragmentation of care (Scottish Office Home and Health Department, 1993).

To put these developments into context, primary midwifery is where one midwife decides on a plan of care which will be carried out in her absence. In relation to individual care plans, plans can be encompassed at all stages of antenatal, intrapartum and postnatal care. The most common is the Birth Plan which details mothers' wishes during the intrapartum period. The idea behind these developments is to increase decision-making and choice for women by encouraging them to be more involved in their care. In relation to patient allocation, this is an attempt to move away from the task-orientated focus that midwifery has developed. Usually, this is a ward-based intervention, midwives are allocated a number of mothers to whom they provide care rather than a series of tasks which they would have provided to all mothers on the ward. Evaluation of patient allocation has shown increased job satisfaction, continuity of care and enhanced women's satisfaction (Scottish Office Home and Health Department, 1993).

DOMINO is an acronym for Domiciliary In and Out. It was introduced in the late 1960s as a means of offering an alternative to low risk women who wished to deliver at home but in the interests of safety were encouraged to deliver in hospital (Scottish Office Home and Health Department, 1993). The DOMINO schemes follow shared care in that although community midwives care for women throughout antenatal, intrapartum and postnatal care, care is shared with the general practitioner or and/or obstetrician. The unique features of DOMINO are that:

when labour commences the midwife goes to the woman's home to assess progress; takes the woman to the hospital at the appropriate time; remains with her throughout labour; and remains with the woman at least 4 to 6 hours after birth. The midwife then accompanies the woman home and continues to provide care as part of a team of community midwives until the 10th postnatal day. It has been noted, however, that DOMINO is not always available due to the resources (e.g. a community midwifery service with 24 hour cover) (Scottish Office Home and Health Department, 1993). No evaluations of the DOMINO scheme are available.

In the United Kingdom, schemes of 'team midwifery' were the first to address the issue of midwives working on their own initiative to provide total care throughout antenatal, intrapartum and postnatal periods from women experiencing normal, healthy pregnancy. The origins of team midwifery schemes can be traced to the enthusiasm of individual midwives (Auld, 1968; Flint, 1979; Thomson, 1980). Team midwifery involves a small team of midwives who provide continuous care for a defined caseload of women from the beginning of pregnancy to the end of the postnatal period. The aim of the approach was that the woman would get to know and trust the small group of people who would look after her, and it means that she would not be confronted by a new face at each antenatal visit and again when she goes into labour. In the antenatal period, the woman would meet the midwives working in the team in the antenatal period. When labour commences the midwife on-call for the team would visit the woman to assess progress in labour and the team midwife would remain with the woman throughout labour. The most famous scheme of team midwifery is the 'Know Your Midwife' scheme (Flint and Poulengeris, 1987) which involved a team of four midwives. However, different versions of team midwifery have developed (Lester and Farrow, 1989; Watson, 1990; Lee, 1994; Walsh, 1995a & b; Farquhar et al, 1996; Henderson and Grant, 1996).

A variation on team midwifery is birth centre care. However, birth centres are perhaps more akin to the philosophy of natural childbirth and as such tend to have more restrictive policies on labour and delivery. Birth centres have developed in Australia and America (Klee, 1986; Morris et al, 1986; Biro and Lumley, 1991; Rowley and Kostrzewa, 1994) although they do exist in other Western countries, for example Sweden (Waldenstrom and Nilson, 1994). The philosophy of the birth centre offers choice and control to women and supports the sharing of responsibility for what happens to their bodies. Midwife care throughout pregnancy and the puerperium is an essential component of birth centre care. Women are cared for by a small group of midwives. In addition, the philosophy is of minimal intervention and delivery in a comfortable and relaxed environment. A restrictive policy usually applies in the use of medical technology and electronic fetal monitoring, sonography and pharmacological pain relief are not usually available. However, if complications arise birth centres are usually situated either within or near consultant units.

In similarity to birth centres, other innovative models of midwifery care in the United Kingdom have involved midwife managed delivery units (MacVicar, 1993; Hundley et al, 1994). The philosophy behind these units is minimal intervention in the intrapartum period for women experiencing normal healthy pregnancy and homely surroundings in the delivery suite. However, although in the MacVicar, 1993, study midwives who worked in the midwife managed delivery suite saw women during the antenatal period, in both models antenatal care is still within the shared care model of care divided between midwives, general practitioners and obstetricians. The Hundley study (1994) illustrates how the system works. Low risk women were selected for delivery in the

midwife managed unit at the antenatal clinic. Admission criteria were dependent upon being more than 37+ weeks gestation, vertex presentation, onset of regular contractions, and spontaneous rupture of membranes. Transfer from the unit is carried out if complications occur to care by the obstetric medical team.

The model of midwife managed care reported in this thesis involves total midwifery care for women who experience normal healthy pregnancy (Turnbull et al, 1996a). The concept of primary midwifery is applied with a named midwife carrying her own caseload attempting to provide the planned episodes of care (e.g. antenatal and postnatal visits); if the named midwife is unavailable the woman will be cared for by an associate midwife. An associate midwife is one who at the first point of contact is unknown to the woman but who has been trained in the same philosophy of care as the named midwife. Two major differences appear between this model of care and team midwifery. The women does not meet all the intended care givers antenatally, care givers are introduced as necessary; and the programme does not guarantee a named midwife at delivery. Section 3 will describe in detail the setting up of this scheme and the programme of care.

Group practice is an innovative scheme which has been piloted in a few areas of the United Kingdom, however, variations of the scheme exist (Lewis and Marwood, 1992; Leap, 1994; Walsh, 1995b). It describes a small team of midwives (up to six or seven) who are community based, with an individual caseload of women from their particular geographical area (Walsh, 1995b). Each group practice is given core cover requirements for hospital and they then devise their own rota to cover their clinics and postnatal care. The South East London Group Practice has been cited as the first independent group midwifery practice to acquire an NHS contract (Lewis and Marwood, 1992) and has a focus away from traditional models of maternity care. An audit of this group practice of eight midwives having a shared philosophy of continuity of care found that with a home birth rate of 75% and a caesarean section rate of only 6.7% this group practice is able to demonstrate a low cost per case since they also show minimal need for pain relief. In addition, they showed a 96.4% breastfeeding rate at 28 days. A relatively recent innovative model of group practice is the One-to-One midwifery practice scheme (Page et al, 1994) in Hammersmith, London.

The One-to-One scheme (McCourt et al, 1998) was set up to implement the principles of Changing Childbirth (Department of Health, 1993) and is a variation on team midwifery. The scheme aims to provide a named midwife for each woman who will care for her throughout pregnancy, birth and the postnatal period. It is stated that this One-to-One relationship will enable the midwife to be sensitive to the individual needs and choices of the women and families she supports. The scheme is for women in all risk categories, from low to high. The named midwife takes a detailed history and identifies any risk factors (usually at the woman's home). Options for care are discussed at this visit,; the woman can choose the lead professional (i.e. midwife, consultant obstetrician or general practitioner) for her care. For low risk women pregnancy care is usually led by the midwife although an affiliated obstetrician is also allocated; antenatal care is mainly given at home. For women with high risk pregnancies, care is led by the consultant obstetrician and hospital visits take place as and when necessary. However, a named midwife will still provide care and support. Women may choose to give birth in hospital or at home. The named midwife or her partner will be on call for labour and will often visit the woman at home in early labour. Following the birth, postnatal care is led by the named midwife or her partner and transfer home is arranged within 24 hours for women with no complications. Twenty midwives are involved in

the scheme and each midwife carries a mobile phone. Women have the mobile number of their named midwife and her partner. Partnerships work in different ways, each midwife choosing, for example, to be available for women in labour on their caseload during Monday to Friday day time but sharing night calls and weekends with their partner. During busy times, holidays and sick leave, the group practice is available to provide support.

The targets set for the One-to-One scheme were that: 95% of women would be attended by a midwife they knew during labour and delivery; low risk women would be cared for by no more than six professionals; over 75% of women to be cared for by their named midwife during labour; 75% of antenatal visits to take place in the community; 50% of women to have midwife-led care throughout; 75% of postnatal care to be by the named midwife; no more than five professionals for midwifery-led care in the postnatal period; and peer review to be undertaken by practices themselves every two weeks (McCourt et al, 1998).

A further note should be made about the concept of integrated care. This concept is perhaps more difficult to define. The Royal College of Midwives have endorsed the concept (Royal College of Midwives, 1983); integrated maternity care is described as care provided to women and their families within a structure where community and hospital based midwives are managed as a whole, providing a total service. The aim is to avoid compartmentalisation and under-utilisation of midwife skills. This holistic system of care is achieved by having a system of shared values, named midwife initiatives, informed choice, genuine options for care, continuity of care and carer, individualised care, flexible services and agreed published quality standards. The focus of integrated care is, however, a midwifery management structure which included both hospital and community services. Therefore, integrated care is not a system of midwife managed care, more a management structure in which midwife managed schemes can be delivered. Midwifery schemes often describe themselves as integrated with combined responsibility for all aspects of hospital and community care, with the aim of providing continuity of care (Hauxwell and Tanner, 1994).

Randomised controlled trials of midwife managed care

To offer women options for care the 1990s government reports (House of Commons Health Committee, 1992; Department of Health, 1993; Scottish Office Homes and Health Department, 1993) suggest models of team midwifery and the development of midwife managed units. New models of care are being introduced (Murphy-Black, 1992; Wraight et al, 1993). The aims of the new models, generally, are to improve continuity of care and decrease medical intervention in pregnancy and childbirth. Murphy-Black, 1992, in a survey of systems of midwifery care found little in the way of evaluation, however.

The background to the trial described in this thesis was that the most rigorous method of evaluation - the randomised controlled trial, had been applied only in three studies comparing midwifery care with shared care (Rumnerstrom, 1969; Slome, 1976; Flint et al, 1987). The Cochrane Pregnancy and Childbirth Database, 1995, reviewed these randomised controlled trials in terms of efficacy. The fact that two of these trials were conducted in the USA and all were conducted a relatively long time ago has made some question their generalisability to the United Kingdom at the present (Turnbull, 1993). Renfrew, 1995, the reviewer for the Cochrane database, also suggests poor methodological quality of the Rumnerstrom trial, 1969, in that it used hospital case numbers as its allocation method. The review concluded that results from these trials were positive in that clinical outcomes were equally good in both groups but with the midwifery-oriented care greater client satisfaction was found. In particular, the review stated greater client satisfaction was associated with reduction of waiting times at clinics, feeling more prepared for labour, feeling in control during labour and an increased ability to discuss problems postnatally. On the clinical side, no differences were found in caesarean sections between the two groups, apgar scores, stillbirths and neonatal deaths and induction of labour. Renfrew (1995) highlights that the review is mainly based on the results of the Know Your Midwife trial (Flint & Poulengeris, 1987) and suggests that work is needed to evaluate innovative midwife managed schemes by means of a randomised controlled trial.

To illustrate the need for more trials on midwife managed care, a description of the Slome, 1976, and Flint, 1987, trials is presented. Slome et al in 1976 hypothesised that within a hospital setting, total care for low risk women by nurse-midwives would be as effective as that provided by house staff physicians. 298 women were randomly allocated to the nurse-midwife group with 140 women allocated to the house staff group. Clinical outcomes were examined included antenatal, intrapartum and infant outcomes. Examples of outcomes examined were antenatally : rates of anaemia, hypertension and urinary tract infection; intrapartum : lengths of labour, episiotomy rates and delivery type and infant outcomes examined were gestational age, apgar scores and measures of fetal distress. The study found no significant differences in clinical outcomes between the two groups with the exception that 28% of the nurse-midwife group compared to 13% of the house staff group made more visits than scheduled ($p<0.005$); and that a higher rate of forceps of delivery was reported with the house staff group (29%: 10% nurse-midwife group, $p<0.005$). The trial did not examine psycho-social outcomes.

The most famous trial of midwife managed care, the Know your Midwife (KYM) study (Flint & Poulenegeris, 1987), was carried out by Flint and Poulengeris at a South London hospital (Flint & Poulengeris, 1987). This trial examined the feasibility, satisfaction and cost of a team-midwife approach as compared with the traditional shared care approach. 503 women were randomly allocated to midwife managed care with 498 to the control group (shared care). A team of 4 midwives cared for low risk women throughout her pregnancy including the

intrapartum period. However, women routinely saw an obstetrician at 36 weeks. The KYM report concluded that a team of four midwives could successfully care for 503 woman at low obstetric risk over a two year period; and improve continuity of care and women's satisfaction with care, reduce obstetric intervention and lower episiotomy rates. For example, in terms of women's satisfaction, although there was no differences between the KYM group and the control group in their reporting that midwives and doctors explained things clearly, women in the KYM group were more likely to feel able to discuss anxieties at clinics (89%: 77% control group, Chi^2=14.44; p<0.001); report the midwife more helpful for anxiety (84%: 55% control group very helpful, Chi^2 trend=42.26, df=2, p<0.001). In addition, 95% of the KYM group were satisfied with their experience of attending the antenatal clinic compared to 87% of the control group (Chi^2 trend=11.35; p<0.05); more women in the control group rated their experience of labour as dreadful (18%: 13% KYM, Chi^2=14.39; p<0.05) whereas women in the KYM group felt more in control during their labour (42%: 24% control group felt very much in control, Chi^2=17.82; p<0.01). In addition, women in the intervention group were more likely to report staff on the postnatal ward as very caring (72%: 56% control group, Chi^2=13.29; p<0.05) and when those women who had a KYM midwife carrying out postnatal visits were compared with those not, women in the former group were more satisfied with the care received from this midwife (99% satisfied: 87% control group, Chi^2=11.49; p<0.01).

These descriptions clearly emphasised the need for more research, especially on women's views as the Flint trial (*ibid)* had up until recently been the only trial which examined women's views of midwife managed care. Several recent trials of midwife managed care have been carried out in response to calls for more research (House of Commons Health Committee, 1992; Department of Health, 1993; Scottish Office Home and Health Department, 1993). Two of these trials have been conducted in the United Kingdom (MacVicar et al, 1993; Hundley et al, 1994), however, three of the trials were conducted in other Western countries (Giles et al, 1992; Rowley et al, 1995; Waldenstrom and Nilson, 1994). One of the trials carried out in the United Kingdom found similar results to the above but unfortunately only looked at antenatal and intrapartum care (MacVicar et al, 1993). This was a large scale study; 2304 women were randomly allocated to a midwife-led programme of care and 1206 to consultant based care. The aim of the trial was to make labour and delivery more homelike by increasing continuity of care, decreasing medical intervention and improving the birth environment. In contrast to the 3 trials previously discussed the emphasis in the MacVicar study seems to be on delivery not total continuity. Labour rooms were decorated to make them more homely, with no fetal monitors present or no epidurals given. In terms of continuity, the trial does have methodological difficulties as this was not measured although the system aims to increase continuity, in that, midwives working in the labour suite do antenatal visits but the intervening care is provided by GP and or community midwife. However, this means that it is not aimed to provide total continuity. The findings indicated women allocated to the midwife group reported more positively on satisfaction both antenatally and in the intrapartum period. 52% of the midwife group reported being very satisfied with their antenatal care as compared with 44% of the control group. With intrapartum care 73% of the midwife group reported being very satisfied as compared to 60% of the control group.

The second recent trial carried out in the United Kingdom was conducted in Scotland (Hundley et al, 1994) In similarity to the MacVicar (1993) study, this trial examined care in a midwife managed delivery unit. This pragmatic randomised controlled trial found that when low risk women randomised to receive intrapartum care

in the midwife managed delivery unit (n=1900) were compared to women randomised to care in a consultant led labour ward (n=944); women randomised to the midwife managed care were less likely to have electronic monitoring (57%: 93% consultant unit; p<0.01); use natural methods of pain relief (54%: 45% consultant unit, p<0.01); be able to move around more during labour (64%: 52% consultant unit and have less fetal distress (19%: 22% consultant unit, p<0.05). However, the high rate of transfer from the midwife managed delivery unit was highlighted (n=647, 34% transferred before labour; 303: 16% during labour) and it was stated that antenatal criteria are unable to determine who will remain at low risk throughout pregnancy and childbirth. In addition, midwife managed intrapartum care increased continuity of carer (Hundley et al, 1995) and midwives' satisfaction. For example, in 485 cases (28%) in the midwife managed care group the midwife at delivery carried out all vaginal examinations as compared with 201 (24%) cases in the control (Labour ward) group (Chi^2 = 6.1; p<0.05) and an ordinal scale to measure midwives' satisfaction reported a mean score for the midwife managed care group was 7.69 (95% CI: 7.62 - 7.76) compared to 7.52 for the labour ward group (95% CI: 7.42 - 7.63; diff: 0.17; p<0.01).

A small scale Australian randomised controlled trial examined the efficacy of midwife managed care for low risk women but only during the antenatal period (Giles et al, 1992). Women randomly allocated to midwife clinic care (n=43) were compared to standard care provided by obstetricians (n=46). The sample size was adequate as the main outcome was to detect a 30% reduction in salary costs. The major differences found were that a 28% to 68% reduction (depending on whether if the clinic was consultant or 'staff specialist') in salary cost savings and that clients cared for by midwives showed appreciation of the continuity of care and information given at the midwives' clinic. In addition, only 2% of the midwives' clinic clients wished to attend a routine hospital antenatal clinic (doctors' clinic) whereas 66% of the doctors' group wished to attend a midwives' clinic for their next pregnancy. The study concluded care of women experiencing a normal healthy pregnancy in a midwife's clinic showed high acceptance and salary cost savings.

Another Australian randomised controlled trial (Rowley et al, 1995) examined outcomes of 405 women randomly allocated to continuity of care from a team of six midwives when compared to 409 women randomly allocated to routine care from a variety of doctors and midwives. The trial found that women allocated to team care were more likely to attend antenatal classes (OR 1.73, 95% CI: 1.23-2.42), less likely to use pethidine during labour (OR 0.32; 95% CI: 0.22-0.46) and more likely to labour and deliver without intervention (OR 1.73; 95% CI: 1.28-2.34). Team care was rated better than routine care for all measures of satisfaction, including information-giving, participation in decision-making and relationships with caregivers. For example, information-giving included feeling encouraged to ask questions (OR 4.22; 95% CI: 2.72-6.55), being given answers which they could understand (OR 3.03; 95% CI: 1.33-7.04), and feeling able to discuss anxieties (OR 3.60; 95% CI: 2.28-5.69). In addition to these findings, team care meant a cost reduction of 4.5%.

A trial carried out in Sweden examined total care but considered only psycho-social aspects of care (Waldenstrom & Nilsson, 1993). This trial reports on birth centre care, which has a somewhat similar philosophy of low medical intervention and continuity of care. The same small team of midwives provide care for women from the outset of pregnancy, during the birth and up to the final visit postnatally two months after the birth. 617 low risk women were randomly allocated to the birth centre care, with 613 allocated to standard

obstetric care. The conclusion of study was women allocated to birth centre care were more satisfied on antenatal, intrapartum and postnatal aspects of care than women allocated to the standard obstetric care. For example, with antenatal care women allocated to birth centre care reported a mean score of 6.3 (possible range: 1=very unsatisfactory to 7=very satisfactory) for satisfaction with medical supervision compared to 5.7 for the control group having standard obstetric care (95% CI: 0.4 to 0.7; $p<0.001$). Similarly, the study group were more satisfied with the professional response to women's thoughts and emotions (6.5: 5.0 control group; 95% CI: 1.3 to 1.6, $p<0.001$). The magnitude of these differences were also maintained for intrapartum and postnatal care.

The randomised controlled trials described above point to the efficacy of midwife managed care. However, no trials describe clinical, psychosocial and economic outcomes of a total model of midwife managed care as in this study (Turnbull et al, 1996a). It is impossible to determine the issue of safety from the trial samples involved, however. Meta-analysis can provide such information (Grimshaw and Russell, 1995). A recent systematic review of alternative versus standard models of maternity care (Waldenstrom et al, in press) aimed to address this issue. The report stated that no single study had been large enough to make conclusions about infant safety. Seven trials including 9148 women were identified by computerised literature searches. It was concluded that alternative birth care is associated with higher levels of maternal satisfaction and lower intervention rates than standard maternity care. No statistically significant differences were observed in maternal and infant outcomes. Neonatal transfers were less common (4.6% versus 6.3%) and perinatal deaths more frequent in the alternative groups (9.4/1000 versus 6.0/1000 in the controls) but none of these differences were statistically significant and the authors stated more research is needed to make definite conclusions about safety. It was acknowledged that difficulties exist in pooling data from different trials with different methodologies and programmes of care. For example, no information was included on level of training of staff.

Other evaluations

A number of evaluations have also pointed to the efficacy of midwife managed care. Studies in the United States in the early 1970s pointed to the efficacy of nurse-midwives (Montgomery, 1969; Levy et al, 1971; Sakala, 1993). A descriptive study (Olivo et al, 1994) of women cared for by certified nurse-midwives (n=310) with women cared for by physicians (n=225) concluded that certified nurse midwives are qualified to care for women on their own merits and that this can increase women's satisfaction with care.

Evaluations of birth centres have also shown promising results (Morris et al, 1986; Biro and Lumley, 1991; Rowley and Kostrzewa, 1994; Waldenstrom and Nilson, 1994). For example, the Monash birth centre has been in operation for over ten years (Biro and Lumley, 1991). The report on the cohort study of 3085 women pointed to midwife managed care being as safe as standard care. Perinatal mortality was found to be 7.7 per 1000 births (95% CI 4.8-11.6) with a comparable range of birthweight outcomes. Another birth centre also points to the efficacy of these type of schemes; the John Hunter Hospital birth centre reported of 1,492 women 82% gave birth in the centre (Rowley and Kostrzewa, 1994). Clinical complications and perinatal mortality were also of a similar standard to standard obstetric care at this birth centre.

In relation to team midwifery schemes, many schemes have been introduced and the dearth of evaluation has been highlighted (Murphy-Black, 1992; Wraight et al, 1992). However, some evaluations exist (Lester and Farrow, 1989; Watson, 1990; Lee, 1993; Demilew, 1994; Sykes, 1994; Walsh, 1995a & b; Farquhar et al, 1996) which show positive outcomes for women and midwives. For example, Sykes (1994) describing the audit of a team midwifery practices of the Forest Midwifery Group in east London reported that women interviewed (sample not provided) appreciated the personal care. The most recent evaluation (Farquhar et al, 1996) in which the scheme was set up in response to Changing Childbirth initiatives (Department of Health, 1993) in relation to a known midwife at delivery reported difficulties in that some felt the scheme had been implemented too quickly and a number of midwives appeared demoralised. The evaluation compared outcomes for a team of up to eight different midwives throughout antenatal, intrapartum and postnatal care with the aim that women were delivered by a known midwife (n=936) with three control groups. The main comparison (control group), however, was with women who usually saw one or two midwives in conjunction with the GP for antenatal and postnatal care and being delivered by an unknown midwife (n=120). The study group reported lower continuity of carer antenatally than those in the control group. Audit data identified the mean number of midwives met by the study group during their pregnancies to be 6.1. In addition, 82% of the control group reported they were able to form a relationship with the midwives they saw before the birth; this was 73% in the study group ($p<0.005$). The control group women were also more satisfied with their antenatal care (80% very satisfied: 72% study group, $P<0.0001$). Further to this, only 34% (n=322) of the study group women reported that they had met all the midwives who looked after them during labour and delivery, 36% reported they had met some and 30% reported that they had met none.

In relation to evaluation of group practices, the Wistow project which cares for approximately 180-220 women per years (Walsh, 1995a & b) reported that 74% of women met no more than 4 different midwives antenatally, however only 9% were cared for in labour by a midwife who is known to them, although 79% of women received at least 4 visits from known midwives postnatally. The recent evaluation of the One-to-One midwifery group practice scheme (McCourt et al, 1998) in London included all women randomised to One-to-One care in a one year period (n=728) compared with a selected comparison area where women were randomised to traditional shared care (n=675). The results indicated that the new type of care appeared as safe as traditional care but women in the One-to-One group were more satisfied with their care and on the evidence available One-to-One did not appear to increase the midwifery cost. In relation to women's overall satisfaction, for example, 73% of the One-to-One group were very satisfied compared to 45% of the control group. However, only 1% of the One-to-One group and 2% of controls were very dissatisfied. Although continuity of carer was improved in the One-to-One groups and over 50% of women had midwifery-led care throughout, the targets set that 95% of women would be attended by a midwife they knew during labour and delivery was not achieved (overall this was achieved in 85% of cases), however the target that over 75% of women to be cared for by their named midwife during labour was achieved (although only at one of the two sites involved). In addition, the target that low risk women should be cared for by no more than 6 professionals appeared to be achieved in overall only 46% of cases, although it was stated that it had been 'difficult to estimate the extent of the involvement of the professionals seen' (p74).

Evaluations are useful in putting into context women's experience of midwife managed schemes but only very large randomised controlled trials can answer questions of safety. The evidence appears to suggest from evaluations and previous randomised controlled trials, benefits from midwife managed schemes, in terms of enhanced psycho-social effectiveness, with equal clinical effectiveness as the traditional system of shared or obstetric care. Consideration must be given to issues of what is 'meaningful continuity of care and carer' in these schemes; sustainability of schemes; difficulties in the management of change and difficulties in achieving targets for care, however. The background to the setting up of this study was that there have been no randomised controlled trials comparing a total model of midwife managed care as designed at the Midwifery Development Unit, Glasgow Royal Maternity Hospital. The study aims to add to the debate about women's experience of different midwife managed schemes.

Section 4 Midwifery Development Unit

Aim

Section 4 concentrates on the evolution of a Midwifery Development Unit at Glasgow Royal Maternity Hospital. The chapter describes the background to the setting up of the Midwifery Development Unit, the development of a new programme of care and the author's role in the unit.

Background

In November 1991, the Scottish Office Home and Health Department invited NHS Trusts in Scotland to submit bids for funding of up to £300,000 over three years to set up and evaluate a Midwifery Development Unit. A multi-disciplinary team of individuals was involved in the drafting of the proposal. The Glasgow Royal Maternity Hospital submitted a bid and was successful with its proposal for such a Unit. These included individuals from the Midwifery Department at Glasgow Royal Maternity, Departments of Obstetrics and Gynaecology, Public Health and Nursing Studies at Glasgow University with representation from general practice as well.

Within the MDU, care was provided by a team of 20 midwives who shared the same philosophy, worked in the same rotational pattern and provided peer support. Each woman was cared for by a small group of midwives from the antenatal period through delivery and the postnatal period. This was in contrast to shared care where midwives provide all care within their own clinical area then transfer the woman to the next area, where care is provided by a different team of midwives.

Midwifery Development Unit definition

A Midwifery Development Unit is a setting which aims to achieve and promote excellence in midwifery care. It is geared towards improving midwifery care and practice in a climate where each person's contribution is valued and an open, questioning and supportive approach is fostered (McGinley et al, 1995).

Midwifery Development Units provide a focus for developing practice. It is appreciated that the development of education, research and management may also occur but the development of practice is seen as being of primary importance (McGinley & Turnbull, 1994).

Aim and objectives

The Midwifery Development Unit was established in July 1993 with the aim of improving the quality of care provided to women during pregnancy and childbirth. The objectives of the Unit were to:

- introduce a total midwifery care programme for pregnant women considered to be at low risk;
- encourage participating midwives to utilise their skills to the full;
- develop audit and educational tools for use by the midwifery profession;
- monitor and evaluate the programme of care with a randomised controlled trial to be employed as the main method of evaluation.

MDU deployment

The 3 year funding for the Midwifery Development Unit was not to employ additional midwives. It was to employ a research team to evaluate the programme of care. Midwives were deployed from existing services. The Midwifery Development Unit had a clinical team of 20 midwives; with both a multi-disciplinary steering group and research team.

The clinical team was responsible for the implementation and running of the new programme of midwifery care. After a series of meetings describing the proposed aims of the Unit, midwives were asked to volunteer to join the unit. The number of midwives recruited would be proportional to the estimated number of women to be cared for by the Unit. Given that about 10 percent of women who delivered at the hospital were estimated to be recruited for the programme, the senior midwives aimed that 10 percent of midwives (21 midwives) would be eligible. Midwives had to be working full-time, have one years post registration rotation throughout all midwifery care areas and be enthusiastic about the aims of the Unit.

Twenty-one of the 23 midwives who volunteered were selected. The selected volunteers included four G-grade midwives and 17 E-grade midwives. The midwives were deployed from a range of clinical areas including labour ward (8 midwives), community (2 midwives), outpatients' clinic (1 midwife), postnatal ward (9 midwives) and the Woman's Reproductive Health Unit (1 midwife), which provides care for women with problem drug use. One midwife (E-grade) left prior to commencing recruitment of clients, and the programme was implemented with 20 midwives. The midwives would work as a non-hierarchical team. Although the team included both G and E grades, midwives had the same clinical responsibilities. The G-grade midwives had some additional administrative duties such as co-ordination of the rosters. MDU midwives had access to the same peer advice support as that which operated for the other GRMH midwives, that is, their named supervisor of midwives or the midwifery manager within each clinical area.

The role of the steering group was to oversee the Unit. The aim of this group was to generally give support and guidance to the research team. The steering group comprised of academic staff from the Departments of Public

Health, Obstetrics and Gynaecology and Nursing Studies of Glasgow University, senior midwives and representatives from general practice.

The research team was responsible for the monitoring and evaluation of the Unit. This included conducting a randomised controlled trial and various audits. The research team comprised of a project manager, two research midwives (1.5 whole-time equivalents), social scientist, resource assessor, part-time health economist and clerical staff. The author held the position of social scientist, with responsibility for the psycho-social evaluation of the trial with the majority of this analysis concentrating on women's satisfaction and continuity of care. This involved researching the area of psycho-social outcomes; designing and implementing self-report questionnaires; analysing data and compiling results. I was also involved in other areas of research the Unit carried out such as the 'Midwives' Perceptions of Their Professional Role' audit and the day to day research activity the Unit did in recruiting women for the study and extracting information from case records for the clinical and economic evaluation of the trial. In addition, I was an integral part of the team analysing clinical outcomes.

It was recognised that for the Midwifery Development Unit to be successful in achieving its aims, it was important to ensure co-operation with others who are involved in maternity care provision. Links were accordingly established with obstetricians, general practitioners, public health, colleagues in the University Departments of Social Sciences, Nursing Studies and Medical Education as well as representatives of consumers. The links forged with these various groups helped the development of the unit, in terms of developing service specifications and the programmes of care as well as providing representatives for the multi-disciplinary steering group which was to oversee the programme.

Programme of care

Pre-implementation work

In developing the new programme of midwife managed care it was considered essential that the care provided should reflect the hospital's philosophy of integrated midwifery care. This philosophy is based on the report Maternity Care in Action (Department of Health and Social Security, 1982; 1984; 1985) and states that maternity care should be provided in a way which ensures that the dignity, privacy and individual choice of each woman is respected at all times. Care should recognise the diversity of cultures, education, social and economic circumstances of the population being served and ensure that programmes of care which are sensitive to individual needs are developed (Glasgow Royal Infirmary University NHS Trust, 1991).

A working group comprising senior midwives in conjunction with the steering group developed the programme of care for midwife managed care. In addition to the philosophy of care, it was also considered essential that the programme should take account of good evidence-based practice. Chalmer's et al (1989) Effective Care in Pregnancy and Childbirth was used as the core text and the recommendations were incorporated into the new programme of care. The senior midwives concurred early on that rather than being a form of 'team midwifery', it was aimed that the Midwifery Development Unit should provide a setting in which each midwife could

practice primary midwifery, where she was the client's lead care provider. This developed in that the midwives did not practice in teams, but rather each named midwife had an associate midwife with whom she alternated at antenatal clinics.

As the focus of the programme of care was to address women's needs, it was essential to incorporate consumer's views in the planning of the model of care and for this reason the senior midwives decided to apply the QAMID Quality Assurance Model for Midwifery (World Health Organisation, 1991) in developing the new programme. The QAMID model was developed at a World Health Organisation Conference on quality held in Belgium in June 1991, but had not been applied in practice. The QAMID Quality Assurance Model followed the usual quality assurance cycle of defining the requirements, setting the standard, implementation and evaluation followed by taking action to improve the standard following the evaluation. Where QAMID differs from other health care quality assurance models is that it is the users of the service that identify the need rather than the providers of the service (Holmes et al, 1996). The starting point for the model is the generation of information on client needs. The Glasgow Health Council, East End Initiative Group and the National Childbirth Trust were invited to nominate a representative to participate in the QAMID group. The meetings were facilitated by the Head of Midwifery Services and were attended by two MDU midwives who gave input from the provider's perspective. The representatives were invited to provide market research or survey data which they considered would assist the group to determine the maternity care needs of consumers. The pilot survey data on local women's views for this study and the pilot interview data were presented to the group. The findings from this local research as well as consideration of recent national research reports and surveys (Melia et al, 1989; Williams et al, 1989) were discussed by the QAMID group. This ensured that the views of local consumers were taken into account as well as those of the perhaps more vocal consumer representatives. Following negotiation between consumers and midwives, three service specifications were developed.

Service specifications

During the QAMID meetings with providers and consumer representatives, it was realised that women in Glasgow were identifying similar needs to those views reflected in the evidence presented in recent government policy documents (House of Commons Health Committee, 1992). The core features of care women wanted were continuity of care and carer, information, choice and individualised care. Three service specifications were developed:

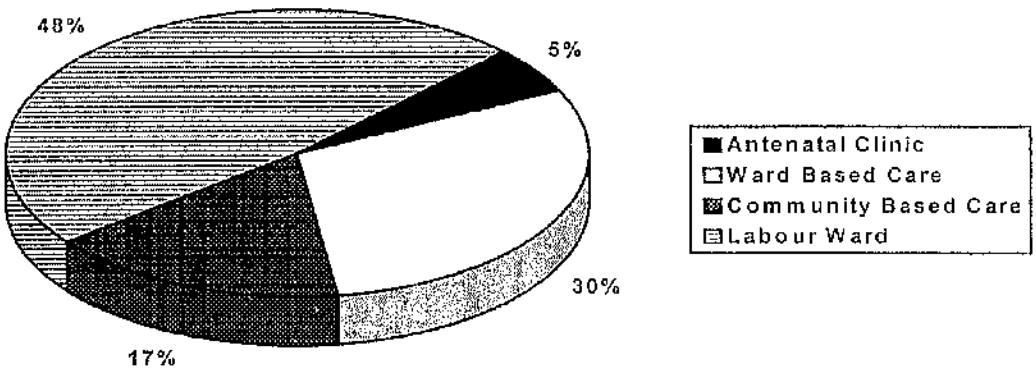
- *Continuity of care and carer* - women experiencing normal, healthy pregnancy being cared for by the MDU midwives can expect to be cared for by a named midwife and three associate midwives, from booking through to transfer to the health visitor postnatally.
- *Individual informed care planning* - the MDU will facilitate individual informed care planning; each woman will hold her own midwifery care plan which will contain progress notes as well as her personal choices for care, antenatally, postnatally and her birthplan. This is line with best practice research evidence (Reid and Garcia, 1989). During the final episode of care, the midwife will evaluate the care plan with the woman prior to it being returned to the case record.
- *Information and choice* - every woman being cared for in the MDU will receive a basic information pack. In addition, there will be an ongoing assessment of specific information requirements which will be tailored to

the individual woman's circumstances. The midwife will allow time to discuss information and choices with each woman.

In relation to the service specification of continuity of care and carer, while the consumer representatives ideally wished care from one or two midwives from booking to transfer to health visitor postnatally, the midwives had to consider the practical and resource constraints of satisfying such a demand. The midwives argued that, in order for input to be reduced to two midwives, the on-duty rota would be onerous. They considered it would be unreasonable to expect a midwife to work and be on-call continuously, as apart from personal considerations, it may compromise safety and thus breach the Code of Professional Conduct, Clause 11 (United Kingdom Council for Nursing, Midwifery and Health Visiting, 1992). In addition, it was felt that the on-call payment for each midwife would result in an inefficient use of resources. The QAMID group meetings provided the opportunity for in-depth discussion of these issues between consumer representatives and providers. The outcome was that it was felt feasible by both interested parties that a named midwife would provide the majority of planned care, both antenatal and postnatal, for her caseload but that she would be supported by three associate midwives who would provide care in labour and additional support postnatally.

A new deployment model was designed to facilitate continuity of care and carer (Figure 1) which allowed the midwives to work in all clinical areas. A new self-rostering system was developed and piloted prior to implementation of the programme. The fortnightly roster included: three 8-hour shifts in the wards; three 12-hour shifts in labour ward; two 5-hour shifts in community; one 4-hour shift in the antenatal clinic; and a shift of 4.5 hours to cover community and the outpatients' department. This deployment model represented a compromise in that the midwives did not have an on-call rota, but the 12-hour labour ward shifts aimed to improve continuity of carer during the intrapartum period. Every midwife spent approximately 50 percent of her on-duty rota based in labour ward, which increased the possibility of her being available when her client was admitted in labour. In the absence of the named midwife, the woman received care from the MDU midwife rostered to the labour ward at the time. The decision to have up to three associate midwives took into account the possibility of a prolonged labour, where two midwives may be required as well as the need for inpatient care immediately after delivery.

Figure 1. Self-rostering pattern for MDU midwives



75 hours per fortnight

Source: McGinley and Turnbull, 1994

The QAMID group also considered research evidence about avoiding duplication or over provision of care. While recent research indicates that women in Scotland have about 14 antenatal visits (Tucker et al, 1994), there is evidence to suggest that no more than 5 visits should be necessary for healthy multigravidae, with extra visits for primigravidae (Hall et al, 1980). In addition, the Royal College of Obstetricians and Gynaecologists (1982) have recommended a minimum of 5-7 visits for low-risk multiparae and 8-9 visits for low-risk primiparae. On the basis on this research evidence, the midwives developed a programme of antenatal care based on 8 visits (Figure 2).

Figure 2. MDU Antenatal Care Programme

Frequency of Antenatal Care		Planned Action
6-8 weeks General Practitioner	ð	Confirmed pregnancy. Reviewed history. Referred to hospital for booking.
ò		
8-12 weeks Booking clinic Booking session Named midwife/obstetrician	ð	Risk assessment. Booking history by midwife/medical staff. If low risk, consent sought. If consented and randomised to MDU, care continued as follows.
ò		
16 weeks Midwife clinic	ð	Discussion with woman regarding results from booking clinic examinations. Clinical assessment and discussion of options for MSAFP and ultrasonic scan.
ò		
22-24 weeks Midwife clinic		
ò		
26-28 weeks Midwife clinic		
ò		**16-40 weeks**
30 weeks Midwife clinic		**At each visit:** Full clinical examination, action and update of maternity care plan.
ò		
34-36 weeks Midwife clinic		Venepuncture and investigations carried out by midwife as required. Health education and place of care tailored to women's needs.
ò		
38 weeks Midwife clinic		
ò		**At all visits:**
40 weeks **TERM** Midwife clinic		In the event of deviation from normal, referral to a senior medical staff member was made.
ò		
Term + 12 days	ð	If undelivered, plan for delivery was discussed with consultant.

Source: McGinley and Turnbull, 1994

In order to achieve the service specification of individual informed care planning, a new client held record or Care Plan was designed. This record allowed women access to more information on their progress and encouraged them to participate in decisions about their care. Women kept their own records at home and brought them with them during their care. The record encouraged two-way communication in that the woman was encouraged to write her own views and questions on the Plan, as well as her personal choices for care, which then could be discussed with their named midwife or associate midwives. During the final postnatal visit to the woman's home, the MDU midwife conducted a 'debriefing' session (in line with research evidence, Bostock, 1993) so the woman could reflect on the care she had received and obtain explanations on those aspects of care where the outcome was not as she may have expected.

To achieve the third service specification of information and choice, every woman received a basic information pack. The consumer representatives on the QAMID group gave advice on those publications which they considered should be included in this pack. The information pack could act as a reference guide for women. However, additional information needs were addressed and tailored to each individual woman throughout pregnancy, birth and the postnatal period.

Development of midwife managed programme of care

Ideas about the programme of care were included in the original proposal for funding the Unit. However, the unit did not commence with a complete pre-designed programme of care. The standards for the programme of care were devised after considerable discussions between senior midwives, MDU midwives, hospital midwives and obstetricians. The antenatal programme of care was developed first, in time for the first women to be recruited to the programme in January 1993. The intrapartum and postnatal components were then developed in mid 1993 in time for the first women in the new programme to deliver their babies.

During a 6-month pre-implementation period, the midwives still provided a normal service contribution but also piloted the new roster. During this time the midwives also updated their midwifery skills in all areas of care and contributed to workshops about what the new programmes of care (i.e. antenatal, intrapartum and postnatal programmes) would be. Each midwife was given an opportunity to update skills by completing a personal 'Inventory of Skills'. These inventories were designed for midwives themselves to identify where their skills needed updating rather than an assessment tool for senior midwives to consult.

A series of multi-disciplinary workshops were conducted where good practice was overviewed. Other issues covered included: risk assessment and transfer criteria, the midwifery drugs formulary, the roster, and management of antenatal clinic appointments. The midwives invited colleagues from a range of health professions such as social work, obstetrics and physiotherapy as well as experienced midwives to provide input to the workshops.

This lengthy process resulted in a programme of care not only based on women's views, the GRMH midwifery philosophy (Glasgow Royal Infirmary University NHS Trust, 1991) and evidenced based practice (Chalmers et al, 1989) but also the Midwives Rules (United Kingdom Central Council for Nursing, Midwifery and Health Visiting, 1991b), Midwives Code of Practice (United Kingdom Central Council for Nursing, Midwifery and Health Visiting, 1991a), and current good practice. The programme was developed to allow midwives greater professional autonomy and encourage professional accountability, whilst being client focused and allowing for continuity of care (i.e. it was aimed women would see no more than four different midwives as long as pregnancy remained uncomplicated - continuity of carer and continuity of care would aim to be achieved by MDU midwives being initiated into the same philosophy).

In relation to the three time periods in which care is provided: antenatal care, intrapartum care and postnatal care, some specific details highlight the difference between this new programme and traditional shared care. The antenatal care programme was intended to be a complete programme in itself. However, if the woman

wished to see her general practitioner or the general practitioner wished to have clinical input, this was taken into account. The midwives operated as caseholders. Each midwife attended her antenatal booking clinic fortnightly, alternating with an associate (partner) midwife. When the named midwife was on leave, her partner covered the clinic. Compared with other programmes where women are routinely referred to the obstetrician at specific intervals (Flint & Poulenegeris, 1987), women were referred to the obstetrician only when there was deviation from normal. Similarly, for intrapartum care and postnatal care, women were referred to the obstetric team when there was deviation from normal. If the pregnancy remained normal and healthy, women would be cared for by only MDU midwives.

Antenatal care was provided at a time and location agreed by the midwife and woman. Locations of visits included the hospital-based antenatal clinic, community-based health centres and the woman's home. Another feature of the programme was the emphasis it placed on choice for women, for example women were given the choice about whether they would like to be scanned rather than being routinely referred for this procedure.

Three designated birth rooms were provided within the main labour suite, these rooms were decorated so that women could deliver in less clinical surroundings. It was aimed that methods of natural pain relief and childbirth should be encouraged. Postnatal care was provided in a designated 8-bed postnatal ward and subsequently in the community. A plan was agreed for each mother's care to ensure that she had support during her stay in hospital and upon return home. The midwives aimed to provide advice which was consistent and which gave the woman confidence in her role as a parent. The aim was that the majority of planned episodes of postnatal care were provided by the named midwife.

The MDU midwives were responsible for organising the administration for their own caseload. The midwife wrote to the general practitioner at booking, 26 weeks gestation and on discharge. Where the booking referral was to a named obstetrician, the obstetrician replied to the general practitioner to inform him/her that the woman was being cared for by the MDU.

The programme of care was designed to allow either permanent transfer, where management was transferred to the obstetrician (e.g. for major obstetric problems or caesarean section); or temporary transfer, where the woman remained under the direct care of the midwife, but other members of the team were involved (e.g. the anaesthetist in the case of epidural analgesia or the obstetrician in the case of augmentation of labour). Care for temporary transfers remained the remit of the MDU midwife, but with permanent transfers, the integrated maternity care team assumed responsibility for care. When a medical opinion was required, MDU midwives liased with senior medical personnel (rather than the Senior House Officer). When a midwifery opinion was required, MDU midwives went to the most appropriate midwife within the clinical area where the problem or issue arose.

It was realised that in order for the MDU to be successful, it was essential that the concerns of participating midwives be identified and addressed. A feedback cycle was developed at the outset of the project. The research team administered a 'Midwifery Process' survey every 3 months (over a 15-month period) to identify issues of concern to the midwives. This information was then fed-back to the midwifery managers who sought

solutions with the MDU midwives. In addition, the MDU midwives conducted their own peer support meetings. The midwives decided when a meeting was necessary and came together as a team without their clinical midwifery managers. Confidential notes of the meeting were prepared by the research team and circulated amongst the midwifery team. A peer review procedure was also implemented whereby an MDU midwife presented a case to a midwifery review panel for discussion and feedback.

Chapter 2 Current Study

Aim

This chapter aims to describe the methods of the study examined in this thesis. The study explored women's satisfaction with two types of maternity care. These two types of care were: a new type of midwife managed care introduced, subject to satisfactory evaluation, at Glasgow Royal Maternity Hospital (Midwifery Development Unit care) and the most widely available type of maternity care - shared care (care shared by midwives, obstetricians and general practitioners) which was the most prevalent form of maternity care at this hospital. This study on women's satisfaction was conducted as part of a randomised controlled trial to compare the efficacy, acceptability, and cost effectiveness of midwife managed care when compared with shared care.

Study aims

The current study was designed to examine women's satisfaction with a new model of midwife managed care when compared with shared care. The study had two main aims, each of which will be described in turn.

- Firstly, it was aimed to comprehensively describe women's satisfaction with midwife managed care when compared with shared care. This description would include an analysis of the two groups' satisfaction with antenatal, intrapartum and postnatal care.
- Secondly, it was aimed to examine factors which may enhance or reduce satisfaction with both types of care. In particular, the influence of continuity of care and carer on women's satisfaction with maternity care would be examined. This was decided as, unarguably the major tangible difference between the two types of care and has been one of major structural problems with the shared care model. In addition, there has been a view that if continuity is achieved, it is much easier to achieve quality of care.

Study objectives

In carrying out the study, there were four main objectives:

- to describe women's satisfaction with midwife managed care when compared with shared care, in the context of a randomised controlled trial.
- to explore factors such as continuity of care and carer; knowing the midwife during labour; socio-demographic characteristics; parity and clinical complications which may enhance or reduce women's satisfaction with midwife managed care and shared care.
- to contextualise women's experience of midwife managed care and shared care in light of other consumer studies of maternity care.
- to add to the debate about midwife managed care vs shared care in relation to women's satisfaction with a consideration of other outcomes, and recommend areas of future study.

Research questions

The study research questions were:

- Are women randomised to midwife managed care more satisfied with dimensions of care in the antenatal period when compared with women randomised to shared care?
- Are women randomised to midwife managed care more satisfied with dimensions of care in the intrapartum period when compared with women randomised to shared care?
- Are women randomised to midwife managed care more satisfied with dimensions of care in the postnatal period, with both hospital-based and home-based postnatal care, when compared with women randomised to shared care?
- Are women randomised to midwife managed care more satisfied with dimensions of maternity care at 7 months postnatal?
- Do factors, such as continuity of care and carer, knowing the midwife during labour, socio-demographic characteristics or clinical complications enhance or reduce women's satisfaction with two different models of maternity care: midwife managed care and shared care?

Setting

This study on women's satisfaction with midwife managed care and shared care was conducted as part of a randomised controlled trial which took place at the Midwifery Development Unit, Glasgow Royal Maternity Hospital.

The hospital was built in 1834 and has had a history of innovating new practice such as the pioneering caesarean section surgery during the early 19th century (Dow, 1984). The founding of the hospital was in the context of an enormous population expansion in Glasgow. Glasgow had evolved from a small market town into the largest city in Scotland. In 1780, the population was 44,000. By 1830, however, the population was in excess of 200,000. Today, over 700,000 of the Greater Glasgow population of 935,000 live in the City of Glasgow District. The hospital was an expansion of a 'lying-in' hospital which only had the capacity of an annual intake of 50 patients. It now has around 5000 deliveries per year.

In the present day, Glasgow is considered to experience some of the worst socio-economic conditions in Europe. The health of the city of Glasgow district population is poorer than that of the other four local Government Districts which comprise Greater Glasgow (Greater Glasgow Health Board, 1992). Fifty percent of the Health Board's population live in the most deprived areas, compared with only ten percent for the rest of Scotland (*ibid*). The caesarean section rate in Greater Glasgow hospitals is higher than Scotland as a whole. Compared to other Health Boards women in Greater Glasgow have the third highest induction rate, the lowest rate of spontaneous delivery and the second highest caesarean section rate (Hair, 1994).

The 'catchment' area (i.e. women in certain areas of Glasgow generally go to the hospital that serves that area. However, women can choose which hospital to attend and do so for a variety of reasons.) of the hospital covers the North East of the city / Strathkelvin district which experiences vast social deprivation. Unemployment, single parent families and problem drug and alcohol use are daily realities for the families being served by the Glasgow Royal Maternity Hospital. The setting up of the innovative Women's Reproductive Health Unit at the hospital, which treats approximately 200 women per annum, was precisely for women with dire social problems, the main one being problem drug use. The effects of high-density

housing, poverty and unemployment on women led to the hospital developing an integrated midwifery service during the 1980s. In order to make care more accessible to women, community-based antenatal clinics were established. The clinics were conducted in the health centres and GP surgeries in the large housing schemes in the hospital's catchment area. In 1991, one third of all antenatal care provided for the 5000 women being delivered at Glasgow Royal Maternity Hospital was provided by midwives. There were 44 midwife clinic sessions in the community and a further 15 midwife clinics held at the hospital on a weekly basis (Greater Glasgow Health Board & Glasgow Royal Maternity Hospital, 1991).

Methodology

Background

This study on women's satisfaction with midwife managed care and shared care was conducted as part of a randomised controlled trial. The trial hypothesis was that midwife managed care (MDU care) offers low risk pregnant women:

a) a lower rate of intervention
b) with the same (or more favourable) clinical outcomes
c) similar clinical complication rates
d) enhanced continuity of care and carer
e) greater satisfaction with care

To evaluate the trial hypothesis clinical, economic and psycho-social outcomes were examined. Some examples of the outcomes were:

1) Clinical - number of tests carried out, intervention rates, number of referrals
2) Economic - women's personal costs, NHS costs
3) Psycho-social - women's satisfaction, continuity of care and carer, preparation for parenthood, advice and support with chosen method of infant feeding, postnatal depression

Trial procedure

Eligibility

Specific eligibility criteria for the trial were agreed. These criteria included: living within the hospital's catchment area, booking at the hospital, booking for maternity care within 16 weeks of pregnancy and that women should be experiencing a 'normal healthy pregnancy'.

Women in the trial had to live within the hospital catchment area as the midwives would be unable to provide postnatal care to women otherwise. The reason for this was that the way maternity care is organised in Scotland is, as described previously, by catchment areas covered by different Trusts and Health Boards. It is the choice of women to attend which hospital they prefer. If this choice is exercised, however, continuity is compromised (i.e. the woman will be cared for by two sets of different midwives from hospitals involved). This system is in existence due to inefficiency implications such as travel and time for midwives carrying out postnatal home visits for women who live outwith a hospital's catchment area. In the trial, a list of eligible postcodes were used to identify women living in the hospital catchment area.

Women who had a booking history conducted in the community and subsequently attended the hospital were not eligible for the trial. The decision for this criteria was a consideration that logistically the research team would not be able to cover all booking clinics in the community for recruitment purposes and that the number of women who booked in the community accounted for a very small proportion of total bookers.

It was considered necessary for the trial to exclude women booking later than 16 weeks because these women potentially had fewer visits and therefore did not have the opportunity to participate in the complete antenatal care programme. Including 'late bookers' may also have affected trial results in terms of clinical outcomes (i.e. midwife managed care aimed to reduce the number of antenatal visits by linking them to important clinical episodes). In addition, women who booked later than 16 weeks of pregnancy would have, in contradiction to the midwife managed care protocol, reduced choice about when to have their ultrasound scan and other tests.

A trial criteria form (Appendix 2) was developed by senior midwives and obstetricians to define clinical, medical and psycho-social details which would not be classed in the confines of a 'normal healthy pregnancy'. The criteria form was partially based on the assessment of low risk used in the trial "What is Antenatal Care in Scotland?" (Tucker et al, 1989) in which Glasgow Royal Maternity Hospital took part. The form which was developed, however, incorporated a stricter definition of low risk than that used in the Tucker study (*Ibid*). The trial exclusion criteria included the following factors: demographic (e.g. aged less than 16 years or greater than 40 years); physical (e.g. small stature in a primigravida, i.e. height less than 152cm); genetic (i.e. family history of congenital malformation or inherited disease); medical (e.g. diabetes, cardiac disease, on regular prescribed drug therapy); obstetric / gynaecological (e.g. previous caesarean section, previous surgery to the reproductive tract); psychological and social (e.g. previous postnatal psychosis requiring hospital admission, problem drug use). The form was piloted thoroughly using case records from the antenatal clinic.

Eligibility training

Before recruitment to the trial began, workshops were set up involving those of the research team who would be recruiting women to the trial. The workshops involved using casenotes from the antenatal clinic for eligibility screening and role play to orientate researchers to the idea of recruiting. An issue discussed in the role plays was the responsibilities of the researcher. That is, the power imbalance between woman and researcher should be recognised and that the researcher should act as an 'advocate' for women. For example, during the workshops standard responses were developed to difficult questions women might ask such as on clinical matters. Responses were agreed such as informing the women that the researcher was not acting in a clinical role and that a health practitioner was the best person to ask and then women were pointed in 'the right direction'.

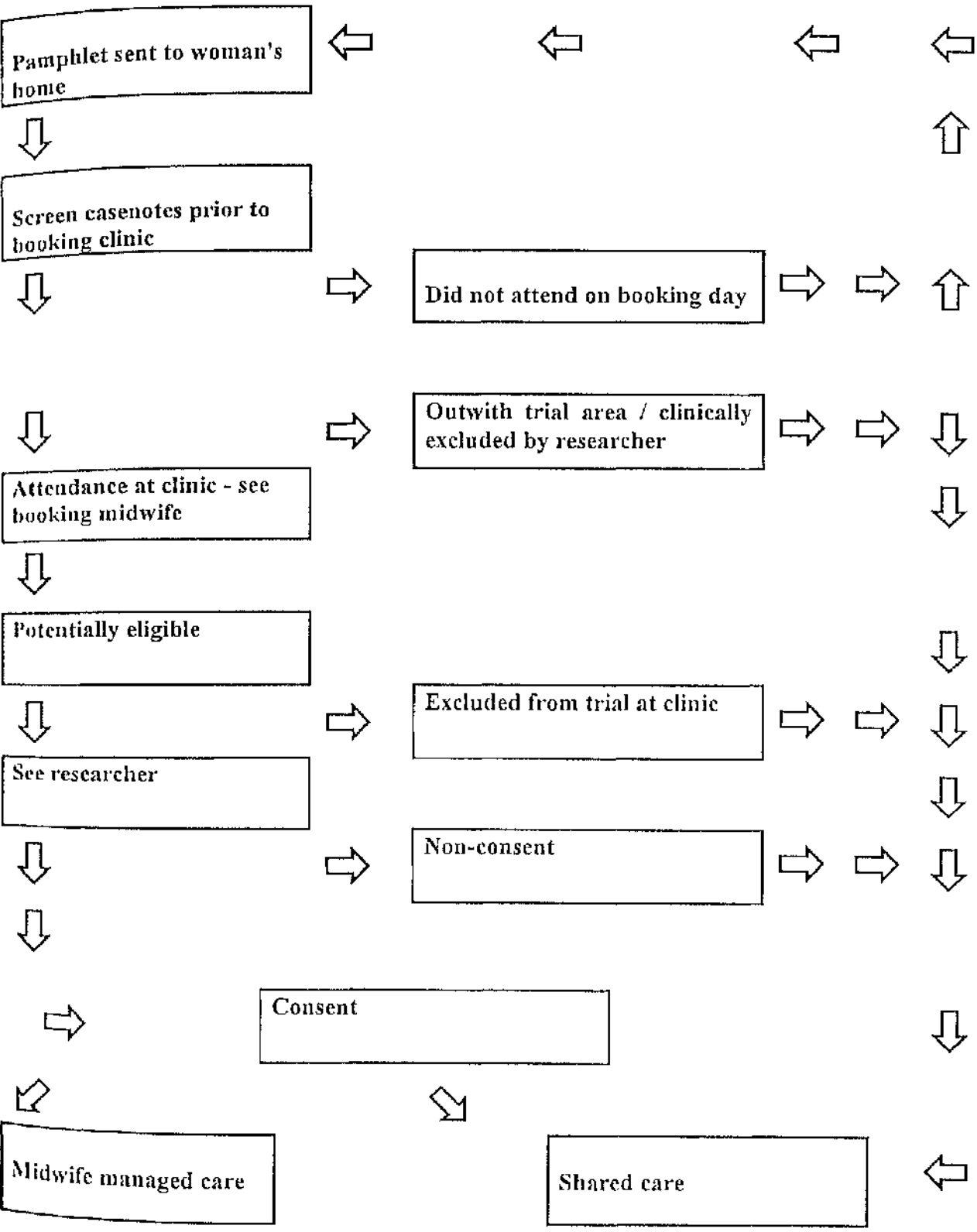
Screening

The following procedure was implemented with the approval of the relevant ethics committee. The process of screening and recruitment is illustrated in Figure 3. All women intending to book at the hospital had a brief introduction pamphlet (Appendix 3) sent to their homes with their booking information and appointment card. It informed them a trial was being conducted at the hospital and that they might be introduced by a midwife or doctor to a researcher.

All women booking at an antenatal clinic at the hospital were assessed for trial eligibility. Before a booking clinic, partial screening for eligibility was carried out by one of the research team. The partial screening pertained to first of all checking the postcode and date of birth (as the criteria form stated only those aged between 16-40 years were eligible for the trial). Next, the general practitioner booking referral letter and casenotes were consulted for information which indicated trial ineligibility. An example of this would be clinical information (e.g. a previous caesarean section indicated trial ineligibility).

For some women partial screening was unable to be carried out. In this eventuality, potentially eligible women were documented as 'missed by research staff' (n=44). The main reasons for this occurring were that women's names which were on the booking list had no casenote available and that during clinics some women turned up for booking without an appointment. There were occasions when potentially eligible women were missed during the clinic (n=23). This was due to a number of reasons (e.g. a researcher being unavailable to recruit). In addition, women who explicitly wished a home birth or domino delivery and who had been informed by the booking midwife about the trial were usually not introduced to the researcher. According to the trial criteria these women were eligible for the trial. It was felt paramount to acknowledge women's choice in these situations. For the trial purposes, however, this group of women were documented as non-consenters. The actual number of women in this category of non-response was extremely small.

Figure 3. Process of trial screening & recruitment



If a woman was 'potentially' eligible for the study after partial screening, a criteria form was entered between the booking history pages of the casenotes and a label attached to the front of the casenote. The midwives carrying out booking could easily identify those potentially eligible for the trial by the labelled casenotes. They would take a booking history and complete the criteria form. If the woman was considered eligible by the booking midwife the researcher would double check eligibility. Pocock (1991) advocates this type of treatment to best avoid the problem of ineligible women being entered into the trial. The booking midwife then introduced the woman to the researcher.

Recruitment

It was important to have a quiet, private room within the antenatal clinic where the trial could be discussed with individual women with adequate space for the support people / children women may have had with them. A standard recruitment procedure was implemented with each woman given a full explanation of the trial and provided with written trial information. The procedure implemented was as follows. The researcher asked the woman if she had received the introduction pamphlet with her booking information. If the woman had not received the pamphlet, the researcher would inform her that there was a trial being conducted and then offer her a trial information sheet (Appendix 4). At this stage, women who had no introduction sheet with them were offered a trial information sheet which the researcher discussed. Women kept the trial information sheet for future reference if they wished. The main points of the trial emphasised in this information leaflet were the differences between the 2 types of care; that in joining the trial, allocation to one type of care was by chance and that questionnaires about their opinions of maternity care would be sent to each individual woman's home. After giving an explanation of the trial, the researcher asked if women had any particular questions about the trial. If a woman wished to join the trial, she was asked to read a consent sheet (Appendix 5) and provide written consent prior to the randomisation procedure being carried out. If a woman consented to join the trial, the researcher would telephone a central randomisation centre where an administrator would carry out the randomisation protocol.

Randomisation protocol

The randomisation protocol was developed by the project manager and the administrator. The mechanism of randomisation remained secret between these two members of the research team to avoid problems of bias in allocation (Pocock, 1991). In particular, it was felt important that researchers involved in recruiting were not informed of how randomisation worked. Those involved in recruiting could not then 'calculate' the trial allocations of women before they were randomised.

A randomisation schedule was created for each antenatal booking clinic. There were 11 clinics in any given week (10 based at Glasgow Royal Maternity Hospital and 1 based at Stobhill Hospital). The randomisation schedules were written down and kept in brown envelopes by the administrator.

Pocock's (1991) method advocates registration into the trial before randomisation. This was carried out in the following way. The administrator informed the researcher of the woman's trial number. The researcher then informed the administrator of the woman's name, address, hospital number and expected delivery date. This information was registered directly onto a computer file. The administrator then informed the researcher of the result of the randomisation (i.e. whether the woman had been randomly allocated to midwife managed care or shared care).

The researcher would then go back into the quiet room to inform the woman about her individual trial allocation and to briefly go over what that meant. The researcher would further mention to the woman at this stage that she would receive questionnaires in the following months. The importance of women's views was further mentioned at this stage in order that maternity care can be improved based on what women report liking and disliking.

If the woman was allocated to shared care, she would be introduced to the radiographer who carried out a scan, then would be seen by a midwife and obstetrician who took booking bloods, a urine specimen and had a general discussion with woman about pregnancy issues such as health education and parenthood matters. If the woman was allocated to midwife managed care, she was introduced to her 'Named midwife', who would subsequently do similar things as in the case of women receiving shared care such as booking bloods. It was aimed with midwife managed care, that named midwives would discuss with women whether or not they wished a scan. If women wished a scan, they would have the option of having the scan during this first booking visit or at their next visit to the hospital.

After the researcher had accompanied the woman to meet the radiographer or the Named midwife depending on which type of care she had been randomised to, the researcher would ensure all documentation had been properly completed. A trial outcome was documented for every woman's name on the booking list on 'the MDU record' (Appendix 6). At the end of recruitment at a particular booking clinic, the back cover of the MDU record was completed, totalling the number of names on the booking list through to the number of women randomly allocated to midwife managed care and shared care during a particular clinic.

Method of randomisation

Subjects were randomised in a 1:1 ratio between the two types of care in an unstratified manner. A restricted randomisation scheme using random number tables was prepared for each clinic by the administrator who was not involved in determining eligibility, administering care or assessing outcome. Each scheme comprised of random permuted blocks of 10 subdivided into blocks of 4, 4 and 2 presented in a random order (Pocock, 1991). Allocation to type of care was performed through telephone from the research team to the administrator who was based in a separate office at the 'MDU' offices quite away from the antenatal clinic.

Data methods

As the study on women's satisfaction was part of a randomised controlled trial and would involve a very large number of women, it became clear that one of the data collection methods in measuring satisfaction would have to be survey based. The advantages and disadvantages of this quantitative method have been discussed previously. It was considered important to also employ qualitative methods to measure women's satisfaction. At the outset, it was aimed to carry out also semi-structured interviews with women in their homes in attempt to gain a more feminist perspective on women's experience of the two types of care (Oakley, 1984). All data collection tools were piloted. Appendix 7 provides details of this.

Self-report questionnaire - development issues

A review of available survey methods indicated that the only comprehensive measure of women's satisfaction with maternity care, relevant to the United Kingdom, was the Office for Population and Census Surveys antenatal and postnatal questionnaires (Mason, 1989) although the literature indicated that influential work on the measurement of satisfaction would be relevant (Ware, 1983; see Chapter 2, Section 2). A pilot study using these questionnaires found an 85% response rate. This indicated that self-report questionnaires sent to each individual's home were acceptable to women living in the hospital's catchment area.

After consideration of the issues required to be addressed in relation to women's satisfaction and a further pilot in the hospital, it was decided that the OPCS questionnaires (*ibid*) were not suitable for the study purposes. In particular, women found the OPCS questionnaires very lengthy and complex to complete and they did not cover other trial psycho-social outcomes such as preparation for parenthood which would need to addressed by women's self-report. The OPCS questionnaire was, however, used largely in the development of the study questionnaires.

Similar covering and follow-up letters were developed (Appendices 8 - 10) for the three different study self-report questionnaires: one which asked solely about antenatal care (ANQ, Appendix 11), one which addressed satisfaction with labour and postnatal care (LPQ, Appendix 12), and one which examined satisfaction with care 7 months after delivery (7MQ, Appendix 13). The questionnaires were developed solely by the author in consultation with members of the research team and steering group. The study questionnaires were developed within a context of examining theories of consumer satisfaction and models of feminist and social science research (i.e. not medically based models of gathering evidence).

Given that Oppenheim (1992) warns that surveys have too often been carried out on the basis of insufficient design and planning and that 'the survey literature abounds with portentous conclusions based on faulty inferences from insufficient evidence misguidedly collected and wrongly assembled', questionnaire development was considered very carefully. This included, as advised, consideration that the survey investigator must know about sampling techniques, questionnaire construction, interviewing and data analysis in order to produce a reliable and valid study (LoBiondo-Woods and Haber, 1994). Jacoby and Cartwright (1990) have also suggested a consideration of bias in questionnaire design and a concentration of specific issues rather than general satisfaction when measuring women's satisfaction with maternity care.

The literature review identified satisfaction as a multi-dimensional concept. Key sub-components identified for this study were interpersonal relations, information transfer, social support, choice / decision-making and general satisfaction. A pool of items was developed to measure each of these key dimensions of satisfaction (about 5 items per dimension). Different items were developed as they pertained to each time period. The items were structured in the form of a complete statement, e.g. 'The information I receive is easy to understand.' A 5-point Likert response format (Likert, 1932) ranging from 'strongly agree' (point 1) to 'strongly disagree' (point 5) was used for all these items; half the items within each dimension were negatively worded in order to reduce response bias. The items were distributed throughout the questionnaire. These key sub-components were developed to form scales in the ANQ and LPQ on antenatal, intrapartum, postnatal care in hospital and postnatal care at home respectively. In addition, at 7 months postnatal, the intrapartum key dimension scale was repeated (also at this time women were asked to reflect

on their maternity care in general). Some of the key dimensions were identified from the OPCS questionnaires (Mason, 1989) and similar questions used and other issues were identified from other studies of women's satisfaction with maternity care. Mean scores were calculated for different sub-components. There is debate as to whether mean scores should be calculated from Likert scales. The argument is that technically it is a leap of faith to argue the distance, for example, from strongly agree to agree is the same as agree to neutral. In this study, as a large sample was involved it was felt this would not be a major problem. In addition, non-parametric statistics were carried out for key analyses which found identical findings to the parametric statistics.

In addition to the mean scores for the key dimensions of satisfaction, issues pertinent to particular time periods (e.g. accessibility of antenatal care) were included in the questionnaires. These questions also tended to follow a Likert scale format (Likert, 1932) albeit in a varied format. For example, response categories for one question included 'extremely easy', 'very easy', 'easy', 'only moderately easy', and 'not at all easy'. A number of questions were included about specific aspects of care under a particular topic. For example, for accessibility of antenatal care questions were included about women's satisfaction with number of antenatal visits, amount of time with caregivers during visits, length of booking visits and waiting times at visits outwith the booking visit. Given that partners are rarely asked their views of care (Barbour, 1990; Lewis and O'Brien, 1987) several questions offered women the opportunity to answer the question with their partner / support person.

The Likert scale (Likert, 1932) was not used for all response categories, however. An example of where it was not utilised was in measuring women's perceptions of continuity of care and carer. A Likert scale system was tried but it became clear this sub-component needed to be addressed in a different format. In consequence at each stage of pregnancy woman were asked how important continuity was and how much they received. These themes were confirmed with pilot interviews with women carried out within the hospital in antenatal and postnatal wards. These pilot interviews were carried out at different stages of conceptual development of the questionnaires.

Open-ended questions were also included in the questionnaires. Thus, all women were able to comment in their own words about what they liked and disliked about their care. These open-ended questions were included for each care period.

Self-report questionnaires - development time

It took about 5 months to develop the ANQ. This involved researching the area of satisfaction, identifying relevant satisfaction sub-scales and refining these sub-components into valid and reliable self-report questionnaires. This ground work was useful for the development of the LPQ and 7MQ which subsequently took less time to develop. All 3 questionnaires were piloted thoroughly.

The first ANQ was sent out on 24/04/93 and the last on 04/07/94. With the LPQ the first date of sending was 02/08/93. The last LPQ was sent out on 03/10/94. The first 7MQ, running only for an 8 month period, was sent out on 03/01/94 and final one sent out on 14/11/94. Before the questionnaires were sent out to women's homes, various sources were checked to avoid sending questionnaires to women who had lost their baby. These sources included a diary at the ultrasound department, a book in the medical records department which documented women who had experienced a miscarriage, the labour ward delivery book and notifications from the paediatric department. The covering letter (Appendix 8) sent to women with their questionnaire, gave an apology, if by mistake, women who had lost their baby received a survey at their home.

The covering letter reminded women of the aim of the study and that their opinions were very important and that confidentiality of responses would be maintained.

Self-report questionnaires - follow-up protocol

A follow-up protocol was devised to encourage response to the questionnaires. If the questionnaire was not returned within 2 weeks, a follow-up letter was sent out as a prompt (Appendix 9). If subsequently in a further 2 weeks time the questionnaire was still not returned another questionnaire was sent out with a covering letter (Appendix 10). At this stage, a mention was made that this further questionnaire was included for the instances where women may not have received or mislaid the original survey.

It was intended to use this follow-up protocol with all 3 self-report questionnaires. However, during the study period, the return rate for the LPQ and 7MQ questionnaires was somewhat slower than with the ANQ. This finding was discussed with the research team and the project steering group. It was suggested that women may be busy with their baby and decided that the protocol should be amended to 3 week intervals for follow-up prompts for both these later questionnaires.

It was anticipated that women would move house during the course of questionnaire administration, considering a proportion would be receiving a questionnaire seven months after the birth of their baby. The Community Health Index was consulted as a means of ensuring that women received their questionnaire. This is a central register of people living in the Greater Glasgow Health Board area and is a very up to date method of accessing change of address. Consideration of women's desire to be traced was given. However, the recruitment procedure emphasised strongly the importance of women's views and questionnaire completion. Thus, it was decided that as the purpose of tracing women was to ascertain their views, they would generally be happy with this procedure. In the event, no-one complained about the surveys being sent to their new address. The success of this method was perhaps reflected in the good response rates found to the questionnaires.

Psychometric testing of self-report questionnaires

Each questionnaire included a number of statements on key dimensions of satisfaction: information transfer, interpersonal relationships with staff, choices and decisions, social support and general satisfaction. The psychometric testing of the questionnaires covered both reliability and validity. Cronbach's alpha (Cronbach, 1951) was used to measure reliability. This technique assesses internal consistency of items (how well each item correlates with each other item in the scale) by producing the average of all split-half reliabilities possible on that group of items (Cockburn and De Luise, 1992). Cronbach's alpha for all dimensions (or sub-scales) for each time period ranged from 0.7 (e.g. relationships with staff during antenatal care) to 0.9 (e.g. general satisfaction with hospital-based postnatal care). A Cronbach's alpha of 0.5 is considered acceptable for questionnaires to test for differences between groups (Nunnally, 1978). Given that the study compared two groups of women - those randomised to midwife managed care and those randomised to shared care, the questionnaire sub-scales were reliable.

In order to ensure that all relevant dimensions were covered (content validity), a thorough literature review was conducted. In addition, a wide range of experts (e.g. potential respondents, midwives and academic staff) were consulted before the questionnaires were finalised. Face validity was tested by thorough piloting with potential respondents (e.g. the antenatal questionnaire was piloted on 14 separate occasions using 3 women on each occasion). Construct validity was tested using a modified Q sort procedure (Anastasi, 1976; Cockburn et al, 1991) whereby each item was written on a card and submitted to 10 expert judges including obstetricians, midwives and a general practitioner. The judges were presented with the four pre-specified dimensions and asked to sort items into the dimension which they seemed to represent. Items mis-classified by more than 20 per cent of the judges were re-classified into the dimension that they were most commonly sorted. Only two items which were in the antenatal scale were re-classified.

Questionnaire administration

In terms of questionnaire administration, a longitudinal design was employed. Each woman entered into the study received at least two questionnaires, some received three. The questionnaires were sent with pre-paid envelopes from the research team to the home address of every women in the trial (excluding those who suffered fetal loss (Astbury et al 1994)). Sending questionnaires to women at their home is viewed as desirable given that women may feel captive in hospital and may have more time at home to consider their views (Lumley, 1985). Those women who entered the trial and then who specifically requested that they did not receive questionnaires did not.

Table 1 provides a summary of the administration of the self-report questionnaires. At 34-35 weeks of pregnancy women received the ANQ, which asked about satisfaction with antenatal care. The ANQ took on average 20 minutes to complete. At 7 weeks postnatal women received the LPQ, which asked about satisfaction with intrapartum care and, hospital-based and home-based postnatal care. This questionnaire took about 40 minutes to complete. The administration times were based on Mason's (1989) large scale study of maternity care. For the 7MQ, which reviewed satisfaction with intrapartum care and women's overall views of maternity care, only those women recruited from January 11th 1993 to August 31st 1993 received questionnaires. This questionnaire took about 10 minutes to complete. This reduced sample for the 7MQ was due to the time constraints of the 3 year funded research project. If all the study population received the 7MQ the data would not be available for analysis. The 7MQ was developed in the context of previous research indicating that expression of negative feelings were much commoner 7-12 months after

birth than earlier, this was found especially in women who experienced caesarean births (Lumley, 1985). Evidence from Shearer (1983) that most women quickly develop a sort of 'loyalty' to their own births in the immediate postpartum was also considered.

Table 1. Administration of self-report questionnaires

Q	*Measurement of:*	*Administration time*	*Sample*	*Time to complete*	*No. pgs*
ANQ	Antenatal satisfaction	34-35 wks (antenatal)	All women in trial	20 mins	10
LPQ	Intrapartum & postnatal satisfaction	7 wks (postnatal)	All women in trial	40 mins	18
7MQ	Overview- intrapartum satisfaction	7 months (postnatal)	Recruited < 30/08/93	10 mins	5

Questionnaire coding

For the key dimensions of satisfaction (e.g. information transfer or choices / decisions), it was aimed to create a mean score for each study group for each dimension of care through different time periods. The development of these mean scores involved the following. The scoring of individual statements which were initially negatively worded, was reversed. The response categories were re-coded: 1 scored as 2, 2 scored as 1, 3 scored as 0, 4 scored as -1, 5 scored as -2. Mean scores were then obtained for each of the five key dimensions by adding the responses and dividing by the number of items answered. This produced a mean score for each dimension of satisfaction ranging from -2, representing very negative attitudes to 2, representing very positive attitudes for each dimension of care through different time periods.

For questions that were not covered by the key dimensions (e.g. accessibility of antenatal care), data were presented as responses of the two groups to individual questions.

For the open-ended questions, content analysis (Weber, 1985) was carried out. It was recognised, however, that 'there is no simple right way to do content analysis...each investigator must judge what methods are appropriate for her or his substantive problem' (*ibid*, p13). Protocols about how to code information in content analysis is lacking (Bryman and Burgess, 1994) although the technique is widely accepted (Coolican, 1990).

A systematic approach to the content analysis of the open-ended questions was employed. Each comment was given an individual code, then grouped into dimensions of satisfaction by the author (NS). Another coder (AII) independently looked at the comments and carried out the same procedure. The coders were blind to the treatment allocation of the woman who had made certain comments, although some comments revealed the type of care received. In 96% of cases both coders agreed on comments fitting into dimensions. Where there was disagreement a third examiner (DT) gave an opinion. Some comments, however, appeared to represent particular features of care that did not fit specific dimensions of satisfaction. These comments are reported separately.

Analysis of features

The objectives of this study were to:

- describe women's satisfaction with midwife managed care, throughout three time periods, when compared with a model of traditional shared care;
- to contextualise this experience in the light of previous studies;
- to analyse factors which enhance or reduce women's satisfaction with maternity care
- and to therefore add to current knowledge about women's satisfaction with midwife managed care.

The comparison of the two types of care in terms of satisfaction is explicit within the results chapters of this thesis. In relation to factors which enhance or reduce women's satisfaction, it was aimed to examine characteristics (socio-demographic and clinical) of those who were satisfied and dissatisfied, whilst maintaining the MDU vs shared care group comparison. The analysis was planned using the mean scores for each dimension. However, when antenatal data was examined, for example, this analysis was not possible. The problem was that there were insufficient numbers who were overall dissatisfied with each dimension in the MDU group (e.g. only 11 women in the MDU group had a mean score of 0 or less for the dimension of interpersonal relationships with staff; 8 women for information transfer and 18 for choices and decisions). Given that women in both groups were generally satisfied with their care then, an examination of those dissatisfied was carried out for each period of care, to identify if women were dissatisfied with all dimensions of care or several dimensions of care. In addition, in terms of clinical factors, it was aimed to look at the incidence of major clinical complications in both those who satisfied and dissatisfied. However, the number of women experiencing major clinical complications was very small (e.g. in the antenatal period: placenta praevia n=10 midwife managed care; n=16 shared care). Satisfaction with care for women who experienced major clinical complications was therefore reported.

Considering that continuity of care and carer is one of the key differences between the two types of care and is politically seen as very important in raising women's satisfaction (House of Commons, 1992; Department of Health, 1993; Scottish Office Policy Review, 1993), it was decided to examine the influence of this feature on women's satisfaction with both types of care. Further to this, the study allowed the opportunity to examine the effect of knowing the midwife during labour, albeit on a convenience sample of women, on women's satisfaction with midwife managed care which also of policy interest (*ibid*). The aim being that this data on knowing your midwife during labour would provide a more complete picture as to the importance of continuity of care and carer in different times periods. In addition to these analyses, the effect of socio-demographic characteristics on women's satisfaction was examined. The aim of this analysis was to identify if a relationship existed between different groups of women (e.g. primparous vs parous) and satisfaction with the two different types of care.

Case record review

The case record review was employed to examine continuity of care and clinical outcomes during the trial. In this study, clinical outcomes were used to measure the relationship between these data and women's satisfaction and as descriptive background information. Case record data were also employed in this study to examine continuity of carer.

Data were gathered through a retrospective review of records by the research team who were not involved in providing care. Level of continuity of carer was ascertained by identifying the number of different care providers from a signature count of records. In relation to clinical outcomes, complications and transfers from midwife managed care were defined as diagnosed by the clinician (the midwife or obstetrician providing direct care to the woman, McGinley et al, 1995)). Measures were defined a priori, according to the criteria that they should be clinically significant, of priority to providers, purchasers and policy makers, consumers and reliably obtainable.

The following records were examined: the maternity case-record which is the main source of data on women's care, containing information on interventions, outcomes and complications; the shared care card (a liaison document between hospital and community-based antenatal care) and the midwifery kardex (used for admissions, intrapartum, and hospital-based postnatal care). In addition, the MDU care plan or client held notes, was reviewed for women in the midwife managed care group. Overall, these records covered the period from booking up to 28 days postpartum (usually women are discharged on the 10th postnatal day).

In relation to continuity of carer, the records were reviewed for evidence of care, both in relation to signatures and content. Care was attributed when it was evident that either physical care had been given (e.g. examination in the antenatal clinic, vaginal examination during labour, postnatal examination) or discussion had taken place with the woman. A list of sample signatures obtained from hospital staff was used to attribute the care provider. Where it was not possible to attribute the care provider, this was coded as 'unknown'. A specific data collection form was developed (Appendix 14).

Women in the control group had no identifying mark on their records and staff were unaware whether a particular woman was in the control group. However, it was not possible to blind the coders in the research team to the treatment allocation, as the content of the notes either implicitly or explicitly revealed the type of care.

Ongoing training sessions were held for coders in order to attain and uphold acceptable levels of inter-rater agreement. A review of records from each coder was independently examined by one of the research team (AH) to identify and address discrepancies in data collection. An ongoing random sample of 5 percent of reviews for both study groups was subsequently checked for variables identified as having potentially poor reliability. Overall, inter-rater agreement for these variables was 89 percent for midwife managed records and 87 percent for shared care records. In order to avoid coder bias, each member of the team coded equal numbers of records for each study group.

Case-record sampling procedure

This review of the number of different care providers was conducted on a consecutive sample (in terms of estimated dates of delivery) of 180 women randomised to the midwife managed care group and 180 randomised to the shared care group, who entered the trial 3-months after its commencement. This time frame was chosen to avoid measuring a practice effect as the MDU midwives commenced their new style of care.

Semi-structured interviews

A random sample of women was identified for interviewing from random number tables (Pocock, 1987). It was aimed to interview 20 women at 34-35 weeks of pregnancy; 20 women at 7-weeks postnatal and 10 women at 7-months postnatal. These administration times were identical to the questionnaire administration times (Mason, 1987). An important aspect of semi-structured interviewing is consistency of questions and questioning and a standardised approach to the interview is important to ensure validity and reliability of data (Phillips and Davies, 1995). A standard set of questions was developed for the interviews in this study. Unfortunately the response to the interviews was very poor. The method of contacting women (by letter) meant that the interviewer did not know if the woman had received the letter. Often women were not at home when the interviewer arrived. The interviewer would leave a note for a further interview time. However, often the woman was not at home on the return visit. The data from the interviews is not presented in the thesis as it may be described as 'patchy'. However, the open-ended questions provided rich qualitative data which illustrated, in very real terms, the elements of care women particularly liked and disliked.

Impartiality of method

Randomised controlled trial

The randomised controlled trial is viewed as the 'gold standard' when evaluating 'clinical' innovations. The main aim of the randomised controlled trial is to remove human biases in the preference of one experimental condition over another. The method is to randomly allocate, by unbiased means, to experimental conditions, usually in the form of a case and control group. This guards against the use of a judgement or systematic arrangement in allocation of assignments in experiments (Pocock, 1991). Randomisation also gives the opportunity to gain some control over the experimental conditions in that unknown variables, which can affect results, are evenly distributed between experimental conditions. The randomisation protocol was identical to Pocock's (1991) method. A separate randomisation centre from recruitment is advocated, stating it is preferable to have one person not participating in recruitment to be responsible for registration and randomisation (i.e. the administrator, Altman, 1991; Pocock, 1991).

Considering that five individuals were involved in trial recruitment as well as the administrator responsible for randomisation, care was taken to ensure the trial procedure was followed at all times. Each of the five individuals involved in recruitment would 'sit-in' on each other's recruitment session for one occasion in order that uniformity was achieved. When difficulties occurred, the team would come together and discuss a standard response and in general the team would discuss experience of recruitment.

It was decided not to identify control women, as did MacVicar and colleagues (MacVicar et al, 1993), because of the concern that the identification of the control group would prompt clinical staff to treat these women differently (i.e. the Hawthorne effect). However, the coders in the research team when carrying out the case record review could not be prevented from knowing the treatment allocation, because of the content of the notes implicitly or explicitly revealed the type of care.

Recruitment

During recruitment, women often asked which type care is better or what do you think? It was important that each recruiter remained impartial and a standard response was developed stating 'that we did not know which type of care was better that is why we need to ask you...' This standard response was developed from researcher role plays. In was important to consider the feminist approach, act as an advocate and not leave women 'in the dark'. Some women couldn't make up their mind. They were reassured by the recruiter that taking or not taking part did not affect their care in any way. In addition, to these factors it was important that recruitment took place in a quiet room as well as that we minimum disruption to the clinic.

Data methods

Quantitative and qualitative methods of data collection were employed to examine women's satisfaction thus following principles of health services research that no particular methodology or ideology should be held over another (Ong, 1993; Crombie and Davies, 1996; Peckham, 1996).

The methodological difficulties of measuring satisfaction are well documented (Lumley, 1985; Bramadat & Driedger, 1993; Locker & Dunt, 1978; Fitzpatrick & Hopkins, 1983; Ware et al 1983) and therefore the methods used included several strategies to minimise the possibility of bias, not only in the way that the questionnaires were administered but also in their format. The questionnaires were sent to women's homes by the research team who were not involved in providing care, as previous research (Lumley, 1985) has shown that women may feel captive in hospital and provide socially desirable responses.

The questionnaire was based on a validated and widely adopted instrument (Mason, 1989). The principles of questionnaire design (Oppenheim, 1992) were followed rigorously. This included avoiding double-barrelled and leading questions; straight-forward language with the avoidance of jargon and the emphasis on short and specific questions. In addition, the instructions were simply worded and thoroughly piloted with an informal covering letter (Appendix 8). Half the mean score items were negatively worded to minimise response bias. On piloting the questionnaires, face validity appeared to be achieved. To further validate the questionnaires, factor analysis was attempted. This proved unsuccessful and trial time constraints meant other forms of psychometric testing were employed. The modified Q sort procedure (Anastasi 1976, Cockburn et al, 1991) confirmed that different dimensions of satisfaction were being measured in the questionnaires and reliability was confirmed by Cronbach's alpha (Cronbach, 1951).

The response to the interviews was very disappointing and therefore were omitted from the reporting of the research findings. The poor response must be partially due to the procedure involved (e.g. interview arranged by letter). The open-ended questions allowed, however, the opportunity to explore aspects of satisfaction that may not have been covered by quantified items, although the responses to these questions should not be taken as representative as some women did not wish to comment. However, the open-ended comments were very useful as they helped put the quantitative data into context and content analysis was carried out systematically.

Case-record review

There was the potential of bias in the list of signatures for the case record review as the coders were able to easily identify the signatures of midwives working in midwife managed care. The signatures of the other

hospital staff were not so familiar to some coders. In addition, it was impractical to obtain or use general practitioners signatures. This also introduced the possibility in attributing care to different providers. Inter-rater reliability was checked, however, and this was very good (89 percent for midwife managed records and 87 percent for shared care records). In addition, care was taken to avoid coder bias, each member of the team coded equal numbers of records for each trial group.

Analysis

Altman's (1992) 'Practical statistics for medical research' was utilised as the core reference for matters of statistical analysis. It has been stated in many scientific journals that instead of purely presenting traditional probability values (p values), confidence intervals are a necessity in the presentation of research findings (Rothman, 1978; Gardner and Altman, 1986; Bulpitt, 1987; Altman and Gardner, 1992). The justification for this position is that the p value by itself indicates nothing about the size of the effect or difference, nor even the direction of the difference which confidence intervals give. The 95% confidence interval is the most common type of confidence interval used and was used in this study. However, in line with guidelines, (Altman and Gardner, 1992) confidence intervals were presented for the primary results only.

Sample

Between 11 January 1993 and 25 February 1994, all women booking for care at non-specialist hospital-based clinics were screened for eligibility. It was estimated that during the study period about 1400 women would be eligible for inclusion in the trial. With this sample size the trial would have adequate power to detect significant differences in outcome measures such as induction of labour, episiotomy, and satisfaction with care. A sample of this size has 80% power to detect, at the 5% level, a difference of about 7% (e.g. 30 vs 23% or 75 vs 82%) between the two groups. For a comparison of satisfaction scores on a -2 to 2 scale, a sample of 600 per group gives approximately 99% power at the 5% level, to detect a difference of 0.2 units between the mean satisfaction scores of the two groups of women, assuming a within group standard deviation of 0.8 units.

All women, excepting those who suffered fetal loss (Astbury et al, 1994), were sent a 34-35 week antenatal questionnaire and a 7-week postnatal questionnaire. Due to trial time constraints, a reduced sample of women received a 7-month postnatal questionnaire (n=362 midwife managed care, n=345 shared care).

In reference to the review of case records, a sample of 180 women from each group gives 80% power to detect at the 5% level of significance, a difference of 1.5 in the mean number of care providers (assuming a standard deviation of 5.0 in each group).

For the analysis of effect of 'knowing the midwife during labour', the analysis compared outcomes for women, who by chance, were cared for and delivered by their known midwife with women who also received continuity of carer during labour and delivery but from an associate midwife who was unknown to them. This sub-group analysis only addresses the issue of knowing your midwife during labour, therefore only normal deliveries were included. Women were excluded from the analysis where either clinical or psycho-social data were incomplete. The two groups for comparison were: 47 women cared for by and delivered by their known midwife and 109 women cared for and delivered by an unknown associate midwife. This small sample only has adequate power to allow the detection of large differences between the

groups for categorical variables such as 'having an intact perineum'. The sample has 80% power to detect (at the 5% significance level) a difference of approximately 20-25% (e.g. 25% vs 45%) between the two groups. For a comparison of satisfaction scores on a -2 to 2 scale, however, the study has 80% power to detect a difference of 0.2 units between the mean satisfaction scores, assuming a within group standard deviation of 0.4 units.

Analysis

Analyses were carried out for the original groups of allocation (intention to treat) which makes the comparison of types of care more realistic. Categorical data were analysed by Chi^2 test. Where appropriate, the Chi^2 test for trend was used to test for a linear trend in the relative proportions in each care group. 95% CI that do not contain zero indicate a statistically significant difference at (at least) the 5% level. Mean values were compared by two-sample *t* tests, p values of less than 0.05 are taken to be statistically significant. In addition, when subgroup comparisons (e.g. midwife managed care group - optimum continuity of care, midwife managed care group-less than optimum continuity of care, shared care group-optimum continuity of care, shared care group-less than optimum continuity of care) were carried out, the one way analysis of variance was used. 3 way anova and multiple regression was required to test the level of effect of midwife managed care, continuity of carer and continuity of care on women's satisfaction. Differences in medians were obtained using the Mann Whitney U test. In analyses of composite scores derived from Likert scales, both parametric and non-parametric statistics indicated similar results, therefore parametric statistics are presented given the limited width of the scales (i.e. -2 to 2). Bonferroni's correction for multiple comparisons was carried out where appropriate. All differences were presented as the value for midwife managed care minus shared care.

Chapter 3 Samples and response rates

Aim

The aim of this chapter is to describe the study sample and the response to the study methods utilised.

Background

The aims of the Midwifery Development Unit were: to introduce a total midwifery care programme for women experiencing a normal healthy pregnancy, to monitor and evaluate the unit, to encourage midwives to utilise their skills to the full and to develop audit and educational tools for other health boards and the midwifery profession. The new programme of care was delivered by twenty midwives, each of whom carried their own caseload. The main aim of the Midwifery Development Unit was to develop a new programme of care and to evaluate the success of that new type of care in improving the quality of care provided to women during pregnancy and childbirth. The Midwifery Development Unit was funded for three years by the Scottish Office Home and Health Department. This funding was for the creation of a research team (of which the author was a member) to evaluate and monitor the progress of the unit.

The main method of evaluation of the Midwifery Development Unit was a randomised controlled trial. The randomised controlled trial compared the new midwife managed programme of care with a traditional model of shared care. A sample size calculation found a sample of around 1400 women would have 80 percent power to detect at the 0.05 level, a 5 percent difference between those randomised to the two groups, if the characteristic occurred in at most 10 percent of women overall. The randomised controlled trial compared the clinical, psycho-social and economic outcomes of women randomised to receive midwife managed care with women randomised to receive shared care. This thesis deals with women's satisfaction with midwife managed care in context of the randomised controlled trial. The background and methodology to this evaluation has been described in detail (Chapters 1 and 2).

This chapter describes the sample recruited to the randomised controlled trial. How this sample was reached, in terms of how many women were clinically excluded from the trial and for what reasons, is described. The number of women randomly allocated to midwife managed care and shared care is outlined. The response rates to three self-report questionnaires developed to measure psycho-social outcomes is discussed, as well as the response to the semi-structured interviews and a case-record review carried out. The socio-demographic characteristics; such as age, parity, marital status, smoking status and socio-economic status of women randomly allocated to midwife managed care are compared with women randomly allocated to shared care. These socio-demographic data act as baseline characteristics of the two study groups. In addition, socio-demographic characteristics of respondents and non-respondents to the three self-report questionnaires are compared. In addition, the issue of transfer from midwife managed care is examined.

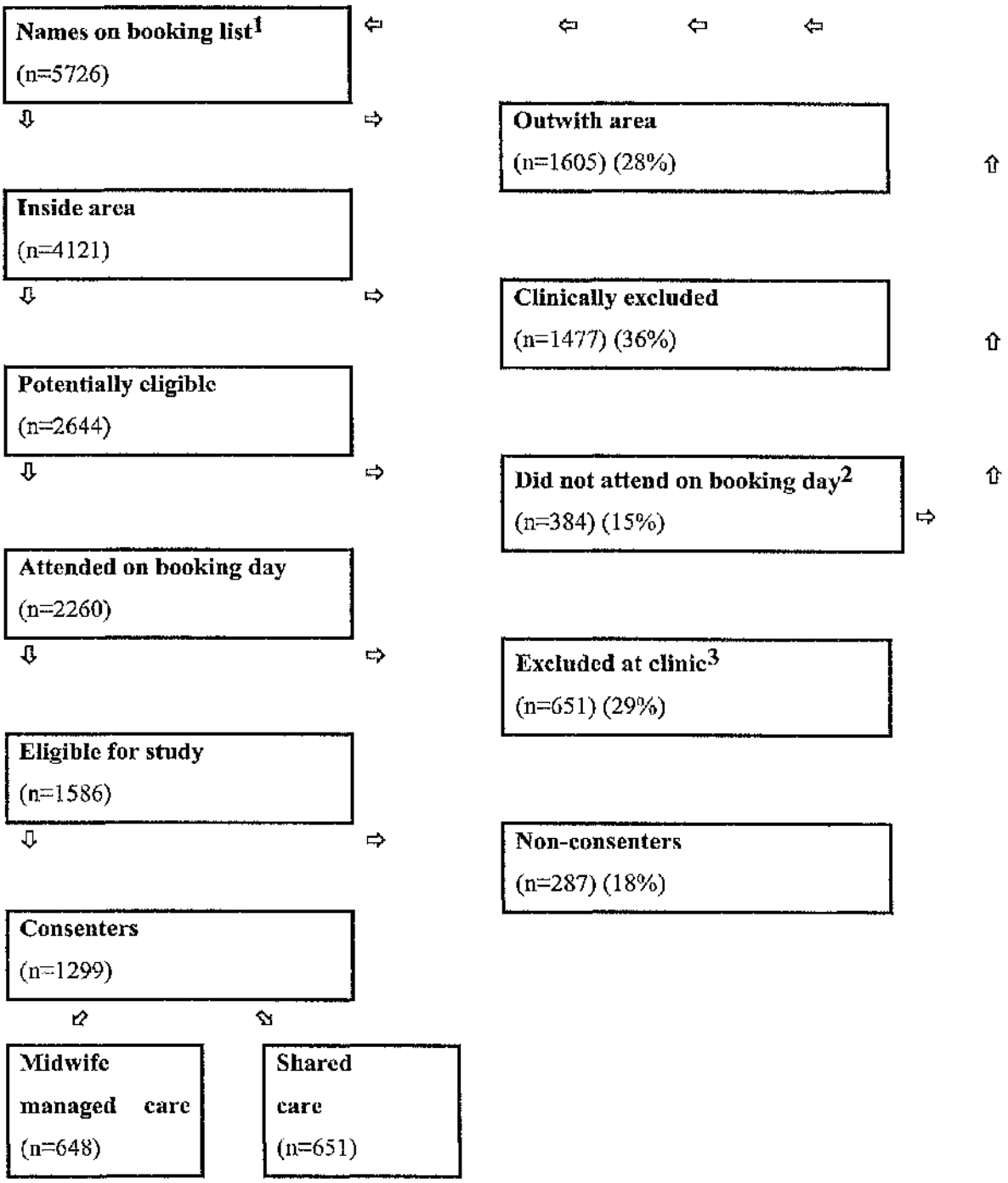
Trial sample

The main aim of the Midwifery Development Unit was to develop and evaluate, by means of a randomised controlled trial, a new programme of midwife managed care for women experiencing a normal healthy pregnancy. In order that only women experiencing normal healthy pregnancy were recruited to the trial, a set of clinical exclusion criteria was developed by senior midwives and obstetricians. In addition, it was agreed by clinicians at the outset that women who lived outside the hospital catchment area but who received care from the hospital would not be eligible for the study. This agreement was reached as midwives working within the new programme of care would not be able to maintain caseload commitments while arranging antenatal and postnatal home visits for women living outside the hospital catchment area.

The first woman was recruited to the randomised controlled trial on the 11th January 1993 and the final woman was recruited on February 25th 1994. A total of 5726 women's names was placed on the appointment list for an initial hospital appointment (booking list) during the fourteen month study period (Figure 4). From screening case-notes prior to initial clinic attendance the research staff found twenty eight percent (n=1605) were not eligible for the randomised controlled trial as they lived outwith the hospital catchment area.

Of those women who lived within the hospital catchment area 1477 women were excluded by research staff when screening case-records prior to clinic attendance. These 1477 women were excluded due to clinical reasons. In addition, fifteen percent (n=384) of women who were potentially eligible for the trial, prior to clinic attendance, did not attend for their initial hospital appointment. These women may, however, have had their name added to the booking list subsequently. Of the 2260 women who attended the hospital for booking, a further 651 women were clinically excluded by either a midwife taking their booking history or a researcher. In total, 2128 women were excluded from the trial on clinical grounds (includes 'clinically excluded' and 'excluded at clinic').

Figure 4. Recruitment to the randomised controlled trial



[1] Missed by research staff (n=44) and women already booked (n=260) not included

[2] Those who did not attend on the booking day may subsequently have their names added to the booking list for another day

[3] Missed by research staff (n=23) at antenatal clinic not included

Of the 2128 women who were clinically excluded from the trial, one of the main reasons (Table 2) was booking later than 16 completed weeks (n=328, 15.4 percent of reasons). A very small proportion of women was excluded on the basis of social reasons (for example, less than 1% (n=13) of women excluded were aged less than 16 years or aged greater than 40 years (n=16)). A substantial proportion of women was excluded on the basis of physical attributes (6% (n=119) were categorised as obese and 3% were excluded as they were a first time mother and were less than 152cms in height (n=52)).

A small proportion of women was excluded due to genetic reasons (around 5% had a family history of congenital abnormalities or inheritable disease or had had a baby with previous fetal abnormalities (total n=99)). The main medical reason for exclusion was that women were on regular prescribed drug therapy. This reason accounted for 11% of the total reasons for exclusion (n=224) whereas very small proportions of women were excluded as they had medical conditions (approximately 4% of the 2128 women excluded had medical conditions such as cardiac disease, renal disease and diabetes).

A substantial proportion of women was excluded from the trial as they had had a previous caesarean section (14% of reasons, n=294). Other obstetric or gynaecological reasons that accounted for reasonable proportions of exclusions were previous perinatal/neonatal loss or having three or more previous spontaneous abortion (5%, n=66) and assisted conception (5%, n=99). As stated, ethical committee approval was sought and given for the trial. In addition, approval from the general practitioner sub-committee was sought. The general practitioner sub-committee agreed to the trial and were informed by letter about its purpose. During the course of the trial however, 6% (n=120) of women were excluded from the trial as their general practitioner did not wish them to participate, with no clinical reason given. A further one percent of women (n=28) was excluded by their general practitioner with a clinical reason given.

In total, 1586 women were eligible for the randomised controlled trial over a period of fourteen months (Figure 5). The consent rate to the trial was 82 percent (n=1299). In total, 287 women chose not to consent to the trial. The main reason for non-consent to the study was women explicitly wished the existing style of shared care (71 percent of reasons). Of the 1299 women recruited to the trial, 648 women were randomly allocated to midwife managed care and 651 to shared care.

Table 2. Exclusions from the randomised controlled trial for clinical reasons

Clinical criteria	n	% total exclusions
Booking		
1. Later than 16 weeks	328	15.4
Social		
2. Age less than 16	13	0.6
3. Age greater than 40	16	0.7
4. Parity = 6 or more	21	1.0
Physical		
5. Obesity (weight greater than 85kgs)	119	5.6
6. Small stature in a primigravida (less than 152cms)	52	2.6
Genetic		
7. Family history of congenital abnormalities	64	3.0
8. inheritable diseases	15	0.7
9. Previous fetal abnormalities	24	1.1
Medical		
10. Essential hypertension	13	0.6
11. Cardiac disease	27	1.3
12. Renal disease	5	0.2
13. Diabetes	12	0.6
14. Endocrine disease	9	0.4
15. Epilepsy	26	1.2
16. History of thromboembolism	5	0.2
17. Regular prescribed drugs	224	10.5
Obstetric or gynaecological		
18. Previous perinatal or neonatal loss	15	2.6
19. Previous spontaneous abortion (>=3)	51	2.4
20. Previous termination of pregnancy (>=3)	10	0.5
21. Last baby mid-trimester abortion or fetal loss	30	1.4
22. Last baby pre-term delivery	64	3.0
23. Previous IUGR below 5th centile	47	2.2
24. Previous severe pre-eclampsia	20	1.0
25. Previous large baby	12	0.6
26. Previous abruption	3	0.1
27. Previous manual removal of placenta	23	1.1
28. Previous PPH > 800mls	29	1.4
29. Previous caesarean section	294	13.8
30. Previous surgery on the reproductive tract	55	2.6
31. Assisted conception	99	4.7
Current pregnancy		
32. Haemoglobin < 10g at booking	4	0.2
Psychological		
33. Previous postnatal psychosis req hospital admission	41	1.9
Other		
34. For referral to Women's Reproductive Health Unit	20	0.9
GP Exclusions		
35. Excluded by GP (no clinical reason)	120	5.6
36. Excluded by GP (clinical reason other than MDU)	28	1.3
37. Others	150	7.0
Total	**2128**	100%

Trial baseline characteristics

The baseline characteristics of women randomly allocated to midwife managed care when compared with women randomised to shared care were very similar (Table 3). The comparability of these data indicates that the randomisation fulfilled its purpose (i.e. any differences found between the two groups in their outcomes would not be due to group differences in socio-demographic characteristics). The mean age at booking for both groups was 26 years (SD = 5.0 for both groups). Thirty-eight percent of women in the midwife managed care group and 39 percent in the shared care group were current smokers. Fifty-four percent of women in the midwife managed care group were married compared to 55 percent of the shared care group. Thirty-nine percent of the midwife managed care group lived in the highest areas of social deprivation (Carstairs, 1991) compared to 41 percent of the shared care group, and 55 percent of the midwife managed care group were primiparous to 54 percent of the shared care group.

Table 3. Baseline characteristics: women randomised to midwife managed care vs women randomised to shared care

Characteristic	Midwife managed Care		Shared care	
Age at booking in years, mean (SD)	25.8 n=641	(5.0)	25.5 n=634	(5.0)
Current smokers n (%)	220 n=581	(37.9)	238 n=616	(38.6)
Married n (%)	338 n=631	(53.6)	343 n=626	(54.8)
Neighbourhood type n (%)[1]				
1 (most affluent)	19	(3.0)	16	(2.5)
2	66	(10.3)	60	(9.5)
3	48	(7.5)	54	(8.5)
4	57	(8.9)	43	(6.8)
5	80	(12.5)	73	(11.6)
6	120	(18.8)	127	(20.1)
7 (least affluent)	248	(38.9)	259	(41.0)
Parity n (%)				
Primiparous	352	(54.7)	340	(53.5)
Parous	291	(45.3)	295	(46.5)

[1] Carstairs V and Morris R. Deprivation and Health in Scotland. Aberdeen: Aberdeen University Press, 1991.

Self-report questionnaire response rates

Three self-report questionnaires were sent to women at their home. These questionnaires examined issues relating to all psycho-social outcomes considered: women's satisfaction with care, continuity of care and carer and other health outcomes such as breast feeding. The first questionnaire asked solely about antenatal care and was sent to all women's homes at around 34-35 weeks of pregnancy. The second questionnaires was sent out to all women seven weeks after they had had their baby and asked about care during labour and postnatal care. The final questionnaire was sent to a consecutive sample of 700 women seven months after they had their baby. This questionnaire reviewed the psycho-social effectiveness of care.

The response rates to the three self-report questionnaires were very good (Table 4). However, women receiving midwife managed care were significantly more likely to return both the 34-35 week antenatal questionnaire (midwife managed care 85%, shared care 78%; diff: 7%; 95% CI for diff: 2.9% to 11.4%) and the questionnaires sent to women's homes at 7 weeks after delivery (intrapartum/postnatal questionnaire) (midwife managed care 72%, shared care 63%; diff: 9%; 95% CI for diff: 3.5% to 14.0%). No statistically significant differences were found between the two groups in response to the 7-month questionnaire, although five percent more women in the midwife managed care group returned this questionnaire (midwife managed care 69% response, shared care 64%).

Table 4. Response rates to 3 self-report questionnaires

Questionnaire	Midwife managed care		Shared care		% Diff	95% CI for Diff
	n	(%)	n	(%)		
34-35 week antenatal (Midwife managed care n=626; Shared care n=623)	534	(85.3) (overall response 82%)	487	(78.2)	7.1	2.9 to 11.4
7-week postnatal (Midwife managed care n=619; Shared care n=602)	445	(71.9) (overall response 68%)	380	(63.1)	8.8	3.5 to 14.0
7-month (Midwife managed care n=362; Shared care n=345)	248	(68.5) (overall response 66%)	219	(63.5)	5.0	-2.0 to 12.0

Respondents and non-respondents to the three self-report questionnaires were compared for the following socio-demographic characteristics: age, parity, marital status, socio-economic status and smoking (Table 5). This table shows both respondents and non-respondents had an average age of 26 years, around 60% of respondents and non-respondents lived in neighbourhood types 6 and 7, around 40% of both groups were smokers and over 50% of respondents and non-respondents were primigravida. The only significant difference found between respondents and non-respondents was women who were married were less likely to return the antenatal questionnaire (55 percent respondents, 63 percent non-respondents; diff: -8.7%; 95% CI for diff: -16.0% to -1.3%).

The explanation as to why married women were less likely to return the antenatal questionnaire is unclear (i.e. no pattern was found as women who were married were as equally as likely to return both the intrapartum/postnatal questionnaire and the seven month questionnaire). One suggestion is perhaps the marital status classification system used is misleading. This information was asked by a medical records clerk in the antenatal clinic and recorded on the case record. Women were classified into either married, single, divorced, separated or widowed. However, a large proportion of couples, although not married, live together as man and wife.

Table 5. Socio-demographic characteristics of respondents and non-respondents to 3 self-report questionnaires

	Mean age (SD)		Primigravida (%, n)		Single (%, n)		Depcat 6&7 (%, n)		Smoking (%, n)	
	R	NR	R	NR	R	NR	R	NR	R	NR
34-35 week antenatal (R=1021, (NR=211)[1]	25.6 (5.6)	26.4 (6.9)	75.0 (766)	78.2 (165)	45.3 (456)	36.9 (76)	58.8 (597)	62.5 (130)	37.6 (358)	38.8 (80)
7-week postnatal (R=825, NR=405)	25.4 (5.1)	26.4 (7.1)	53.6 (442)	54.8 (222)	44.6 (363)	42.1 (167)	58.2 (477)	61.4 (247)	38.2 (294)	37.0 (143)
7-month (R=467, NR=252)	25.4 (5.1)	25.6 (5.0)	52.1 (243)	56.0 (141)	43.3 (198)	46.0 (115)	57.4 (265)	58.4 (147)	37.6 (164)	40.0 (94)

[1] R=Respondents, NR=Non=respondents

Interview response rates

The aim of carrying out semi-structured interviews was to obtain qualitative information about women's satisfaction with care. The interviews allowed the opportunity to explore particular problems women may have encountered in their care and aspects of care women were particularly satisfied with. It was intended to interview twenty women at 34-35 weeks antenatal, twenty at 7-weeks postnatal and ten women at 7-months postnatal. In total seventeen women were interviewed antenatally, fifteen at 7-weeks postnatal and eight women were interviewed at 7-months postnatal.

These reduced samples were the result of a number of problems encountered. Each interview was very time consuming. It was decided to conduct interviews in the privacy of women's homes, this incurred at least one hour travelling to and from women's homes. In addition, the actual interview usually lasted at least one hour. Further to this, the majority of women had no home telephone. Interviews were arranged via letter. This strategy was not successful, as seven out of the twenty women intended to interview antenatally were not at home when the author visited. These women were left a letter detailing a researcher had visited as previously described in a letter and to telephone the researcher to make another appointment if they were interesting in discussing their experiences of care. No-one replied to this prompt. These strategies were employed with the 34-35 week interviews, 7 weeks postnatal and 7 months postnatal, however, with limited success.

Women who were interviewed appeared representative of women in the sample. For example, nine women were receiving midwife managed care and eight shared care took part in antenatal interviews. The age range of these women was 17 to 38 years (mean age = 26.6 years), seven were first time mothers and ten had had a baby before. Of the fifteen women who were interviewed; two women were unemployed and there were five housewives, one machinist, one trainee hairdresser, two nurses, one social worker, one office manager and one woman who owned her own business. Nine women who were interviewed antenatally lived in neighbourhood types 6 and 7 (least affluent) (Carstairs, 1991), three in types 3 - 5 and five in types 1 and 2 (most affluent). Twelve women agreed to be interviewed at 7-weeks postnatal and 7 women at 7-months postnatal.

Case record review response rates

The case-record review was carried out on a consecutive sample of 366 women (n=182 midwife managed care, n=184 shared care) for the main purpose of measuring continuity of carer which is reported in this thesis. Information on continuity of carer was available for all these records. Data were collected by members of the research team who were not clinically involved in the care of the women. The following records were examined: the shared care card, the maternity case-record and the midwifery kardex. Overall, these records covered the period from booking up to 28 days postnatal (usually women are discharged on the 10th postnatal day). Women in the control group had no identifying mark on their records and staff were unaware whether a particular women was in the control group. However, it was not possible to blind the coders in the research team as to the treatment allocation, as the contents of the notes either implicitly or explicitly revealed the type of care.

Ongoing training sessions were held for coders in order to attain and uphold acceptable levels of inter-rater reliability. A review of records from each coder was independently examined by one of the research team (AH) to identify and address discrepancies in data collection from case-records. An ongoing random sample of 5 percent of reviews for both study groups was subsequently checked for all continuity of carer variables. In order to avoid coder bias, each member of the team coded equal numbers of cases for each study group. A care provider was counted when care was documented as given by staff or care had been discussed with the women. The number of different signatures involved in planned episodes of care were counted. A list of signatures of all midwives and obstetricians working within the hospital was made available to easily identify who was involved in giving care to women. However, there were particular difficulties in identifying signatures, especially general practitioner signatures.

Clinical outcomes response rates

Case records were available for 635 women (97.5%) in the shared care group and 643 women (99.2%) in the midwife managed care group. However, the shared care card, which documents some of the care delivered in the antenatal period, was available in the records of 82.0% of women randomised to midwife managed care compared with 59.3% of those in the shared care group (P<0.00001). However, the analysis most likely to be affected by these records (number of antenatal visits) is not examined in this study. Major complications would be documented within the maternity case-record.

Transfer from midwife managed care

The issue of transfer from midwife managed care is important in describing what happened to women randomised to midwife managed care and is essential in planning maternity services. Overall 34% of women were not transferred from midwife managed care (95% CI: 30.7% to 38.2%). An additional 33% of women were 'temporarily transferred' only, because they required or requested some form of intervention outside the midwife's scope of practice (95% CI: 29.1% to 36.5%) and 33% were permanently transferred from midwife managed care to consultant-led care (95% CI: 29.1% to 36.5%) (29% overall for clinical reasons, 4% for non-clinical reasons).

Seventy-six percent of the temporary transfers occurred during the intrapartum period and 24% in the antenatal period. The main reason for temporary transfer was priming and induction (30%), followed by epidural (21%) and deviation from normal in the mother (19%). The majority of permanent transfers (57.1%) occurred during the antenatal period with the main reason being deviation form normal in the mother (73.5%). Seventeen of the 202 permanent transfers (8.5% of reasons) were at general practitioner request and in 14 of these cases no clinical reason was given.

Discussion

In total, 1299 women experiencing a normal healthy pregnancy were recruited to the randomised controlled trial. This sample was adequate to detect true statistically significant differences between women randomised to the new programme of midwife managed care when compared to women randomly allocated to shared care. The number of women randomly allocated to the two types of care were comparable (n=648 midwife managed care; n=651 shared care). A restricted randomisation scheme of 2,2,4 was used (Pocock, 1991) and this was found to produce a successful outcome, in that women in the two groups were practically identical in their socio-demographic characteristics (Table 3). The two groups were not significantly different in age, smoking status, marital status, socio-economic status and parity, indicating the randomisation fulfilled its purpose.

The consent rate to the trial of 82 percent indicated that women were happy about the idea of receiving this new type of care, and were also happy about the idea of participating in a research project. The recruitment procedure, particularly emphasised the importance of consumers giving their views in relation to health care and time was spent to detail exactly what consenting to the trial entailed. Women were informed they would have a fifty percent chance of receiving a new type of care and a fifty percent chance of receiving the care they would normally have any way. As well as this information, women were informed they would receive at least two self-report questionnaires to their home. In addition, a polite, friendly approach was taken by research staff, in order, to impart to women that research is important and cannot take place without the participation of consumers. The recruitment procedure, also, minimised the chance of bias, as researchers not involved in care recruited women and confidentiality of data was stressed.

The largest percentage of women who were excluded from the trial, were excluded for clear clinical reasons (14% for previous caesarean section and 11% for regular prescribed drug therapy). On the issue of drug therapy it was felt, however, that many of these women for solely using an inhaler. Many inhabitants of inner city areas are prescribed an inhaler although they do not have a serious medical condition. Thus clinical criteria may be described as very strict. In addition, a substantial proportion of women was excluded as they attended for care later than 16 completed weeks of pregnancy (15% of exclusion reasons). One suggestion after the trial ended was to review clinical criteria, for example extend the time when women can attend for their first visit to 18 completed weeks. Further to this, recruitment to the trial indicated 28 percent of women who came to the hospital for care would not be eligible for the new programme of care as they lived outside the hospital catchment area. In addition, it was found fifteen percent of women defaulted from their first attendance and that 52 percent of women who lived within the hospital catchment area would not be eligible for midwife managed

care due to clinical reasons, however, the majority of women could be easily identified prior to first clinic attendance (1477 out of 2128 women clinically excluded were identified this way). This information is valuable for clinicians in planning maternity services and was fed-back after the trial completion.

One concern throughout the trial was opposition from general practitioners to midwife managed care. Although, general practitioners agreed in principle to the study and the aims of the new type of care at the outset, some general practitioners expressed grave concerns about their role in midwife managed care. Six percent of general practitioners requested women under their care should be not approached by the research team to discuss the study. In these cases, no clinical reason was given. In a further one percent of cases where this occurred a clinical reason was documented. In addition, the general practitioners of seventeen women who consented to the study and were randomly allocated to midwife managed care requested these women be removed from this type of care (in 14 of these cases no clinical reason was given). This issue was highlighted to clinicians after the trial was completed.

The response rates to the methods used to measure the psycho-social outcomes were good (range 68% to 100%). Difficulties in trying to organise interviews must be acknowledged as such this data is not presented. The inter-rater reliability of the case-record review was very good and all case-records were found. Obtaining information on continuity of carer from case-records was, however, one of the most difficult items of information to collect. The legibility of signatures was difficult to decipher and all signatures were not available (i.e. general practitioner signatures).

The self-report questionnaires sent to women's homes were particularly successful (range 64% to 85%), perhaps due to the strategies employed. For example, all questionnaires were accompanied by a personally signed letter by the author and again letters emphasised the importance of gaining consumer views. In addition, the community health index (CHI) was used to identify whether women had changed address. As well as this one follow-up letter was sent to women's homes two weeks after initial sending and a follow-up questionnaire four weeks later if the questionnaire was not returned. The results indicate women who returned questionnaires were representative, in that there were no differences in age, smoking status, parity and socio-economic status between those who responded to the questionnaires and non-respondents.

Women in the midwife managed care group were more likely to return the 34-35 week antenatal and 7-week postnatal questionnaire although no differences were found in response to the 7-month questionnaire. In general, response to the antenatal questionnaire was much higher (overall response 82%) than for the postnatal questionnaires (overall response 68% and 66% to the two postnatal questionnaires). One suggestion may be women are loyal to their care-givers when they are continuing to receive care and this may be particularly so, when women are receiving care which aims to improve women's experience of maternity care such as in midwife managed care. However, this does not explain the anomaly at 7-weeks postnatal as women in midwife managed care continued to return more questionnaires although they were no longer receiving care. The differences in response to the questionnaires were small (around 8 percent). Nevertheless, this may introduce some bias.

In summary, the method of randomisation achieved the aim of two comparable groups. Any differences found, then, can be reliably attributed to the intervention and not some socio-demographic or unknown difference between women randomised to the two types of care. The sample recruited does have sufficient power to detect reliable statistical differences and the response rates to the methods used were sufficiently high to avoid bias. In addition, with the main method of psycho-social outcome evaluation: the self-report questionnaires; the potential for bias was reduced in the sense that those who returned questionnaires (the main method of evaluation) were not significantly different from those who didn't return questionnaires on a variety of socio-demographic variables.

Chapter 4 Antenatal care

Aim

This chapter aims to examine women's satisfaction with midwife managed care in the antenatal period. The point of comparison was with shared antenatal care, which was care divided between midwives, general practitioners and obstetricians. Data included was from a self-report questionnaire primarily (n=534, midwife managed care; n=487 shared care) although case-record review data (n=182 midwife managed care, n=184 shared care) was utilised also. In addition to quantitative data, qualitative information from open-ended questions is presented.

In attempt to describe the two models of antenatal care received by women randomised to midwife managed care and shared care, data from the self-report questionnaires and from trial outcomes (Turnbull et al, 1996a) is presented. This questionnaire data included a description of where women reported receiving most of their antenatal care and which practitioners cared for them. Information from the trial outcomes included actual number of antenatal visits received; antenatal inpatient stay in hospital and admissions for daycare in the antenatal period.

A comprehensive analysis of women's satisfaction with antenatal care was conducted including an examination of key issues of importance when considering women's satisfaction with maternity care (e.g. organisation of care or process of care). Areas of consistent dissatisfaction in antenatal care (e.g. waiting times and amount of time with staff, Reid and McIlwaine, 1980; Reid et al, 1983; Garcia, 1982; Reid, 1994) were explored extensively. In addition, overall satisfaction with antenatal care was examined.

Further analysis included an exploration of factors which may enhance and reduce women's satisfaction with antenatal care. For example, given the importance of continuity of care and carer in the antenatal period in policy documents (House of Commons Health Committee, 1992; Department of Health, 1993; Scottish Office Home and Health Department, 1993), an in-depth examination of the relationship between continuity and women's satisfaction was carried out.

Description of care

Data collected to answer issues of trial clinical outcomes (99.2% midwife managed care case records available [643/648]; 97.5% shared care [635/651]) found that women who were randomised to midwife managed care experienced fewer antenatal visits than women randomised to shared care (Turnbull et al, 1996a). The midwife managed care group were, on average, likely to have 9.4 antenatal visits compared to 10.2 visits for women randomised to shared care. This reduction in visits was due mainly to a reduction in obstetrician visits for the midwife managed care group; the groups had similar numbers of midwife and general practitioner visits. Overall, the majority of antenatal care received by both groups was from midwives with very few visits attributed to the general practitioner. Over fifty percent of both groups did not experience an antenatal inpatient stay in hospital (shared care 59.4%, midwife managed care 55.1%; 95% CI for diff: -1.1 to 9.7). In addition,

the majority of women did not require antenatal daycare assessment at the hospital (66.4% shared care, midwife managed care 70.6%; 95% CI for diff: -9.2 to 0.9).

Women randomised to the midwife managed care group indicated, in the self-report questionnaire, that they were receiving a different model of antenatal care compared to those randomised to shared care (Table 6). The midwife managed care group were more likely to be receiving hospital based antenatal care (diff: 40 %, 95% CI for diff: 35% to 45%) and home based care (diff: 28%, 95% CI for diff: 25% to 33%). Those receiving shared care were more likely to have their care at the GP surgery or health centre (shared care: 83% compared to 9% midwife managed care).

Table 6. Description of antenatal care (location)

Item	Midwife managed care %	Shared care %
Location of most care	**(n=534)**	**(n=487)**
Hospital	57	17
Health centre	4	20
GP surgery	5	61
Home	29	1
Other	5	1
Missing data	n=12	n=9
Chi^2 =573.2; df=4; p<0.001		

Women receiving midwife managed care were more likely to report being cared for by a midwife only for most their care (Table 7) (diff: 38%, 95% CI for diff: 33% to 43%) whereas the shared care group were more likely to report being cared for by a general practitioner, although 49% of those receiving shared care reported being cared for by a midwife only for most of their care. In total, 90% of the midwife managed care group reported regular care from a midwife compared to 68% of the shared care group. Six percent of the midwife managed care group reported regular care from a GP compared to 33% of the shared care group. Regular care from hospital doctors for both groups was reported as very low (2% midwife, 9% shared care).

Table 7. Description of antenatal care (caregivers)

Item	Midwife managed care %	Shared care %
Main caregiver	**(n=534)**	**(n=487)**
Hospital doctor only	0	2
Hospital doctor and midwife at same visit	2	7
Midwife only	87	49
GP only	5	21
GP and midwife at same visit	1	12
Other (e.g. GP and practice nurse)	6	10
Missing data	n=9	n=14
Chi^2 =184.6; df=5; p<0.001		

Elements of satisfaction

(a) Care location / care providers

Women were asked where they would like to have most of their antenatal care and whom they would like to care for them for most of their care, if they decided to have another baby. These two questions aimed to assess, indirectly, satisfaction with location of care and care providers. The two groups differed in their opinions about both these issues ($Chi^2 = 284.09$; df=5; $p<0.001$; $Chi^2 = 243.01$; df=5; $p<0.001$). Forty percent of the midwife managed care group would prefer future antenatal care hospital-based, 29% home-based with 24% reporting that they had no preference. In comparison, 25% of the shared care group would prefer future hospital-based antenatal care, with 32% and 17% stating, respectively, that they would prefer antenatal care based at the GP surgery and at a health centre. Twenty percent of this group had no future preference (7% and 6% of the two study groups would choose a combination of locations).

In terms of whom women would prefer to care for them for most of their care in a future pregnancy, 70% of the midwife managed care group reported midwife only; 13% GP and midwife at the same antenatal visit; 7% hospital doctor and midwife at the same visit; and 7% had no preference. In contrast, the largest proportion of the shared care group (28%) reported that they would prefer to be cared for by their GP and a midwife at the same visit. Equal proportions (22%) of this group preferred a hospital doctor and midwife at the same visit and midwife only. In addition, 22% of this group stated that they had no preference. Only small proportions in each study group (3% midwife managed; 6% shared care) reported that they would like to be cared for by their GP only for antenatal care in a future pregnancy.

(b) Organisation of antenatal care

Place of care

Women who received most of their antenatal care outside the home were asked about the ease of travelling to the place of care and the facilities there (Table 8). There was no difference in ease of travelling to the place where women had their care. Similar proportions of each group rated it 'very' or 'extremely' easy to get to the place where they had care (25% respectively for both groups) with around 7% of both groups reporting that it was less than easy.

While the majority of both groups rated the facilities as at least 'good', the midwife managed care group were more likely to rate them as 'very' or 'extremely' good. In contrast, 10% of the midwife managed care group felt facilities were 'only moderately' or 'not at all good' compared to 32% of the shared care group. Although the midwife managed care group were more likely to say they had enough privacy during antenatal visits, both groups felt strongly that they had enough privacy (98% midwife managed care group; 94% shared care group).

Table 8. Satisfaction with organisation of antenatal care (place of care)

Item	Midwife managed care %	Shared care %
Ease of getting to place of care	**(n=534)**	**(n=487)**
Extremely easy	26	28
Very easy	24	28
Easy	42	36
Only moderately / Not as all easy	8	7
Not applicable	n=140	
Missing data	n=12	n=9
Chi^2 trend =6.8, p=0.2		
Facilities of place where care received	**(n=534)**	**(n=487)**
Extremely good	10	7
Very good	32	18
Good	48	44
Only moderately / Not at all good	10	32
Not applicable	n=134	
Missing data	n=20	n=7
Chi^2 trend =87.3, p<0.001		
Privacy at antenatal visits[1]	**(n=534)**	**(n=487)**
Enough privacy	98	94
Nearly enough privacy	2	6
Missing data	n=14	n=9
Chi^2 =9.5, df=1, p<0.01		

[1] The extreme negative option was presented first with these items

Appointments system

Women in the midwife managed care group were less likely to find difficulty in making appointments to suit their routine. Ninety-four percent of women receiving midwife managed care found it 'not at all difficult' to make appointments to suit them compared to 81% of the shared care group (Table 9). Only 1% of the midwife managed care group and 7% of the shared care group found difficulty making suitable appointments. About 90% of each group found it at least 'easy' to change their antenatal appointments. The midwife managed care group were, however, more likely to find this extremely easy (38% compared to 31% shared care).

Table 9. Satisfaction with organisation of antenatal care (appointments system)

Item	Midwife managed care %	Shared care %
Difficulty in making appointments to suit[1]	**(n=534)**	**(n=487)**
Not at all difficult	94	81
Only moderately difficult	5	12
Difficult	1	7
Missing data	n=14	n=15
Chi^2 trend =42.3, p<0.001		
Ease of changing appointments	**(n=508)**	**(n=487)**
Extremely easy	38	31
Very easy	22	23
Easy	31	35
Only moderately easy	4	6
Not at all easy	1	2
Never changed appointments	5h	3
Missing data	n=22	n=23
Chi^2 =14.6, df=5, p<0.05		

[1] The extreme negative option was presented first with these items

Waiting times

Women were asked a series of questions about waiting times (Table 10). Women in the shared care group reported that the length of their first visit to the hospital was longer than the midwife managed care group. For example, 18% of the midwife managed care group reported that their booking visit was less than one hour compared to 13% of the shared care group. However, 18% of the midwife managed care group and 20% of the shared care group reported that their booking visit was over 2 hours long, with an additional 4% in each group reporting it was 3 hours or more. When asked about their feelings about the length of the booking visit women in the midwife managed care group were more likely to report the first hospital visit was 'just the right length' (64%: 52% shared care group). However, substantial proportions of both groups felt this visit was either 'too long' or 'far too long' (36% midwife managed care group; 46% shared care group).

At visits other than the first hospital visit (routine visits), 71% of women in the midwife managed care group reported that they were never kept waiting over 30 minutes compared to 39% of the shared care group. Only 2% of the midwife managed care group reported being kept waiting over 30 minutes 'all or most of the time' compared to 13% of the shared care group. Forty-two percent of the midwife managed care group reported that they did not have to wait at all at their usual visits compared to 9% of the shared care group. However, 77% of the shared care group reported that, although they had to wait at their usual visits, it was not long, with 54% of the midwife managed care group reporting this. Fifteen percent of the shared care group felt that they waited too long or far too long at their usual visits compared to 4% of the midwife managed care group.

Table 10. Satisfaction with organisation of antenatal care (waiting times)

Item	Midwife managed care %	Shared care %
Length of booking visit	(n=534)	(n=487)
Less than one hour	18	13
One hour to one and a half hours	41	40
One and a half hours to two hours	25	28
Two to three hours	14	16
Three or more hours	4	4
Missing data	n=2	n=12
Chi^2 trend =4.2, p<0.05		
Feelings about length of booking visit	(n=534)	(n=487)
Far too long	12	16
Too long	24	30
Just the right length	64	52
Too short	1	2
Missing data	n=2	n=12
Chi^2 =16.9, df=3, p<0.001		
Kept waiting over 30 minutes at usual visits	(n=534)	(n=487)
Not at all	71	39
Rarely	20	23
Sometimes	8	25
Most of the time	1	8
All of the time	1	5
Missing data	n=15	N=12
Chi^2 trend =131.7, p<0.001		
Kept waiting at all at usual visits	(n=534)	(n=487)
Don't have to wait at all	42	9
Yes, but not long	54	77
Yes, too long	3	11
Yes, far too long	1	4
Missing data	n=16	n=12
Chi^2 trend =135.8, p<0.001		

Visits and costs

Women in the midwife managed care group were more likely to report that they had 'just the right amount of time' with staff during their visits (94%; 83% of the shared care group) (Table 11). Sixteen percent of the shared care group felt that they had 'too little time' with staff compared to 5% of the midwife managed care group (small percentages felt they had 'too much time').

The midwife managed care group were also more likely to rate the number of antenatal visits they had as 'just the right amount' (87%; 80% shared care group). Very small proportions in each group (2% and 1%) felt that they had too many visits. However, 11% of the midwife managed care group and 19% of the shared care group felt that they had too little or far too little visits. The midwife managed care group were more likely to report that the personal costs (e.g. costs of travelling to clinic, child care while at clinics) incurred during antenatal care

to be 'very' or 'extremely' reasonable (47%: 37% shared care) although the majority of both groups found these costs at least reasonable.

Table 11. Satisfaction with organisation of antenatal care (visits and costs)

Item	Midwife managed care %	Shared care %
Amount of time with staff at visits	**(n=534)**	**(n=487)**
Too much	1	1
Just the right amount	94	83
Too little	5	16
Far too little	1	1
Missing data	n=13	n=16
$Chi^2 = 35.4$, df=3, p<0.001		
Number of antenatal visits	**(n=534)**	**(n=487)**
Far too little	1	3
Too little	10	16
Just the right amount	87	80
Too many	2	1
Missing data	n=2	n=12
$Chi^2 = 11.5$, df=3, p<0.01		
Personal costs during care	**(n=534)**	**(n=487)**
Extremely reasonable	26	22
Very reasonable	21	15
Reasonable	44	51
Only moderately reasonable	4	8
Not at all reasonable	3	3
No costs	2	1
Missing data	n=31	n=22
$Chi^2 = 17.3$, df=5, p<0.01		

(c) Continuity of care and carer

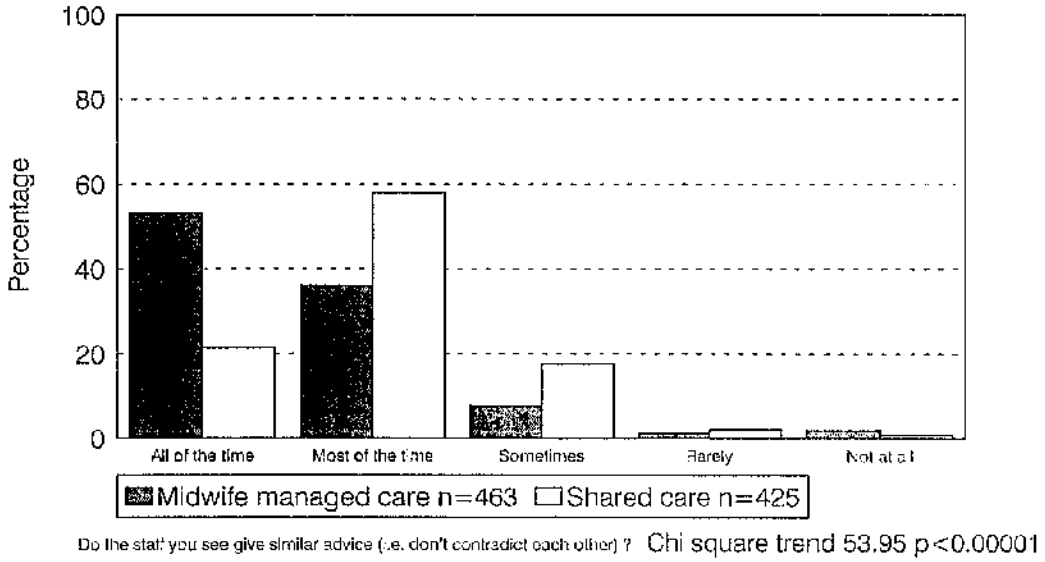
The issue of continuity was examined in terms of the amount of continuity of care and carer received and satisfaction with these two components of continuity. Continuity of care was considered as receiving similar advice or not receiving contradictory advice. Continuity of carer was examined in terms of receiving care from a small group of health professionals or the same health professional. The antenatal self-report questionnaire (n=1021) was the main data source utilised for these issues. It will be made clear where case-record review data (n=366) were used in relation to these issues.

Continuity of care

Women were asked two questions about continuity of care in the antenatal questionnaire. The first question asked how important receiving continuity of advice was to women. Women were asked to rate whether receiving similar advice (i.e. that staff should not contradict each other) was extremely important, very important, important, only moderately important or not at all important to them. No difference between the two groups were found (Chi^2 trend = 0.66; p=0.42). Over 95% of both groups rated continuity of advice as at least

'important' with over 50% in each group rating it as extremely important. However, the midwife managed care group were more likely to receive continuity of advice (Figure 5). The majority of the midwife managed care group (53%) reported receiving continuity of advice all of the time, a further 36% reported they received it most of the time. In contrast, the majority of the shared care group (58%) reported that they received continuity of advice most of the time, 21% reported receiving it all of the time and 18% sometimes. However, very small proportions of both groups reported receiving continuity of advice rarely or not at all (less than 2% in each group).

Figure 5. Continuity of care during antenatal care



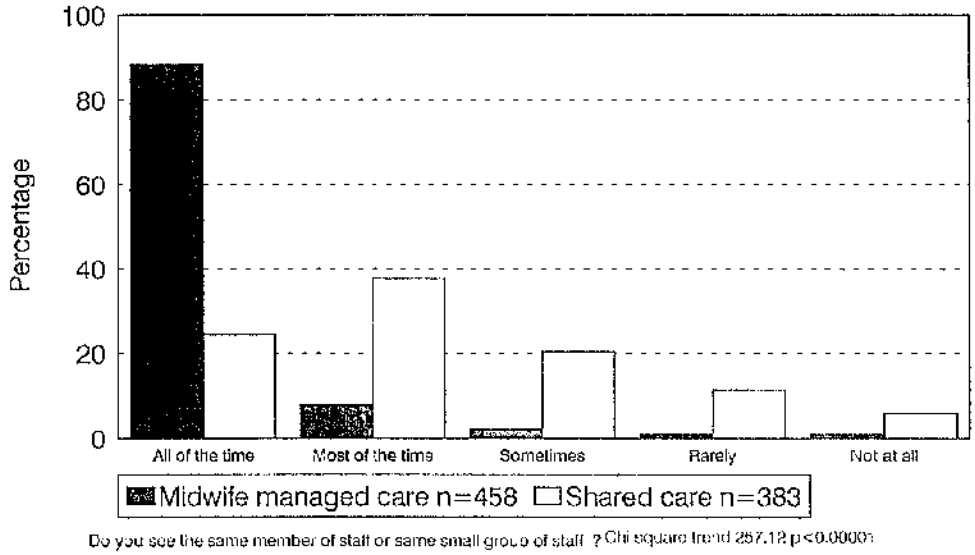
Continuity of carer

In similarity to the questions asked about continuity of care, women were asked how important continuity of carer was to them and how often they received continuity of carer. Women were asked also about how important it was to them to be cared for by the same person or same small group of professionals and how often they saw the same professional or same small group for their care (the scale used ranged from all of the time, most of the time, sometimes, rarely, not at all).

In contrast to the similarities between the groups in rating continuity of advice as important, the midwife managed care group were more likely to value continuity of carer (Chi^2 trend = 93.5; $p<0.00001$). For example, only 8% of the midwife managed care group rated continuity of carer as 'not at all' or 'only moderately' important compared to 24% of the shared care group. Thirty-four percent and 32% of the midwife managed care group rated continuity of carer, respectively, as 'extremely' and 'very' important compared to 15% and 22% of the shared care group.

In addition to rating continuity of carer as more important, the midwife managed care group reported that they received more continuity of carer (Figure 6). Eighty-eight percent of the midwife managed care group reported seeing the same member of staff or same small group of staff 'all the time' compared to 25% of the shared care group. The largest proportion of the shared care group (38%) reported receiving continuity of carer 'most of the time', with 20% of this group reporting this happened sometimes. Seventeen percent of the shared care group reported receiving continuity of carer rarely or not at all. In comparison, less than 2% of the midwife managed care group reported that they received continuity of carer rarely or not at all.

Figure 6. Continuity of carer during antenatal care



The midwife managed care group were more likely to report continuity of carer as **extremely** important (34% midwife managed care group; 15% shared care group). A sub analysis indicated that 94% of those who thought continuity of carer extremely important in the midwife managed care group also reported receiving continuity of carer 'all of the time'.

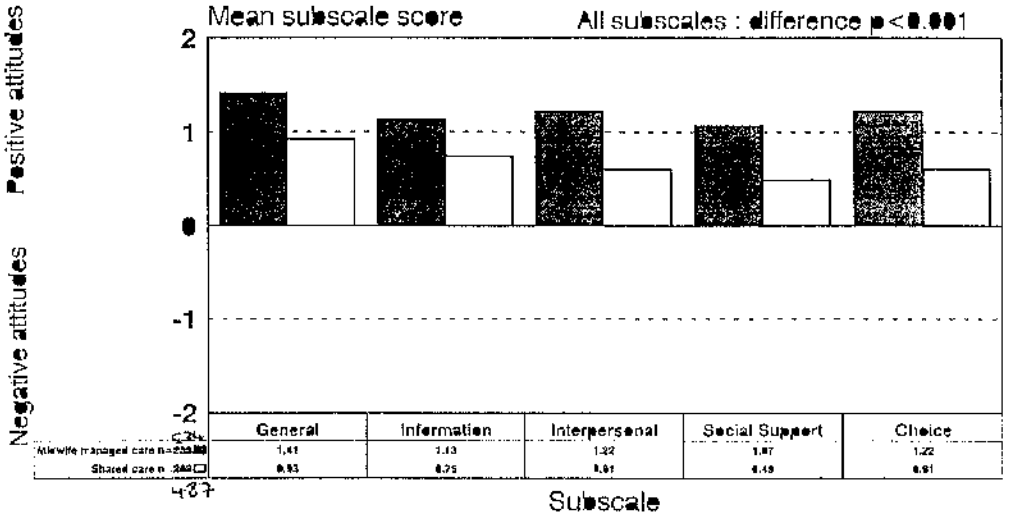
In addition to the data collected in the self-report questionnaires about continuity of carer, a signature count of case-records was utilised (n=182 midwife managed care, n=184 shared care). The midwife managed care group were less likely to see different care providers for antenatal care. The mean number of carers for the antenatal period for the midwife managed care group was 2.5; shared care 5.4; mean diff: -2.8; 95% CI: -3.3. to -2.4. Overall, women in the midwife managed care group saw a mean of three less carers than those in the shared care group in the antenatal period. The mean number of midwives seen by the midwife managed care group was two compared to three in the shared care group. The midwife managed care group saw two fewer carers from the obstetric medical team. There was no difference between the two groups in the number of general practitioners seen. There was, however, more unidentifiable signatures in shared care although in both groups this was low (diff: -0.3; 95% CI: -0.4 to -0.2).

(d) Process of antenatal care

Satisfaction with process of care considered the more intangible aspects of care such as how staff related to women, the process of information giving and having a say in care. The key dimensions examined within the process of antenatal care in the self-report questionnaire were general satisfaction, and satisfaction with: interpersonal relationships with staff; choices and decisions; information transfer; and social support. Four or five statements were used to measure each of these key dimension of satisfaction. For example, the statements used to measure general satisfaction with antenatal care were: "I'm satisfied with the care I receive", "I should get better care", "I could get better care elsewhere" and "The care I receive is not as good as it should be". For the dimension of interpersonal relationships with staff, issues such as helpfulness, pleasantness and confidence in staff were examined. The amount, control and encouragement, when they wanted to be involved, was measured in relation to choices and decisions. The dimension of information transfer examined satisfaction with understanding, access, amount and usefulness of information; and the dimension of social support looked at satisfaction with individualised care and support during antenatal care.

The four/five statements were condensed into a mean score for each process of care dimension. An examination of the mean scores (Figure 7) indicated that although both groups had overall positive attitudes towards all process of antenatal care, women in the midwife managed care group reported being significantly more satisfied with their care on all of these dimensions ($p<0.001$). For example, the mean score (possible range -2 to 2) for the midwife managed care group for general satisfaction was 1.41 compared to 0.93 for the shared care group (mean diff: 0.48; 95% CI for diff: 0.41 to 0.55). The confidence intervals between the two groups for the remaining dimensions of process of care were - information diff: 0.36, 95% CI: 0.32 to 0.44; interpersonal relationships with staff diff: 0.48, 95% CI: 0.42 to 0.55; social support diff: 0.58, 95% CI: 0.50 to 0.66; and choice/decisions diff: 0.62, 95% CI: 0.54 to 0.70.

Figure 7. Mean satisfaction scores for process of antenatal care dimensions



There was little variability within the midwife managed care group in reported satisfaction with different process of care dimensions (mean scores for different dimensions: 1.41, 1.22, 1.22, 1.13, 1.07). The shared care group, however, reported higher levels of satisfaction on general and information dimensions (mean scores: 0.93, 0.75) rather than with social support (mean scores: 0.49). These differences were more apparent when responses to individual dimension items were examined. For example, no-one in both groups strongly disagreed with the general satisfaction statement "I'm satisfied with the care I receive", small proportions of both groups disagreed or strongly disagreed with this statement (1% midwife managed care; 6% shared care). The group differences for this item were largely attributed to the difference between strongly agree and agree. The majority of the midwife managed care group (52%) strongly agreed they were satisfied with their antenatal care compared to 22% of the shared care group.

In contrast, the group differences found with the social support statement "Staff take an interest in my home life" were largely attributed to the fact that 42% of the midwife managed care group strongly agreed with this statement compared to only 13% of the shared care group. Conversely, 37% of the shared care group either strongly disagreed or disagreed compared to only 12% of the midwife managed care group.

(e) Overall ratings

What women want most out of antenatal care

Women were asked what they wanted most out of antenatal care. Response categories reflected all the dimensions of satisfaction covered in the questionnaire (Table 12). The two groups differed in what they wished most from their care (Chi^2=26.6, df=8, p<0.001). The largest percentage of the midwife managed care group (26%) reported what that they wanted most out of their care was seeing the same person or same small group of people; 17% of the shared care group wished this. In contrast, the largest percentage of the shared care group (31%) wanted most to be informed of what was happening without having to ask with 23% of the midwife managed care group reporting this.

Table 12. What women want most out of antenatal care

Item	Midwife managed care n=534	Shared care n=487
Thing want most in care	%	%
Seeing staff that are helpful	18	20
Getting useful information	10	14
Being treated as an individual	8	5
Seeing the same member of staff / same small group	26	17
That care fits in with routine	2	2
Being offered different choices about care	7	4
Being informed happening without having to ask	23	31
Other	3	3
Nothing in particular	2	3
Missing data	n=13	n=21
$Chi^2 = 26.6$, df=8, p<0.001		
Satisfaction with this aspect of care	%	%
Extremely satisfied	49	14
Very satisfied	30	24
Satisfied	18	39
Only moderately satisfied	3	19
Not at all satisfied	<1	4
Chi^2 trend = 203.3, p<0.001		

When asked how satisfied they were with the aspect of care they wished most from their antenatal care, 49% of the midwife managed care group reported being extremely satisfied, only 3% of this group reported being 'only moderately' or 'not at all' satisfied. Fourteen percent of the shared care group were extremely satisfied, with 23% of this group being either only moderately or not at all satisfied (Table 12).

Open-ended questions

Women were asked to describe in their own words what they liked and disliked most about their antenatal care (Table 13). The midwife managed care group made more comments about what they liked (average number of comments midwife managed care: 1.86; shared care: 1.27), whereas the shared care group made more comments about what they disliked (shared care mean 0.63; midwife managed care mean 0.28). The comments made were in relation to the following issues: interpersonal relationships with staff; information; continuity of care; organisation of care; and social support.

Table 13. Open-ended questions (what like best and least about antenatal care)

Item	Midwife managed care n=534	Shared care n=487
	responses=991	responses=620
What like best about care	**% of comments**	**% of comments**
Interpersonal relationships with staff	30	38
Information	20	42
Continuity of care	29	8
Organisation of care and carer	14	9
Social support	7	3
Missing data / Not answered	n=31	n=56
	responses=148	responses=308
What like least about care	**%**	**%**
Interpersonal relationships with staff	1	8
Information	43	38
Continuity of care and carer	1	6
Organisation of care	40	27
Social support	15	21
Missing data / Not answered	n=167	n=143

The two groups differed in what they wrote they both liked and disliked most about their care. Women in the midwife managed care group were more likely to rate continuity of care as the aspect of care that they liked most about their care (29% to 8% of the shared care group). Some comments made by the midwife managed care group in relation to this issue were:

> **"I like seeing the same midwife and that time isn't wasted repeating myself from visit to visit. My midwife is very friendly and helpful. I feel she cares and I can easily ask her anything that is troubling or concerning me."** (midwife managed care)

> **"For all the other people my midwife she always remembers every time from the last appointment. She also treats me like a friend not a patient. So far I have not come across anything I dislike."** (midwife managed care)

> **"I like seeing the same staff when I attend the hospital. I also like feeling close to my midwife due to this and also the information, advice and help she gives me."** (midwife managed care)

However, comments from the shared care group illustrated that for some, continuity of care was very good as well.

> **"By seeing my own doctor every month I feel as if she knows my history and that she takes more interest in me as well as the baby. I'm not seeing someone different each month who knows nothing about me."** (shared care)

> **"My GP is very understanding and knows my family background which makes me feel more comfortable to discuss any problems. I'm getting fed up seeing a different midwife each time though, have to explain my situation all time. I would probably prefer to see midwives if they could prescribe any medication necessary and it was the same person each visit."** (shared care)

Although some in the shared care group would prefer more continuity of care:

> **"I would like to get to know one doctor and one midwife not someone different each time."** (shared care)

> **"I think you should see one midwife so that you get to know her and she gets to know you. When you are called in and out the next time it is a different midwife."** (shared care)

The majority of the shared care group rated information as the aspect of care that they liked most (42% to 20% of the midwife managed care group). One woman in the shared care group commented:

> **"My care has been very informative so far although with 10 weeks to go there are many things still to learn but I am sure that the staff will be able to support me in late preparation."** (shared care)

Substantial proportions of both groups (30% midwife managed care group; 38% shared care group) rated interpersonal relationships with staff as the aspect of care that they liked most about their care. For example, a woman in the midwife managed care group stated:

> **"I didn't know anything about having a baby and my midwife gave me a lot of confidence and made me feel at ease. She has been a good friend. I don't know what I would have done if it wasn't for my antenatal care."** (midwife managed care)

Conversely, in terms of what women disliked most about their care very small proportions of both groups reported interpersonal relationships with staff (1% midwife managed; 8% shared care). The majority of those, in both groups, who made negative comments disliked most, aspects of information giving (43% midwife managed care; 38% shared care).

> **"I need to know much more about going into labour, the birth, pain control during it all, what my partner can do to help and be part of it and more about after labour and complications that can occur. I need to know a lot more about breast feeding so far I've not been asked if I want to do it never mind prepare for it. So far I've got all my information from leaflets."** (shared care)

> **"I feel I need to know more about the birth and what happens."** (midwife managed care)

Forty percent of the 148 negative comments made by the midwife managed care group were in relation to organisation of care, with 27% of the 308 negative comments of the shared care group also made in relation to this. With organisation of care, comments made tended to be in relation to waiting times and amount of time with staff:

> **"Most of the staff try to be friendly and helpful. However, staff are overworked and therefore do not have the time to deal with my needs. This also means that patients are waiting far too long to be attended to."** (shared care)

> **"Unfortunately most of my visits to the hospital have been met with a very long wait but I understand this is due to circumstances beyond the control of the staff but the system could be improved a lot."** (shared care)

In addition, a substantial proportion of negative comments made by both groups was in relation to social support (15% midwife managed care; 21% shared care).

> **"I don't feel as if there is much interest in me whereas I am very interested e.g. I had to ask if I could listen to my baby's heartbeat."** (shared care)

Factors related to satisfaction and dissatisfaction

Do socio-demographic characteristics affect satisfaction with antenatal care?

The effect of socio-demographic characteristics: age, smoking status, marital status, neighbourhood type and parity on women's satisfaction with both midwife managed care and shared care was ascertained. Socio-demographic characteristics did not affect satisfaction, the statistically significant differences found were determined by the type of care received. For example, regardless of age women receiving midwife managed care were more satisfied than women receiving shared care. A similar pattern was found with all other socio-demographic characteristics.

Satisfaction vs dissatisfaction - do women differ?

Satisfaction of those women with complications defined as 'major' and 'minor' was examined. 'Major' complications included antepartum haemorrhage, anaemia, hypertension, major medical complications (one woman each with: pulmonary oedema, HELLP syndrome, and ovarian tumour), multiple pregnancy and placenta praevia. Minor antenatal complications included thrush and urinary tract infections.

The numbers of women dissatisfied (mean score < 0 for a key dimension of satisfaction) who experienced an individual complication were examined (Table 14). Women experiencing complications appeared generally satisfied. However, statistical testing found that more women in the shared care group experiencing complications were dissatisfied with a number aspects of care. For example, out of the 12 dissatisfied women in the shared care group who had urinary tract infections from 40 women experiencing this complication, one woman was dissatisfied with 4/5 aspects of care, another with 3 aspects and two others with 2 aspects (8 were dissatisfied with 1 aspect) whereas no-one of the midwife group experiencing this problem (n=24) expressed dissatisfaction with care. A substantial proportion of women receiving shared care who experienced anaemia and returned the questionnaire (24/85) were dissatisfied with at least one element of care (midwife managed care: 4/107), with a further 14 women negative about 2 or more dimensions of satisfaction. In terms of what women were dissatisfied with, for the midwife managed care group this tended to be social support whereas women in the shared care group were dissatisfied with social support, choice and decisions, and information.

Table 14. Complications - effect on antenatal satisfaction

	Number of dimensions of care dissatisfied with							
	Midwife managed care				Shared care			
Major complication	1	2	3	4>	1	2	3	4>
Antepartum haemorrhage (M=35, S=32)	5	0	0	0	4	0	1	1
Anaemia (M=107, S=85)	3	1	0	0	10	7	4	3
Hypertension (M=30, S=31)	1	0	0	0	9	4	0	0
Major medical comp (M=2, S=0)	0	0	0	0	0	0	0	0
Multiple pregnancy (M=5, S=4)	0	0	0	0	0	2	0	0
Placenta praevia (M=14, S=8)	1	0	1	0	0	0	0	0
Minor complication								
Thrush (M=35, S=25)	2	0	0	0	2	3	0	0
UTI (M=24, S=40)	0	0	0	0	8	2	1	1
Hyperemisis (M=0, S=2)	0	0	0	0	0	0	0	0
Spotting (M=37, S=24)	1	0	0	0	2	4	1	2
Red fetal movement (M=44, S=35)	0	1	0	0	8	1	1	1
Irregular heartbeat (M=35, S=31)	3	1	0	0	3	1	2	0
Malpresentation (M=20, S=21)	2	0	0	0	3	1	0	2
Glycosuria (M=8, S=9)	1	0	0	0	2	0	0	0
IUGR (M=17, S=17)	1	0	0	0	0	0	0	1
Carpal tunnel syndrome (M=15, S=3)	0	2	0	0	1	0	0	0
Abruption (M=2, S=0)	0	0	0	0	0	0	0	0
Oligohydramnios (M=13, S=11)	0	0	0	0	0	1	1	0
Polydramnios (M=3, S=6)	0	0	0	0	0	1	1	1
Diabetes (M=1, S=0)	0	0	0	0	0	0	0	0
Fetal complications (M=5, S=2)	0	0	0	0	0	0	0	0
Abdominal pain (M=40, S=33)	1	0	0	0	5	3	3	1
Macrosomia (M=0, S=1)	0	0	0	0	0	0	0	0

Are women dissatisfied with specific aspects of care only?

For each dimension of satisfaction, women who were dissatisfied (mean score < 0) were identified. Dissatisfaction of these women was traced across the five key dimensions (choice and decisions; information transfer; interpersonal relationships to staff; social support; and general satisfaction) (Table 15). The results indicated that the majority of women dissatisfied expressed dissatisfaction with one dimension of satisfaction only. For both groups this tended to be dissatisfaction with social support (11/23 midwife care; 26/87 shared care). However, more women in the shared care group were negative about care across a number of the key dimensions of satisfaction. For example, no-one in the midwife managed care group was dissatisfied with all dimensions of care whereas ten women receiving shared care were dissatisfied with all dimensions. In terms of what women were dissatisfied with, a wide variety of combinations arose. However, 9/28 women in shared care who were dissatisfied with two dimensions were dissatisfied with social support and choice and decisions.

Table 15. Are women dissatisfied with specific aspects of antenatal care?

No. of dimensions dissatisfied with	Women who are dissatisfied Midwife managed care n=36	Shared care n=144
All five dimensions	0	10
Four/Five	2	8
Three/Five	1	11
Two/Five	10	28
One dimension	23	87

Does continuity affect satisfaction?

In order to ascertain the effect of continuity of care and carer on satisfaction, women who answered 'all the time' for the questions 'How often do you receive similar advice?' and 'How often do you see the same member of staff or same small group of staff for antenatal care?' were compared with women receiving lesser continuity of care and carer ('most of the time', 'sometimes', 'rarely', and 'not at all'). This comparison was employed for all key dimensions of satisfaction, whilst maintaining the midwife managed vs shared care group comparison using a one way anova.

Continuity of care

Statistically significant differences were found across all key dimensions of satisfaction when examining those receiving optimum continuity of care with those not (Table 16). For example, with choices and decisions, the mean scores for the groups receiving continuity of care all of the time were - MDU group: 1.40 (Grp 1), shared care group: 0.86 (Grp 3), less continuity of care MDU group: 1.05 (Grp 2), shared care group: 0.54 (Grp 4); $p<0.0001$.

In terms of where differences occurred, for the dimension of social support, differences were found between all groups. That is those receiving optimum continuity in midwife managed care (Grp 1) were more satisfied than those in this group who received less continuity (Grp 2), and both shared care groups (i.e. optimum continuity, Grp 3 and less continuity, Grp 4). In addition, those receiving optimum continuity in shared care (Grp 3) were more satisfied for these dimensions than those receiving less continuity in this type of care (Grp 4). However, those receiving less than optimum continuity of care in midwife managed care (Grp 2) were more satisfied than women receiving shared care whether or not this group received optimum continuity (Grp 3) or less than optimum continuity (Grp 4). In the other four dimensions, a similar pattern was found with the exception that no differences in satisfaction were found between the midwife managed group who received less than optimum continuity of carer (Grp 2) and women in shared care who received optimum continuity of carer (Grp 3).

Table 16. Continuity of care and antenatal satisfaction

	Midwife care		Shared care		
	Level of continuity of care				
	All time (Grp 1) n=266	Less (Grp 2) n=236	All time (Grp 3) n=101	Less (Grp 4) n=369	p value
Choice & decisions (No diff between Grps 2 & 3)	1.40	1.05	0.86	0.54	<0.0001
Interpersonal relationships (No diff between Grps 2 &3)	1.47	1.15	1.03	0.78	<0.0001
Social support (Diffs between all groups)	1.28	0.91	0.66	0.45	<0.0001
Information transfer (No diff between Grps 2 & 3)	1.29	0.97	0.94	0.71	<0.0001
General satisfaction (No diff between Grps 2 & 3)	1.56	1.26	1.13	0.87	<0.0001

Continuity of carer

Table 17 illustrates that statistically significant differences were found across all key dimensions of satisfaction when comparing those receiving optimum continuity of carer with those receiving less than optimum continuity of carer. For example, with choices and decisions, the mean scores for the groups receiving continuity of carer all of the time were - MDU group: 1.28 (Grp 1), shared care group: 0.90 (Grp 3); less continuity MDU group: 0.91 (Grp 2) and shared care group: 0.52 (Grp 4); $p<0.0001$.

In terms of where differences occurred, a similar pattern was found with all key dimensions of satisfaction. Women receiving optimum continuity of carer in midwife managed care (Grp 1) were more satisfied than those receiving less continuity of carer in this type of care (Grp 2); and women in the shared care group, regardless of whether they received continuity of carer (Grps 3 & 4). Similarly women receiving continuity of carer all the time in shared care (Grp 3) were more satisfied than women allocated to this type of care who were receiving less continuity of carer (Grp 4). For those who reported receiving less continuity of carer (Grps 2 & 4), those receiving midwife managed care were more satisfied. No differences were found between women in the midwife managed care group who received less continuity of carer (Grp 2) and women in shared care who received optimum continuity of carer (Grp 3).

Table 17. Continuity of carer and antenatal satisfaction

	Midwife care		Shared care		
	Level of continuity of carer				
	All time (Grp 1) n=436	Less (Grp 2) n=98	All time (Grp 3) n=69	Less (Grp 4) n=405	p value
Choice & decisions (No diff between Grps 2 & 3)	1.28	0.91	0.90	0.52	<0.0001
Interpersonal relationships (No diff between Grps 2 & 3)	1.36	1.07	1.11	0.75	<0.0001
Social support (No diff between Grps 2 & 3)	1.13	0.79	0.72	0.40	<0.0001
Information transfer (No diff between Grps 2 & 3)	1.17	0.93	0.92	0.71	<0.0001
General satisfaction (No diff between Grps 2 & 3)	1.46	1.13	1.15	0.86	<0.0001

Continuity of care or carer - which is the most important factor on satisfaction?

Given the importance of continuity of care and carer to the implications of the study findings, it was felt further analysis of these aspects in relation to women's satisfaction with care would be useful. This further analysis involved the consideration of a 'model' to explain the importance of continuity of advice and continuity of carer in relation to satisfaction. The model, in the first instance, would also include allocation to midwife managed care or shared care as a third factor.

A three way analysis of variance was carried out to look at the effect of each of these three factors and to test for statistically significant interaction effects between them. If no significant interaction effects were found, it was intended to carry out a multiple regression to compare the level of effect on satisfaction of each of the three factors involved. If interaction effects were found (e.g. involving 'allocation'), it was intended to analyse the midwife managed and shared care groups separately as a simple multiple regression model would not be possible.

The analysis of variance found no interaction effects of the three factors, at a consideration of both a three and two factor analysis, on all five key dimensions of satisfaction. However, statistically significant independent effects of the three factors were found on each dimension. Thus, the multiple regression was carried out. Mean scores for group breakdowns were reported (Table 18). The multiple regression found approximately equal importance of midwife managed care overall, continuity of advice and continuity of carer (Table 19). The following example illustrates this finding. The independent effects of midwife managed care, optimum continuity of advice and optimum continuity of carer on women's satisfaction with choices and decisions during the antenatal period on the -2 to 2 scale were 0.332, 0.315 and 0.303 respectively (Row 1, Table 19) with an expected mean score of 0.475 if women were receiving shared care with less than optimum continuity of advice and carer. Thus, an optimum midwife managed care score (i.e. receiving this type of care with optimum

continuity of care and carer) for choices and decisions would be 1.425 (i.e. 0.475 + 0.332 + 0.315 + 0.303 = A+B+C+D in Table 19).

Table 18. Mean score breakdown - midwife managed care, continuity of advice & continuity of carer effects on satisfaction (Antenatal care)

	Midwife managed care				Shared care			
Level of continuity of care	**All**		**Less**		**All**		**Less**	
Level of continuity of carer	**All**	**Less**	**All**	**Less**	**All**	**Less**	**All**	**Less**
	n=214	n=12	n=169	n=42	n=28	n=55	n=62	n=258
Choice & decisions	1.41	1.21	1.12	0.83	1.09	0.82	0.81	0.46
Interpersonal relationships	1.49	1.48	1.22	0.97	1.33	0.90	1.01	0.71
Social support	1.30	1.13	0.98	0.72	0.88	0.57	0.65	0.36
Information transfer	1.31	1.26	1.02	0.82	1.18	0.84	0.81	0.68
General satisfaction	1.59	1.25	1.31	1.09	1.29	1.07	1.08	0.81

Table 19. Multiple regression - midwife managed care, continuity of advice & continuity of carer effects on satisfaction (Antenatal care)

	A+B+C+D[1]
Choice and decisions	0.475+0.332+0.315+0.303
Interpersonal relationships with staff	0.711+0.245+0.261+0.276
Information transfer	0.659+0.279+0.301+0.312
Social support	0.353+0.377+0.283+0.270
General satisfaction	0.811+0.256+0.260+0.254

1. A=Estimated mean score if receiving shared care with less than optimum continuity of care & carer
B=Value to be added to 'A' if allocated to midwife managed care
C=Value to be added to 'A' if allocated to optimum continuity of care
D=Value to be added to 'A' if allocated to optimum continuity of carer

Discussion

Midwife managed care in the antenatal period appeared to have achieved its aims, in terms of increasing levels of satisfaction with care as well as women receiving more continuity of care and carer. The differences between the two types of care in the antenatal period was evidenced in women's self reports about who cared for them and where they received most of the care. For example, 87% of the midwife managed care group compared to 47% of the shared care group reported that they were mainly cared for by a midwife only. In addition, the variation in different systems of shared care was evidenced in that women receiving this type of care identified care from no clear care giver / care givers. The role of the general practitioner in antenatal care is an important policy issue (Department of Health, 1993) although women in both types of care reported limited involvement of their GP. This is perhaps linked to the long establishment of GRMII midwife clinics in the community.

In relation to satisfaction, women in the midwife managed care group were not only more satisfied with the organisation of care on a range of dimensions such as facilities, privacy, appointments systems, waiting times, number and length of visits, and personal costs but also a range of process of care dimensions such as interpersonal relationships with staff, choices and decisions, tests and procedures, information transfer, social

support, and general satisfaction. However, in similarity to other studies, satisfaction with both types of care was high (Fitzpatrick and Hopkins, 1983).

The high level of satisfaction with midwife managed care was reflected in women's preferences for future care, over 70% would choose to see a midwife only for most of their care in a future pregnancy. However, the influence of 'what is must be best' (Porter and MacIntyre, 1984) must be acknowledged and 40% had a preference for hospital-based antenatal care (discussed below) which was in contradiction to previous research (Williams et al, 1989). In relation to specific issues such as waiting times, problems exist still in the length of time for booking visit for both types of care with over 40% reporting this visit took one and a half hours or more and rating it either too long or far too long. A substantial proportion of women receiving shared care also reported waiting over 30 minutes at usual visits (e.g. 13% most/all time, 25% sometimes) with 15% feeling that they had to wait too long or far too long.. In addition, there appeared room for improvement in the facilities and appointments systems in shared antenatal care.

It was interesting to note that no differences existed between the two groups in ease of getting to the place of antenatal care although other differences in satisfaction with organisation of care were found. During the trial, issues about the organisation of care were considered in relation to economic implications (Young et al, 1997). In particular, it was found that costs borne by the women themselves (i.e. own time and transportation) accounted for almost 27% of the total costs to society of routine antenatal care in both groups. It was concluded policy makers should consider the costs to women as well as the financial implications for the health service when proposing change in practice.

It is important to consider several issues in relation to organisation of care. Women receiving midwife managed care had slightly lower costs during the antenatal period (Young et al, 1997). However, although the midwife managed care group had approximately one less visit overall (Turnbull et al, 1996a) and approximately two of these visits were in the least expensive location from the woman's point of view (i.e. own home) their costs were not much lower than the shared care group. This appeared to be attributed to the fact that most of antenatal midwife managed care took place at hospital which is associated with the highest out of pocket expenses and opportunity costs for women and their families. The shared care group received most of their care at the GP surgery or health centre. Young et al, 1997, concluded that on economic factors alone, it could be argued that midwife managed clients would benefit from a move away from hospital based locations. In addition, it could be considered that, despite higher costs to themselves and their families, women in the midwife managed care group opted for more hospital based care because they were very satisfied with the care they received in this location, which is indicated on the results found for organisation of antenatal care.

Difficulties during the trial period were that midwives providing midwife managed care looked after women attached to many GP surgeries and health centres throughout the city. In addition, the question arises of whether or not these locations were really an option for the midwife managed care group. Midwifery managers

addressed this issue after the trial period; midwife managed care is now geographically based. Women receiving midwife managed care appeared to like the option for home visits, especially those with other children. This raises this issue of extending choice for women about location of care. The costs of such an extension may be unrealistic within an NHS with increasingly scarce resources.

Given the research evidence (Williams, 1989), policy directives (Clinical Resource and Audit Group, 1995) and professional opinion (Royal College of Midwives, 1983), it appears that community based care is generally favoured more by women. Organisation of care, however, fared as the aspect women in both groups most disliked about their care which suggests improvements still could be made. However, in relation to number of antenatal visits, although women receiving midwife managed care had less antenatal visits overall (Turnbull et al, 1996a) they were more satisfied with the number of visits they had. This is in contradiction to Sikorski et al (1996) where women receiving a reduced schedule of visits were less satisfied. However, in that study women were informed at the outset that the aim of the research was to reduce the number of antenatal visits. Women may have felt they were receiving 'less care'. The MDU care programme aimed to link visits to important clinical episodes whilst ensuring continuity of care and carer. Thus actual number of visits may not be the over-riding factor but quality of care. However, the Sikorski (*ibid*) study suggests the way information about care is presented to women is very important.

Women in the midwife managed care group were more likely to rate continuity as the aspect of care they wanted most out of antenatal care and were more likely to report continuity of care and carer was what they liked best about their antenatal care in the open-ended comments. Women in the midwife managed care group were more likely to report receiving continuity of advice all or most of the time, although very small proportions in both groups reporting receiving continuity of advice rarely or not at all. However, both groups were as likely to rate continuity of advice highly. The midwife managed care group were also more likely to report seeing the same member or same small group of staff for their antenatal care all of the time (84% to 25% shared care). Seventeen percent of the shared care group reported continuity of carer rarely or not at all important (only 2% of the midwife managed care group reported this). The case record review revealed women in the midwife managed care group saw on average three less carers in the antenatal period than women in the shared care group. This reduction was due to women in the midwife managed care group being cared for by fewer different midwives and fewer members of the obstetric team. These results seem favourable in comparison to other studies of midwife managed care in the antenatal period where the number of different carers was reduced (Flint & Poulengeris, 1987; MacVicar, 1992).

It may be asked, however, is it really important to try and achieve continuity? When factors relating to satisfaction were analysed, the importance of continuity in raising satisfaction appeared to be confirmed. Women in both models of care, who received optimum continuity of advice and carer, were more significantly more satisfied with their care than women in both groups who received less than optimum continuity of advice and carer. Further analysis of the importance of continuity of care and carer indicated that midwife managed

antenatal care overall, receiving optimum continuity of care and optimum continuity of carer were equally important in enhancing women's satisfaction with antenatal care.

Analysis of characteristics of women satisfied and dissatisfied showed that socio-demographic characteristics did not predict satisfaction or dissatisfaction. The fact that women who are dissatisfied tended to be dissatisfied with only one dimension of satisfaction also indicated high general satisfaction with care. However, again women receiving midwife managed care appeared more positive. That is, no-one receiving this type of care was dissatisfied with all dimensions of satisfaction whereas some women receiving shared care were. In terms of what women were dissatisfied with, managers should consider social support, as a number of women expressed dissatisfaction with this aspect of care. Some women in both groups experiencing complications appeared particularly vulnerable in terms of social support with women receiving shared care and experiencing complications group also desiring more information and choice.

In conclusion, women receiving midwife managed care during the antenatal period were significantly more satisfied with their care throughout all dimensions of care although women receiving shared care were satisfied. Particular attention should be given to organisational aspects of antenatal care such as the length of the booking visit for both groups and waiting times at usual visits for women receiving shared care. The emotional and psychological aspects of pregnancy should be considered given that some women indicated poor social support. Continuity of care and carer appears a significant factor in enhancing women's satisfaction with both types of care in the antenatal period.

Chapter 5 Intrapartum care

Aim

This chapter explores women's satisfaction with midwife managed care in the intrapartum period. The satisfaction of women randomly allocated to midwife managed care was compared with women randomly allocated to shared care, which is care divided between midwives, general practitioners and obstetricians. In relation to the envisaged differences between these two models of maternity care, if women receiving shared care are without complications at Glasgow Royal Maternity Hospital they are cared for labour ward midwives. In addition, for all births a midwife is present throughout labour and delivery. With midwife managed care, it was anticipated that a midwife, with specific training in a 'holistic' philosophy, would care for women during labour. Data included were from two self-report questionnaires (7-week postnatal questionnaire: midwife managed care n=445, shared care n=380) and a case-record review (n=182 midwife managed care, n=184 shared care). In addition to quantitative data, qualitative information from open-ended questions is presented.

In answer to describe the care women received, data from the self-report questionnaires were utilised as well as data from the trial clinical outcomes (Turnbull et al, 1996a). Women's satisfaction with key dimensions of the process of care (e.g. choices and decisions, information transfer, social support) and organisation of care was collated. Given that research indicates women's desire for information and discussion about procedures in labour (Enkin and Chalmers, 1982; Kirkham, 1983; McIntosh, 1989), these issues were examined in-depth. Further analysis was conducted around the aspect of 'knowing the midwife during labour' given the controversy and the dearth of research around this issue (Alexander, 1990; Department of Health, 1993; Scottish Office Home and Health Department, 1993; Lee, 1994; Stewart, 1995; Walsh, 1995a, Warwick, 1997). Satisfaction of women cared for during labour by their 'named midwife' was compared with women cared for by an unknown midwife, who, however, shared the same philosophy as the named midwife. In addition, factors which enhance and detract from women's satisfaction were examined.

Description of care

Trial clinical outcome data which are relevant to the current study on women's satisfaction are considered in this section on description of care. Further to this, women' descriptions, as collated from the seven week postnatal questionnaire, are presented.

Data collected to answer issues of trial clinical outcomes were from women's case records (99.2% midwife managed care [643/648]; 97.5% shared care [635/651]; Turnbull et al, 1996a). Of relevance to the current study on women's satisfaction was that: a smaller proportion of women in the midwife managed care group underwent induction (shared care 33.3%, midwife managed care 23.9%) although similar proportions experienced some form of augmentation during labour (shared care 39.7%, midwife managed care 43.1%).

Women randomised to the midwife managed care group were more likely to have an intact perineum (23.6% shared care, 30.5% midwife managed care) and less likely to have experienced an episiotomy (34.0% shared care, 28.0% midwife managed care) with similar proportions of both groups of women experiencing first-degree and second-degree tears (42.4% shared care, 41.5% midwife managed care).

With regard to pain relief during labour, around 10-12% of the groups used natural methods of pain relief (i.e. TENS, Entonox, or Bathing). Around 43-45% of the groups used analgesics (i.e. Pethidine or Diamorphine) and 34.1% of those randomised to shared care and 32.7% of those randomised to midwife managed care had an epidural for pain relief. The findings on types of pain relief used appeared to relate to type of monitoring women experienced. Women in the midwife managed care group were less likely to have continuous electronic fetal-heart rate monitoring only, although there was no difference between the two groups in the mean number of hours they were continuously monitored which was very high (5.0 midwife managed care, 5.1 hours shared care).

Women in the midwife managed care group experienced fewer vaginal examinations before the first stage of labour (1.0 shared care, 0.8 midwife managed care) but the two groups did not differ significantly in the number of vaginal examinations experienced thereafter (mean - 2.4 vaginal examinations for both groups).

There was no difference between the two groups in the duration of each stage of their labour or gestation when they delivered their baby (only 2% of each group delivered their baby after 42 weeks with 91.1% of the shared care group and 93.1% of the midwife managed care group delivered between 37-41 weeks gestation). The majority of both care groups experienced a normal delivery (74% both groups), with 3% experiencing an elective caesarean section and 9% and 10% of the respective groups experiencing an emergency caesarean section.

The only statistically significant or clinically important differences between the two groups in major maternal complications were in antenatal hypertension and antepartum haemorrhage: in both of these cases fewer women randomised to the midwife managed care group experienced the complication when compared with women randomised to the shared care group (antepartum hypertension: 10.0% shared care, 4.8% midwife managed care; antepartum haemorrhage: 3.6% shared care, 1.6% midwife managed care).

In similarity to the findings from the clinical outcome review, the majority of women in both groups who returned a seven week labour and postnatal questionnaire reported having a normal delivery (75% midwife managed care; 73% shared care). There were no differences between the two groups, who returned this questionnaire, in their reporting of mode of delivery ($Chi^2 = 1.9$; $df=3$; $p=0.6$). Fourteen percent of both groups reported having a caesarean section with 11% and 13% of the respective groups reporting a forceps or vacuum delivery.

Fifteen percent of the midwife managed care group reported having their baby delivered by their named MDU midwife; 49% by another MDU midwife; 11% by an other midwife; 1% by a student midwife; 20% by a hospital doctor; and 4% were not sure who delivered their baby. In the shared care group, 66% reported their baby was delivered by a midwife; 5% by a student midwife; 22% by a hospital doctor; 2% by a student doctor; and 4% were not sure. Overall, then, similar proportions of both groups reported being delivered by midwives and doctors (midwives - 76% midwife managed care, 71% shared care; doctors - 20% midwife managed care 24%, shared care).

Elements of satisfaction

(a) Organisation of care

More of the midwife managed care group reported visiting the labour rooms before they came to the hospital to have their baby ($Chi^2 = 97.2$; df=2; $p<0.0001$). Seventy-one percent of the midwife managed care group did so compared to 37% of the shared care group. The shared care group were more likely to report that they felt visiting the labour rooms before admission for labour was unnecessary (26%: 15% midwife managed care). However, 16% of the shared care group reported that they were not given the opportunity to do this (6% midwife managed care group) and 21% and 8% of the respective groups stated that they did not have the time to visit the labour rooms during the antenatal period.

The midwife managed care group were more satisfied with the way they were greeted (e.g. time kept waiting and the way staff welcomed them) on admission to hospital when in labour (Chi^2 trend = 10.77; $p<0.01$). Thirty-eight percent of the midwife managed care group were extremely satisfied with the way they were greeted compared to 26% of the shared care group. More women in the shared care group were 'only moderately' or 'not at all' satisfied with this aspect of care (13% shared care; 5% midwife managed care).

(b) Preferences for procedures

The midwife managed care group were more likely to report there were 'things they particularly wanted or didn't want' for their labour as reported at 7 weeks postnatal (e.g. partner present, an epidural) ($Chi^2 = 14.1$; df=2; $p<0.01$). Fifty-three percent of the midwife managed care group had such preferences compared to 42% of the shared care group (6% of the midwife managed were not sure if they had preferences compared to 10% of the shared care group). By far, the main preference reported by both groups was a desire to have their partner / support person present during their labour and delivery, although more women in the midwife managed care group reported this preference (36%, 27% shared care) (Table 20). In addition, more women in the midwife managed care group reported that they wished low intervention for their labour (10%: 5% shared care). The other main preferences reported appeared to be, also, to reduced interventions during labour (e.g. around 15% of both groups did not want epidural analgesia and around 2% of both groups did not want an episiotomy).

Of those women who stated that they had specific preferences for their labour, the midwife managed care group were more likely to report that these preferences had been discussed 'well' during the antenatal period ($Chi^2 = 60.5$; df=5; $p<0.00001$) (Table 20). Forty-six of the midwife managed care group reported their preferences had been discussed 'extremely well' compared to 20% of the shared care group. In contrast, 20% of the shared care group reported that their preferences had been discussed 'not at all well' or had 'not been mentioned at all' antenatally compared to 5% of the midwife managed care group. When asked if staff on the labour ward had attempted to follow their preferences, the midwife managed care group were more likely to report this has happened 'in all cases' (63% to 52% shared care group). Whereas the shared care group were more likely to report this had happened 'in some cases' (16% to 8% midwife managed care) (Table 20).

Table 20. Labour preferences, discussion of them antenatally and following by labour staff

Item	Midwife managed care %	Shared care %
Preferences for labour	(n=445)	(n=380)
Wanted partner/support person	36	27
Didn't want an epidural	16	13
Wanted little intervention	10	5
Wanted an epidural	2	2
Didn't want an episiotomy	4	3
Missing data & Not answered	n=182	n=202
Discussion of preferences antenatally	(n=445)	(n=380)
Extremely well	46	20
Very well	29	20
Well	15	22
Only moderately well	5	18
Not at all well	2	5
It wasn't mentioned at all	3	15
Missing data & Not answered	n=212	n=242
Chi^2 =60.5; df=5; p<0.001		
How much did labour staff try and follow preferences[1]	(n=229)	(n=152)
In all cases	63	52
Most cases	27	25
Some cases	8	16
No, hardly at all	1	5
No, not at all	1	2
Missing data & Not answered	n=210	n=238
Chi^2 trend = 8.6; p<0.01		

1. The extreme negative option was presented first with these items

Very small proportions of both groups (n=25 midwife managed care; n=26 shared care) reported that there was 'something in particular that they wanted for their labour that they did not receive'. These aspects were: 'something for pain' (n=4 midwife managed care; n=2 shared care); specifically 'epidurals' (n=8 midwife managed care; n=13 shared care) and more support people (e.g. partner, friends) to be allowed into the labour rooms (n=3 both groups). The majority of both groups, who reported that there was 'something they particularly wanted for their labour that they did not receive', were dissatisfied with the discussion about this in labour (13 out of the 25 midwife managed care group and 17 out of the 26 shared care group reported these preferences were discussed either 'only moderately well',' not at all well' or 'not mentioned at all').

When asked if there was anything that they 'particularly did not want for their labour they did receive' again very small proportions of women from both groups responded in the affirmative (n=40 midwife managed care group; n=27 shared care group). The main item women in the midwife managed care group received and did not want was an epidural (n=17). Other procedures not desired were syntocinon (n=3) and emergency caesarean section (n=3). Similarly, nine women who received shared care did not want an epidural, three women did not want an emergency caesarean section with three women reporting they did not want vaginal examinations.

When asked how well staff had discussed aspects of care women did not want for labour but had received, the midwife managed care group were more likely to report that these preferences had been discussed 'extremely well' (36% midwife managed; 23% shared care) (Chi^2 trend = 4.0; p<0.05). However, 20% of

the midwife managed care group reported that these preferences had been discussed 'only moderately' or 'not at all well' compared to 16% of the shared care group. A further 13% of the shared care group, however, reported that these preferences were 'not mentioned at all'.

(c) Procedures during intrapartum care

Induction and augmentation

There were no differences between the two groups, who returned the questionnaire, in their reporting of having their labour induced or augmented (Chi^2 = 1.7; df=2; p=0.2). Fifty-six percent of the midwife managed care group reported being induced / augmented compared to 60% of the shared care group. The midwife managed care group were more likely, however, to report staff 'talked to them enough' about induction / augmentation (Chi^2 = 12.3; df=4; p<0.05; 86% midwife managed care group, 75% shared care group). Ten percent of the shared care group and 5% of the midwife managed care group felt that these procedures had been discussed 'too little'. There were no differences between the two groups, however, in how satisfied they were about their labour being induced / augmented (Chi^2 trend = 2.1; p=0.1). Substantial proportions of both groups who reported having their labour induced/augmented were 'extremely satisfied' about this occurring (36% midwife managed care; 32% shared care). Relatively small proportions of both groups (8% midwife managed care; 14% shared care) were 'only moderately satisfied' or 'not at all satisfied' about labour being induced/augmented.

Moving around and monitoring

There were no differences between the two groups in how much they reported moving around during labour (Chi^2 = 9.17; df=5; p=0.1). Forty-two percent of the midwife managed care group reported that they 'moved around as much as they wanted' compared to 34% of the shared care group. Large proportions of both groups felt that this question was not applicable to them 'because of the way their labour went' (e.g. 'labour went too quickly', 'had a planned caesarean section', 'had a drip in', 'had an epidural') (39% midwife managed; 42% shared care). Five percent of the shared care group and 3% of midwife managed care group felt that they had moved around less than they wanted'. Thirteen percent of both groups 'did not want to move around' with very small proportions stating that they moved 'around more than they wanted' (1% and 2% of the respective groups). These results are possibly linked with the finding that 45% of both groups reported being attached to an electronic monitor for 'all' or 'most of their labour' (Chi^2 = 7.81; df=7; p=0.35). Twenty-one percent of both groups reported being on a monitor 'just at the start of their labour' or 'for a little of their labour', however.

As well as electronic monitoring, 28% of both groups reported that the doptone was used to monitor their baby's heartbeat (although around 30% of both groups were not sure if the doptone was used). Around 25% of both groups reported the scalp electrode was used for monitoring. Nearly 25% of both groups were unsure if the pinard had been used. The midwife managed care group were more likely to report that monitoring of their baby's heartbeat was discussed 'enough' with them (69% to 57% of the shared care group; Chi^2 = 21.1; df=4; p<0.001). The shared care group were more likely to report that monitoring had been discussed 'very little' (16% to 8% midwife managed care group). Small proportions of both groups (5% midwife managed; 4% shared care) reported that monitoring 'wasn't mentioned at all' or that it was discussed 'too much' (1% and 3%) (not applicable 19% both groups). Women in the midwife managed care

group were, overall, more satisfied with the monitoring they had (Chi^2 trend=27.2; p<0.00001). Thirty-five percent of the midwife managed care group were 'extremely satisfied' with this aspect of care compared to 25% of the shared care group with 47% and 32% of the respective groups 'satisfied'. Very small proportions of both groups were 'not at all' or 'only moderately' satisfied (2% midwife managed care; 6% shared care).

The midwife managed care group were more likely to report, also, that they were 'encouraged to move around when they wanted' (Chi^2 = 19.08; df=4; p<0.001; 50% midwife managed care, 38% shared care). Substantial proportions of both groups felt that this question was not applicable to them 'because of the way their labour went' (38% midwife managed care; 40% shared care). Fifteen percent of the shared care group reported that 'moving around was not mentioned at all' compared to 7% of the midwife managed care group. A further 5% and 6% of the respective groups stated that they were given 'little encouragement to move around'. In contrast, less than 1% of both groups 'felt pressured to move around during labour'.

Pain relief

The main method of pain relief women reported using was entonox (73%: 69% shared care). Other natural methods of pain relief which women reported using were: bathing (27% midwife managed care, 23% shared care); massage and moving around (13%, 9% of the respective groups). Equal proportions of both groups reported having an epidural (34%). More women in the shared care group reported having pethidine or diamorphine (64%: 54% midwife managed care). In contrast, more women in the midwife managed care group reported using the TENS machine (22%: 15% shared care). Small proportions of both groups reported using nothing for pain relief (3% midwife managed care, 4% shared care) or having a spinal (1% and 3% of the respective groups).

The midwife managed care group were more likely to report staff in the labour ward 'talked to them enough' about pain relief (Chi^2 =12.3; df=4; p<0.05) (69% midwife managed care, 58% shared care). More women in the shared care group reported pain relief was not mentioned at all (5%, 2% midwife managed care), discussed 'very little' / 'staff kept on talking about this when the woman was not really interested' (12%, 9% midwife managed care) (14% and 31% of the respective groups - not applicable). The midwife managed care group were also more satisfied with what was done for their pain relief (Chi^2 trend= 15.3; df=4; p<0.01). Thirty-eight percent of the midwife managed care group were 'extremely satisfied' with 'what was done for their pain relief' compared to 31% of the shared care group. Thirty two percent of the shared care group were 'satisfied' with this compared to 25% of the midwife managed care group. Eleven percent of the midwife managed care group and 17% of the shared care group were 'only moderately' or 'not at all satisfied' with 'what was done for their pain relief'.

Delivery position

Those women who experienced a normal delivery were asked about what position they delivered their baby in. There were no differences between the two groups (Chi^2 = 6.9; df=2; p=0.2). Ninety-seven percent of the midwife managed care group and 95% of the shared care group delivered in the traditional delivery position (i.e. in bed sitting, lying on side or propped up with pillows). Other options included standing, squatting, kneeling or in a chair. The midwife managed care group who had a normal delivery were more likely to report that 'staff discussed enough the positions for having their baby' (Chi^2 = 21.4; df=4; p<0.001; 50% midwife managed care group, 33% shared care group). Thirty-six percent of the shared care group

reported that the delivery position 'was not mentioned at all' during labour compared to 23% of the midwife managed care group.

Instrumental deliveries

Of those women who had a caesarean section, forceps or vacuum delivery, no differences were found between the groups in how well the type of delivery that they had, had been discussed with them (Chi^2 = 5.7; df=4; p=0.2). The majority of both groups felt that the type of delivery they had was discussed at least 'well' with them (75% midwife managed; 68% shared care). However, this left 25% of the midwife managed care group and 32% of the shared care group reporting that the type of delivery had been discussed 'only moderately well' or 'not at all well' with them.

Episiotomy

There were no differences between the two groups in their reporting of having an episiotomy (Chi^2 = 2.7; df=2; p=0.3). Twenty-six percent of the midwife managed care group and 30% of the shared care group reported having an episiotomy. Fifty-two percent of the midwife managed care group who had an episiotomy reported that staff 'talked to them enough about it' compared to 38% of the shared care group. Thirty-three percent of the shared care group who had an episiotomy reported 'it was not mentioned at all' during labour with 27% of the midwife managed care group reporting this also.

(d) Information-giving - specific procedures

Women were asked a series of questions about their satisfaction with specific aspects of information related to certain procedures. These questions related to information received during their antenatal and intrapartum care (Table 21). In relation to information received about induction and augmentation, the midwife managed care group were more likely to be satisfied (Chi^2 trend = 19.6; p<0.001; 27% midwife managed care group 'extremely satisfied' compared to 18% of the shared care group; 21% of the shared care group 'only moderately' or 'not at all satisfied' compared to 13% of the midwife managed care group).

In relation to information about types of pain relief, 43% of the midwife managed care group were 'extremely satisfied' compared to 27% of the shared care group. The shared care group were more likely to be 'only moderately' or 'not at all satisfied' (13% compared to 6% midwife managed care, Chi^2 trend = 38.1; p<0.00001).

When asked how satisfied that they were with information on monitoring, the midwife managed care group were more likely to be 'extremely satisfied' (35% to 22% shared care, Chi^2 trend = 32.1; p<0.00001). The majority of the shared care group were satisfied (40%: 27% midwife managed care group). The proportions who were 'only moderately' or 'not at all satisfied' were: 4% midwife managed care group, 12% shared care group.

The midwife managed care group were more satisfied with information that they received about different types of delivery. Twenty-two percent of this group were 'extremely satisfied' with this aspect of care compared to 11% of the shared care group. However, substantial proportions of both groups (17% midwife managed, 26% shared care) were 'only moderately' or 'not at all satisfied' with the information they had received about different types of delivery.

In addition, the midwife managed care group were more likely to be satisfied with the information that they had received, throughout the course of their pregnancy, about doing particular things with their baby after delivery (e.g. holding baby immediately after born, cutting cord) (Chi^2 trend = 17.3; $p<0.001$). The largest proportion of the midwife managed care group were 'extremely satisfied' with this information (37%) compared to 25% of the shared care group. Twenty-two percent of the shared care group were 'only moderately' or 'not at all satisfied' compared to 12% of the midwife managed care group.

Table 21. Information received about specific procedures (antenatal & intrapartum)

Item	Midwife managed care %	Shared care %
Induction / augmentation	(n=445)	(n=380)
Extremely satisfied	27	18
Very satisfied	25	22
Satisfied	35	39
Only moderately satisfied	9	14
Not at all satisfied	4	7
Missing data	n=40	n=42
Chi^2 trend = 19.6; p<0.001		
Types of pain relief[1]	(n=445)	(n=380)
Extremely satisfied	43	27
Very satisfied	27	22
Satisfied	24	38
Only moderately satisfied	5	10
Not at all satisfied	1	3
Missing data	n=5	n=7
Chi^2 trend = 38.1; p<0.001		
Monitoring of baby's heartbeat[1]	(n=445)	(n=380)
Extremely satisfied	35	22
Very satisfied	33	27
Satisfied	27	40
Only moderately satisfied	3	8
Not at all satisfied	2	3
Missing data	n=9	n=6
Chi^2 trend = 32.1; p<0.001		
Types of delivery	(n=445)	(n=380)
Extremely satisfied	22	11
Very satisfied	22	19
Satisfied	39	44
Only moderately satisfied	12	17
Not at all satisfied	5	9
Missing data	n=47	n=53
Chi^2 trend = 22.2; p<0.001		
Information on doing things with baby	(n=445)	(n=380)
Extremely satisfied	37	25
Very satisfied	21	20
Satisfied	30	33
Only moderately satisfied	9	12
Not at all satisfied	3	10
Missing data	n=15	n=12
Chi^2 trend = 17.3; p<0.001		

1. The extreme negative option was presented first with these items

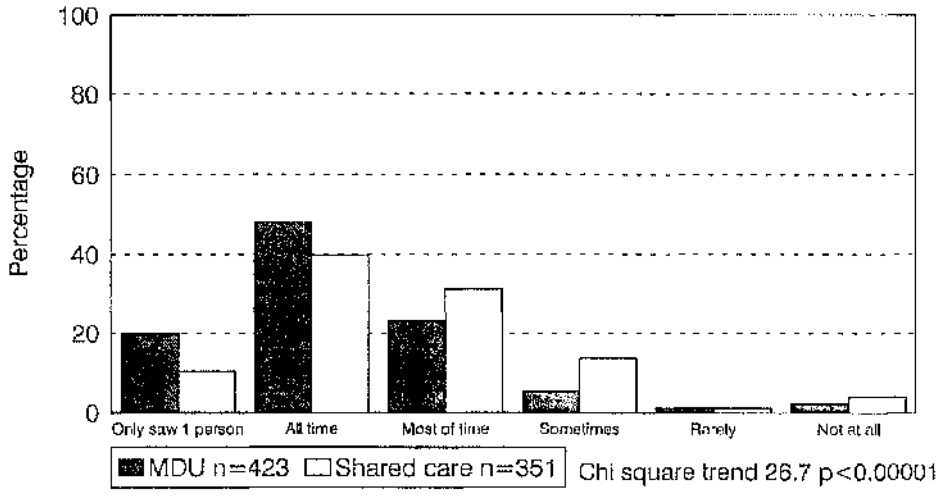
(e) Continuity of care and carer

The two groups rated continuity of advice at the same level of importance in the intrapartum period (Chi^2 trend=2.5; p=0.1). Fifty-eight percent of the midwife managed care group and 55% of the shared care group rated continuity of advice as extremely important in the intrapartum period. In contrast, only 3% of the midwife managed care group and 6% of the shared care group rated continuity of advice as 'only moderately' or 'not at all important'.

Women in the midwife managed care group reported, however, that they received more continuity of advice during labour (Chi^2 trend=28.5; p<0.00001; adjusted for those who reported being cared for by one person

only, Figure 8). Sixty-eight percent of the midwife managed care group reported continuity of advice for all their labour compared to 48% of the shared care group. Nine percent of the shared care group reported that they received continuity of advice 'rarely' or 'not at all' during their labour compared to 3% of the midwife managed care group. In addition, 14% of the shared care group reported that they received continuity of advice for 'some' of their labour (6% midwife managed care group).

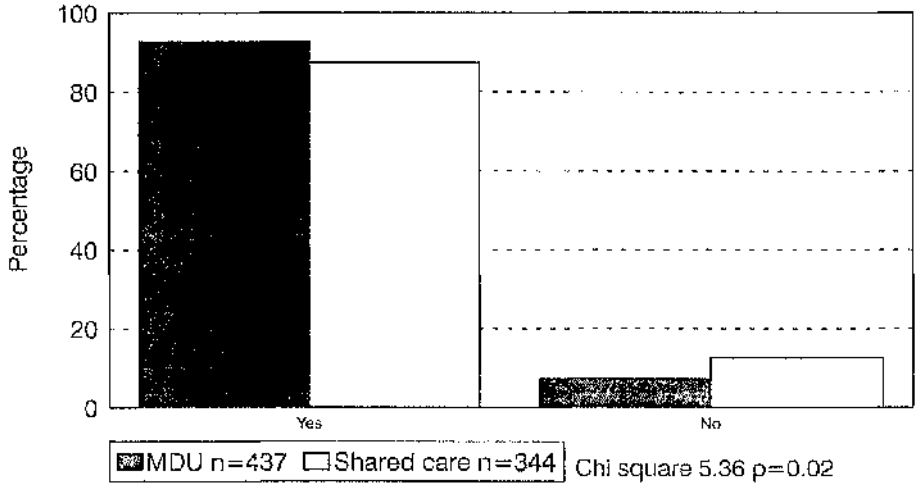
Figure 8. Continuity of care during intrapartum care



In contrast to the similar importance accorded by both groups to continuity of advice in the intrapartum period, women in the midwife managed care group rated continuity of carer in this period as more important (Chi^2 trend=13.4; $p<0.001$). Forty-five percent of the midwife managed care group rated continuity of carer as 'extremely important' to 34% of the shared care group. More women in the shared care group rated continuity of carer in the intrapartum period as 'only moderately' or 'not at all important' (14% compared to 9% of the midwife managed care group).

The midwife managed care group reported also receiving more continuity of carer in the intrapartum period (Chi^2 =4.7; df=1; $p<0.05$; Figure 9). Eighty-eight percent of the midwife managed care group reported that 'the same member or same small group of staff cared for them during labour' compared to 82% of the shared care group. Twenty-four percent of those in the midwife managed care group who reported being cared for by the same member/same small group further reported that one member of staff cared for them for the duration of their labour compared to 9% of the shared care group.

Figure 9. Continuity of carer during intrapartum care



In relation to the signature count of case records, the number of different carers was reduced from a mean of 5.9 different carers in shared care to 4.0 in midwife managed care (95% CI for diff: -2.5 to -1.2). This difference was accounted for by, mainly, a reduction in the number of different midwife carers (mean 4.0 shared care: mean 2.7 midwife managed care; 95% CI for diff: -1.7 to -0.8) but also a reduction of input from the obstetric team (mean 1.9 shared care: mean 1.3 midwife managed care; 95% CI for diff: -0.9 to -0.2).

The two groups were as equally likely to report that the same member of staff who delivered their baby cared for them also for the most part of their labour ($Chi^2 = 0.4$; df=1; p=0.5; 65% midwife managed care, 62% shared care). However, of those who reported that this had occurred, the midwife managed care group were more likely to have met this carer many times antenatally (19% : less than 1% in the shared care group) (Table 22). Ninety-seven percent of the shared care group had never met this person antenatally compared to 73% of the midwife managed care group. Similarly, if the main carer in labour had not delivered the woman, the midwife managed care group were more likely to have met the main carer antenatally although the majority of both groups, in this scenario, had never met the main carer before (78% midwife managed care; 97% shared care). The two groups were equally unlikely to have met the carer who delivered her baby, during the antenatal period, if this carer was different from the main carer during labour (Chi^2 trend = 0.4; p=0.5). In addition to these findings, only 24% the midwife managed group reported that one person cared for them for the duration of the labour with 9% of the shared care group reporting this.

Table 22. Level of knowing intrapartum carer

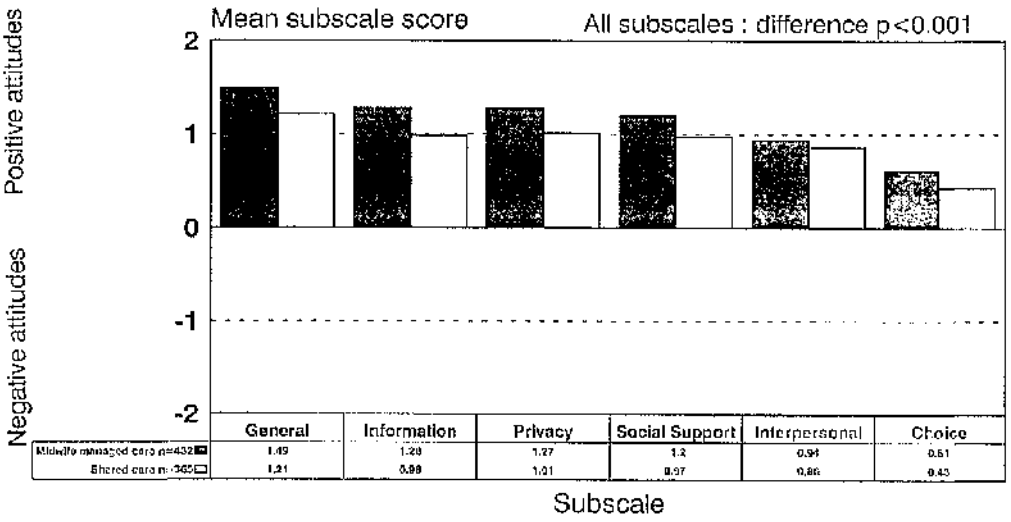
Item	Midwife care %	Shared care %
(Main carer in labour=delivered) - met antenatal?	**(n=271)**	**(n=224)**
Yes, many times	19	<1
Yes, several times	3	1
Yes, but just in passing	5	2
No, not at all	73	97
Chi^2 trend = 50.3; p<0.001		
(Main carer in labour#delivered) - met main carer antenatally?	**(n=143)**	**(n=129)**
Yes, many times	9	<1
Yes, several times	6	2
Yes, but just in passing	7	1
No, not at all	78	97
Chi^2 trend = 18.0; p<0.001		
(Main carer in labour#delivered) - met delivery person antenatally?[1]	**(n=144)**	**(n=129)**
Yes, many times	3	2
Yes, several times	2	2
Yes, but just in passing	4	4
No, not at all	91	92
Chi^2 trend = 0.4; p=0.5		

1. The extreme negative option was presented first with these items

(f) Process of care

The process of care dimensions utilised in the intrapartum period were: general satisfaction, information, privacy, information, social support and choices/decisions. The privacy dimension was included only for this care period as indicated from the pilot studies carried out. An example of a statement included to measure women's satisfaction with privacy was 'I had enough privacy during my labour'. For the other process of care dimensions, similar issues were addressed as in the antenatal period. For example, a statement employed to measure women's satisfaction with interpersonal relationships with staff in the intrapartum period was 'I had little confidence in the staff who cared for me' and a statement on the information dimension was 'I rarely knew what was happening to me during my labour'. Women in the midwife managed care group were more highly satisfied with all process of care dimensions than women in the shared care group, although for all dimensions women in both groups were satisfied with the process of care in this period (Figure 10). The confidence intervals for the differences between the two groups were - general satisfaction diff: 0.28, 95% CI: 0.18 to 0.37; information diff: 0.30, 95% CI: 0.21 to 0.39; privacy diff: 0.26, 95% CI: 0.20 to 0.33; social support diff: 0.23, 95% CI: 0.14 to 0.33; interpersonal relationships with staff diff: 0.08, 95% CI: 0.03 to 0.14; and choice/decisions diff: 0.18, 95% CI: 0.11 to 0.24.

Figure 10. Mean satisfaction scores for process of intrapartum care dimensions



The importance of examining specific dimensions of satisfaction, rather than just 'overall' satisfaction with care, was confirmed again in the intrapartum period. An exploration of some individual items on the process of care dimensions serves as an example. On the general satisfaction dimension for intrapartum care, a statement included: 'I feel satisfied with the way I was looked after'. The majority of both groups strongly agreed with this statement although this was more so in the midwife managed care group (61%; 46% shared care). Very small proportions of both groups disagreed or strongly disagreed (2% midwife managed care group; 6% shared care). In contrast, 10% of the midwife managed care group and 16% of the shared care group strongly agreed or agreed with the choices and decisions statement 'I felt I had little choice about what happened to me'. In comparison to the statement on general satisfaction, only 37% of the midwife managed care group and 24% of the shared care group strongly disagreed. That is, to contrast, 61% and 46% of the respective groups were positive about the general satisfaction statement compared to 37% and 24% of the groups being positive about the choices/decisions statement.

(g) Overall ratings

There were no statistically significant differences between the two groups on their reporting of their labour in relation to their expectations. However, 56% of the midwife managed care group reported that they felt that their labour and delivery was either better or much better than they had expected, with 47% of the shared care group reporting this also. Twenty-four percent of the midwife group reported that they felt that their labour was worse or much worse than they had expected compared to 27% of the shared care group (Chi^2 =10.7; df=5; p=0.06). However, the midwife managed care group were more satisfied with the way their labour and delivery went in general (Chi^2 trend = 5.5; p<0.05). Forty-six percent of the midwife managed care group were extremely satisfied with the way their labour and delivery went compared to 36% of the shared care group. The shared care group were more likely to be satisfied (27%: 18% midwife managed care). Ten percent of both groups were only moderately or not at all satisfied about the way their labour and delivery went.

When asked to comment in an open-ended question about what they liked about their intrapartum care, more comments were made by the midwife managed care group (number of comments =384; shared care number of comments =329). The main comments made by both groups tended to be about interpersonal

relationships with staff (n=215 comments midwife managed care; 217 comments shared care) (Table 23). For example:

> **"The midwife who was with me during the birth of Chi was excellent. She couldn't have been more helpful or understanding."** (midwife managed care)

> **"All the staff who I saw during my labour were** very **helpful and kind."** (shared care)

Table 23. What like best and least about intrapartum care

Item	Midwife managed care	Shared care (%)
	% of comments	% of comments
What like best	**(n=445)**	**(n=380)**
Interpersonal relationships with staff	56	66
Information transfer	18	13
Continuity of care	17	12
Partner involved	3	6
Labour quick	3	4
MDU midwife delivered me	3	0
Missing data	n=35	n=67
What like least	**(n=445)**	**(n=380)**
Disliked nothing	90	77
Lack of continuity of care	1	6
Lack of information transfer	4	11
Lack of pain relief	5	6
Missing data	n=45	n=23

In relation to what women reported liking about their intrapartum care, substantial proportions of both groups made comments about the quality of information received (18% midwife managed care; 13% shared care). For example:

> **"They really kept you informed about everything** that **was going on.** (Shared care)

A substantial proportion of further comments were made in relation to continuity of personnel (17% midwife managed care; 12% shared care) with small proportions of both groups reporting other aspects of care (less than 10% in both groups). When asked about what they disliked (n=230 midwife managed care comments, n=250 shared care) about their intrapartum care, the main comment from women was that there was nothing they disliked about their care during this period (90% midwife managed care comments; 77% shared care).

Factors related to satisfaction and dissatisfaction with care

Do socio-demographic characteristics affect satisfaction with care?

The effect of socio-demographic characteristics: age, smoking status, marital status, neighbourhood type and parity on women's satisfaction with intrapartum care with both midwife managed care and shared care was ascertained. Socio-demographic characteristics did not affect satisfaction with care.

Satisfaction and dissatisfaction - do women differ?

Similar to satisfaction with intrapartum care in general, women receiving both types of care, who experienced major complications in the intrapartum period, were very satisfied with care (Table 24). For example, no-one in each of these groups was dissatisfied with all dimensions of care. Women who were dissatisfied tended to be dissatisfied with choices and decisions. Women receiving shared care who experienced postpartum haemorrhage appeared less likely to return a questionnaire (21/34 compared to 28/36 for midwife managed care). Similarly, there was little evidence of major dissatisfaction with intrapartum care for women who experienced minor complications in the intrapartum period in both types of care. However, of those who were dissatisfied, choices and decisions appeared as a factor. A poor questionnaire response rate was evidenced also for those women who had experienced preterm labour.

Table 24. Complications -effect on intrapartum satisfaction

	Number of dimensions dissatisfied with Midwife managed care				Shared care			
Major complication	1	2	3	4>	1	2	3	4>
Antepartum haemorrhage (M=9/10,S=16/22)	1	0	1	0	2	0	0	0
Cord presentation (M=0, S=1)	0	0	0	0	0	0	0	0
Cord prolapse (M=0, S=1)	0	0	0	0	0	0	0	0
Hypertension (M=15/21, S=8/15)	0	0	0	0	0	0	0	0
Inverted uterus (M=0, S=1)	0	0	0	0	0	0	0	0
Malpresentation (M= 12/17,S=22/26)	1	0	0	0	1	0	0	0
Postpartum haemorrhage (M=28/36, S=21/34)	0	0	1	1	1	1	0	1
Minor complications								
Abruption (M=0/1,S=3/5)	0	0	0	0	0	0	0	1
Fetal distress (M=22/29, S=20/26)	0	1	0	0	1	0	0	3
Shoulder dystocia (M=7/9, S=5/9)	0	1	0	0	0	0	0	0
Retained placenta (M=3/5, S=3/4)	0	0	0	0	1	0	0	0
Preterm labour (M=2/11, S=3/11)	0	0	0	0	0	0	0	0

Are women dissatisfied with only specific aspects of care?

For each dimension of satisfaction, women who were dissatisfied (mean score < 0) were identified. Women who were dissatisfied across dimensions of care (Table 25) were identified. It was found that very few women were dissatisfied with intrapartum care. Women who expressed dissatisfaction tended to be dissatisfied with one dimension of satisfaction only. For both groups this dissatisfaction tended to be with facilities (8/13 midwife managed care; 18/29 shared care). However, more women in the shared care group were negative about care across a number of dimensions of satisfaction (e.g. 3/4 of the women in shared care who were dissatisfied with two dimensions of care were negative about facilities and interpersonal relationships with staff).

Table 25. Are women dissatisfied with specific aspects of intrapartum care?

	Women who are dissatisfied	
No. of dimensions dissatisfied with	Midwife managed care n=13	Shared care n=29
All six dimensions	0	0
Five/six	0	0
Four/six	0	0
Three/six	1	2
Two/six	0	4
One dimension	12	23

Does continuity affect satisfaction?

Women who reported that they received optimum continuity of care and carer were compared with women receiving less than optimum continuity for all key dimensions of satisfaction, whilst maintaining the midwife managed care vs shared care comparison.

Continuity of care

A relationship between level of continuity of care and dimensions of satisfaction in the intrapartum period was found (Table 26). With the exception of social support, women in the midwife managed care group who reported optimum continuity of care (Grp 1) were significantly more satisfied than women receiving less than optimum continuity (Grp 2) within this type of care. Women receiving optimum continuity in shared care (Grp 3) were more satisfied also, across all dimensions, than those receiving less than optimum continuity within this type of care (Grp 4). When those receiving optimum continuity in both types of care (Grps 1 and 3) were examined, women in the midwife managed care group were more satisfied for the dimension of choices and decisions only. For the dimensions of choices and decisions, information transfer and general satisfaction those women receiving optimum continuity of care (Grp 1) were significantly more satisfied than women receiving less than optimum continuity in midwife managed care (Grp 2). Women receiving less than optimum continuity in midwife managed care (Grp 2) were more satisfied with interpersonal relationships and social support than women reporting a similar experience in shared care (Grp 4).

Table 26. Continuity of care and intrapartum satisfaction

	Midwife care		Shared care		
	Level of continuity of care				
	All time (Grp 1)	Less (Grp 2)	All time (Grp 3)	Less (Grp 4)	p value
	n=287	n=141	n=175	n=185	
Choice & decisions (No diff between Grps 2&3, Grps 2&4)	0.85	0.35	0.63	0.39	<0.0001
Interpersonal relationships (No diff between Grps 1 & 3)	1.12	0.78	1.02	0.68	<0.0001
Social support (No diff between Grps 1&2, Grps 1&3, Grps 2&3)	1.40	1.06	1.31	0.64	<0.0001
Information transfer (No diff between Grps 1&3, Grps 2&4)	1.49	0.97	1.26	0.77	<0.0001
General satisfaction (No diff between Grps 1&3, Grps 2&4)	1.70	1.11	1.54	0.96	<0.0001

Continuity of carer

In relation to continuity of carer and satisfaction (Table 27), women receiving optimum continuity of carer in midwife managed care (Grp 1) were more satisfied across all dimensions of satisfaction than women receiving shared care, regardless of level of continuity of carer (Grps 3 and 4). However, women receiving optimum continuity of carer in shared care (Grp 3) were generally more positive about their care than those receiving less than optimum continuity of carer in shared care (Grp 4). For the dimensions of information transfer and general satisfaction, women receiving optimum continuity of carer in midwife managed care (Grp 1) were more satisfied than those receiving less than optimum continuity of carer in this type of care (Grp 2). Similarly, for these two dimensions and interpersonal relationships with staff, women reporting they received optimum continuity of carer within shared care (Grp 3) were more satisfied than those who felt they had less than optimum continuity of carer (Grp 4).

Table 27. Continuity of carer and intrapartum satisfaction

	Midwife care		Shared care		
	Level of continuity of carer				
	All time (Grp 1) n=381	Less (Grp 2) n=47	All time (Grp 3) n=296	Less (Grp 4) n=64	p value
Choice & decisions (No diff between Grps 1&2, 2&3, 2&4, 3&4)	0.72	0.32	0.52	0.28	<0.0001
Interpersonal relationships (No diff between Grps 1&2, 2&3, 2&4)	1.05	0.80	0.94	0.70	<0.0001
Social support (No diff between Grps 1&2, 2&3, 2&4, 3&4)	1.33	0.89	1.01	0.73	0.0006
Information transfer (No diff between Grps 2&3, 2&4)	1.35	0.89	1.06	0.69	<0.0001
General satisfaction (No diff between Grps 2&4)	1.58	0.89	1.37	0.72	<0.0001

Continuity of care or carer - which is the most important factor on satisfaction?

A similar framework and model was applied for this piece of further analysis as with the analysis of these issues during antenatal care. The analysis of variance found no interaction effects of the three factors: midwife managed care or shared care; optimum or less than optimum continuity of care; and optimum or less than optimum continuity of carer, at a consideration of both a three and two factor analysis, on all five main dimensions of satisfaction. Statistically significant independent effects of the three factors were found for each dimension. Thus, a multiple regression was carried out. Table 28 provides an overview of the mean scores for group breakdowns. The multiple regression found approximately equal importance of continuity of advice and continuity of carer with still an effect, but lesser so of midwife managed care for all five variables (Table 29). The following example illustrates this finding. The independent effects of midwife managed care, optimum continuity of advice and optimum continuity of carer on women's satisfaction with choices and decisions during the intrapartum period on the -2 to 2 scale were 0.109, 0.239 and 0.250 respectively (Row 1, Table 29) with an expected mean score of 0.140 if women were receiving shared care with less than optimum continuity of advice and carer. Thus, an optimum midwife managed care score for choices and decisions would be 0.738 (i.e. 0.140 + 0.109 + 0.239 + 0.250).

Table 28. Mean score breakdown - midwife managed care, continuity of advice & continuity of carer effects on satisfaction (Intrapartum care)

	Midwife care				Shared care			
Level of continuity of care	**All**		**Less**		**All**		**Less**	
Level of continuity of carer	**All**	**Less**	**All**	**Less**	**All**	**Less**	**All**	**Less**
	n=224	n=16	n=107	n=30	n=134	n=16	n=137	n=44
Choice & decisions	0.71	0.53	0.55	0.22	0.66	0.44	0.36	0.13
Interpersonal relationships	1.01	0.86	0.84	0.66	1.01	0.93	0.77	0.68
Social support	1.39	1.13	1.02	0.63	1.33	1.07	0.75	0.51
Information transfer	1.45	1.25	1.11	0.66	1.29	0.90	0.86	0.58
General satisfaction	1.67	1.34	1.31	0.86	1.60	1.08	1.04	0.70

Table 29. Multiple regression - midwife managed care, continuity of advice & continuity of carer effects on satisfaction (Intrapartum care)

	A+B+C+D[1]
Choice and decisions	0.140+0.109+0.239+0.250
Interpersonal relationships with staff	0.700+0.021+0.205+0.121
Information transfer	0.553+0.189+0.390+0.331
Social support	0.520+0.138+0.477+0.286
General satisfaction	0.696+0.152+0.454+0.397

1. A=Estimated mean score if receiving shared care with less than optimum continuity of care & carer
B=Value to be added to 'A' if allocated to midwife managed care
C=Value to be added to 'A' if allocated to optimum continuity of care
D=Value to be added to 'A' if allocated to optimum continuity of carer

How important is it to know your midwife during labour?

It was not aimed that, in this particular programme of midwife managed care, that women would be cared for in labour by their named midwife. However, by chance a proportion of women were cared for in labour by their named midwife. This allowed the opportunity to compare the satisfaction of this group of women with women cared for by an unknown associate midwife in labour, a midwife who shared the same philosophy as the named midwife. However, the samples for these comparisons are convenience samples.

Sample

This sub-group analysis on 'knowing your midwife during labour' compared outcomes for women, who by chance, were cared for and delivered by their known midwife with women who also received continuity of carer during labour and delivery but from an associate midwife who was unknown to them. The sub-group analysis only addresses the issue of knowing your midwife during labour, therefore only women who experienced normal deliveries were included. Women were excluded from the analysis where either clinical or psycho-social data were incomplete. The two groups for comparison were: 47 women cared for by and delivered by their known midwife and 109 women cared for and delivered by an unknown associate midwife. This small sample only has adequate power to allow the detection of large differences between the groups for categorical variables such as 'having an intact perineum'. The sample has 80% power to detect (at the 5% significance level) a difference of approximately 20-25% (e.g. 25% vs 45%) between the two groups. For a comparison of satisfaction scores on a -2 to 2 scale, however, the study has 80% power to detect a difference of 0.2 units between the mean satisfaction scores, assuming a within group standard deviation of 0.4 units.

Results

Around 50% of these two groups reported that they had specific preferences for their labour with most preferences in relation to companions or epidural anaesthesia (Table 30). The majority of both groups reported that the midwife tried to follow their preferences, with both groups equally likely to report that the midwife talked to them about having companions with them in labour. However, the findings suggested that women in both groups were given different information about this issue (e.g. 27% and 26% of the respective groups were told they could have as many companions with them as they liked while another 24% and 20% of the respective groups were told they could have 1-2 companions with them). The majority of both groups had a partner with them (91% known midwife group and 88% of the unknown midwife group) with 98% of both groups positive about the midwife involving their companions. Similarly, no significant differences were found between the two groups in discussion about pain relief and moving around during labour. Ninety-six percent of both groups reported that they delivered their baby in bed sitting, lying on their side or propped up with pillows, however, over 20% of both groups were negative about discussion of this issue. Around 90% of both groups felt positively about how they had coped during their labour and delivery, although a third were negative about worry during labour. However, around 70% of both groups felt that their labour and delivery was much better or better than they expected.

Table 30. Experience of intrapartum care - relationship to knowing your midwife

	Known midwife (n=47)		Unknown associate midwife (n=109)	
Preferences for labour[1]	N=44	(%)	n=105	(%)
Yes	24	(55)	51	(49)
No	20	(45)	54	(51)
Chi^2 =0.4; p=0.5				
Companions mentioned	n=45	(%)	n=106	(%)
Not mentioned at all	9	(20)	16	(15)
Said could have 1 person with me	13	(29)	41	(39)
Said could have 1-2 people with me	11	(24)	21	(20)
Could have as many people as liked	12	(27)	28	(26)
Chi^2 =1.6; df=3; p=0.7				
Discussion around pain relief	n=46	(%)	n=108	(%)
Positive	29	(63)	77	(71)
Negative	8	(17)	14	(13)
Feel question not applicable	9	(20)	17	(16)
Chi^2 =1.0; df=2; p=0.6				
Discussion - moving around	n=46	(%)	n=107	(%)
Positive	31	(67)	64	(60)
Negative	3	(7)	6	(6)
Feel question not applicable	12	(26)	37	(34)
Chi^2 =1.1; df=2; p=0.6				
Discussion - delivery position	n=42	(%)	n=107	(%)
Positive	24	(57)	54	(50)
Negative	10	(24)	34	(32)
Feel question not applicable	8	(19)	19	(18)
Chi^2 =0.9; df=2; p=0.6				
Coping during labour	n=47	(%)	n=109	(%)
Positive	42	(89)	99	(91)
Negative	5	(11)	10	(9)
Chi^2 =0.1; p=0.8				
Worry during labour	n=46	(%)	n=108	(%)
Positive	31	(67)	72	(67)
Negative	15	(33)	36	(33)
Chi^2 =0.01; p=0.9				
Expectations of labour[2]	n=45	(%)	n=102	(%)
Better/Much better than expected	32	(71)	68	(67)
Same as expected	5	(11)	21	(20)
Worse/much worse than expected	8	(18)	13	(13)
Chi^2 trend=0.002; p=1.0				

The two groups were satisfied, as indicated by positive mean scores, with all five key dimensions of satisfaction throughout intrapartum, hospital-based and home-based postnatal care (Table 31). The analysis indicated no statistically significant differences between the two groups on all key dimensions of satisfaction, except for the dimension of social support in the intrapartum period, with the known midwife group having a lower mean score (1.18; SD=0.36) than the unknown associate midwife group (1.35; SD=0.42); mean diff: -0.17; 95% CI for diff: -0.31 to -0.03.

Table 31. Women's satisfaction: relationship to knowing your midwife

Time period	Mean score					
Choices and decisions	Known midwife	(SD)	Unknown associate midwife	(SD)	Mean diff	95% CI for diff
Intrapartum care (NM[1]=46; UAM=108)	1.31	(0.31)	1.34	(0.32)	-0.03	-0.14 to 0.0
Hospital postnatal care (NM=45; UAM=106)	1.38	(0.44)	1.47	(0.41)	-0.09	-0.24 to 0.0
Home postnatal care (NM=45; UAM=107)	1.39	(0.50)	1.47	(0.44)	-0.08	-0.24 to 0.0
Information transfer						
Intrapartum care (NM=45; UAM=109)	1.32	(0.38)	1.44	(0.40)	-0.12	-0.26 to 0.0
Hospital postnatal care (NM=45; UAM=108)	1.37	(0.36)	1.44	(0.42)	-0.07	-0.21 to 0.0
Home postnatal care (NM=45; UAM=106)	0.85	(0.40)	0.83	(0.40)	0.02	-0.12 to 0.1
Social support						
Intrapartum care (NM=45; UAM=107)	1.18	(0.36)	1.35	(0.42)	-0.17	-0.31 to -0.0
Hospital postnatal care (NM=44; UAM=107)	1.29	(0.34)	1.40	(0.38)	-0.11	-0.24 to 0.0
Home postnatal care (NM=44; UAM=106)	1.31	(0.42)	1.39	(0.39)	-0.09	-0.24 to 0.0
Relationships with staff						
Intrapartum care (NM=46; UAM=109)	1.23	(0.31)	1.32	(0.34)	-0.08	-0.20 to 0.0
Hospital postnatal care (NM=45; UAM=106)	1.37	(0.36)	1.43	(0.42)	-0.07	-0.21 to 0.0
Home postnatal care (NM=45; UAM=108)	1.35	(0.38)	1.42	(0.41)	-0.07	-0.21 to 0.0
General satisfaction						
Intrapartum care (NM=46; UAM=109)	1.25	(0.35)	1.29	(0.40)	-0.04	-0.17 to 0.1
Hospital postnatal care (NM=45; UAM=106)	1.33	(0.39)	1.41	(0.43)	-0.08	-0.23 to 0.0
Home postnatal care (NM=45; UAM=108)	1.29	(0.43)	1.35	(0.45)	-0.06	-0.22 to 0.0

[1] NM = Named midwife; UAM = Unknown associate midwife

Given that social support in the intrapartum period was the only time significant differences were found between the two groups, an investigation was carried out to identify if the known midwife group were more satisfied with all or some items contributing to this dimension. The results indicated that significant differences occurred for the item 'I was treated as an individual' (Chi^2 trend= 9.7; $p<0.01$) only. For example, 22% of the known midwife group 'strongly agreed' that they were treated as an individual compared to 45% of the unknown associate midwife group, with 63% and 51% of the respective groups agreeing. Items 'I was really supported by staff', 'There was more interest in monitoring my baby than how I felt' and 'I was treated like just number' found no statistically significant differences between the two groups.

In an analysis of open-ended questions, substantially more positive comments (n=71 comments known midwife group, n=158 unknown associate midwife group, average 1.5 positive comments per person for both groups) were made by both groups than negative comments (n=12 known midwife group, n=23 unknown associate midwife group; average 0.3, 0.2 negative comments per person for the respective groups) (Table 32). Most positive comments made by both groups were about relationships with staff. However, women from the unknown associate midwife group were more likely to comment on this. Some of the comments made included:

> **"S, the midwife who delivered my baby was great. She told me from the start that it was me who was in control."** (unknown associate midwife)
> **"Made me very special, like I was the only one giving birth. The midwife really cared."** (known midwife)

Women from the known midwife group were more likely to mention continuity of care as something they liked about their intrapartum care. Ten of the fourteen positive comments made by the known midwife group about continuity of care were specifically about being cared for by a known midwife. For example:

> **"Having my MDU midwife delivering my baby as I felt quite close to her."** (known midwife)

Only one comment from the known midwife group and two from the unknown associate midwife group were related to lack of continuity of care in the intrapartum period.

Women in both groups made positive comments about information transfer also. One woman commented:

> **"Everything was explained. Staff were extremely competent and this gave me confidence and that my partner was encouraged to participate."** (unknown associate midwife)

Other specific positive comments were made about facilities for example (n=2, n=16 respective groups) and choice and decisions (n=9, n=13 respective groups). Apart from the small number of negative comments made about continuity previously discussed, five known midwife negative comments and 11 unknown associate midwife comments were made about problems with choice and decisions. For example:

> **"At the time I felt they left me in labour too long before deciding whether to do a forceps or caesarean delivery and weren't really consulting me but now I think it was good because they gave me every chance to deliver naturally, which I did."** (unknown associate midwife)

In addition, other negative comments made were in relation to, for example, specific procedures in labour (n=1; n=5) and information (n=3 each group).

Table 32. Open-ended comments-relationship to knowing your midwife

Dimension	Known midwife n=47	Unknown associate midwife n=109
	n comments	n comments
Liked about intrapartum care		
Relationships with staff	27	74
Continuity of care	14	6
Information transfer	12	37
Facilities	2	16
Choice and decisions	9	13
Social support	1	3
Labour quick	2	3
General satisfaction	2	2
Specific comments	2	4
Disliked about intrapartum care		
Continuity of care	1	2
Choice and decisions	5	11
Specific procedures	1	5
Information	3	3
Relationships with staff	0	1
Facilities	1	1
Liked nothing as left too long	1	0

Discussion

Women in both types of care appeared highly satisfied with their intrapartum care. For example, only 2% of the midwife managed care group and 6% of the shared care group disagreed or strongly disagreed with the statement 'I feel satisfied with the way I was looked after.' However, women in the midwife managed care

group were significantly more satisfied on the majority of dimensions of satisfaction during the intrapartum period. This included satisfaction with organisation of care; discussion of preferences and procedures; following of preferences; information about procedures; preparation for coming into hospital; and all process of care dimensions such as choices and decisions and interpersonal relationships with staff. In addition, women received enhanced continuity of care and carer. The study null hypothesis is therefore rejected. The exception was that no difference between the two groups was found for those women with instrumental deliveries. Over a quarter felt their delivery had been discussed only moderately or not at all well. In addition, no differences were found between the two groups in rating of labour in relation to expectations.

The similarity of care received by women in the midwife managed care group and shared care group, in terms of whom they received care from (i.e. midwives) in the intrapartum period (McGinley et al. 1995), was confirmed from women's self-reports in the seven week postnatal questionnaire. That is, over 75% of both groups reported being delivered by a midwife and having a normal delivery. The samples were defined as intention to treat to give a more conservative estimate of outcomes accrued and this was confirmed with similar proportions reported being delivered by a doctor.

In relation to the organisation of intrapartum care, substantially more women in the midwife managed care group reported visiting the labour rooms during the antenatal period. Women in the shared care group were more likely to report they didn't have the time or didn't feel this was necessary. On reflection, this question could have had better response categories and it is difficult to determine how important this issue is to women. However, it may be argued that the opportunity to do this is a question of choice for women and may reduce anxiety and the fact that less women in the shared care group had the opportunity to do this may be linked to the finding that the midwife managed care group were more satisfied with the way they were greeted when they arrived at the hospital in labour.

The importance of being involved in choice and decisions and asking questions about specific procedures experienced during labour was illustrated with more than forty percent of both groups reporting they had specific preferences for their care during labour. The philosophy in midwife managed care of empowerment appeared to have permeated to women, however, as more women in this group reported having specific preferences. The midwife managed care group were also more satisfied with the discussion around preferences both during antenatal and intrapartum periods. However, the fact that very few women in both groups reported there were specific things they wanted for their labour / things they didn't want they did get indicates satisfaction from both groups with preferences. Those women who wanted specific things that they did not receive, however, appeared dissatisfied with the discussion around these preferences. In addition, in comparison to the other key dimensions of satisfaction (e.g. information transfer, social support) women in both groups reported least satisfaction with choice and decisions.

The strong desire for support during labour was also evident with the main preferences from both groups for partner/friend to be present. Given that a recent meta-analysis confirmed that social support during labour can have positive clinical effects (Zhang et al, 1996), the importance of this dimension of care cannot be overstated. The analysis of process of care dimensions indicated that although women in both groups were

satisfied with social support from staff, women in the shared care group were significantly more satisfied. Of further relevance to this finding was that both women's self-report and the signature count illustrated that women receiving midwife managed care received enhanced continuity of carer as well as continuity of advice. However, over 60% of both groups reported the carer who delivered their baby cared for them for the most part of their labour. Interestingly, however, women in the midwife managed care were more likely to report continuity of carer as something important to them in the intrapartum period although both groups gave equal importance to continuity of advice. This may be linked to the finding that women in the midwife managed care group were more likely to have met their main carer in labour during the antenatal period although not surprisingly, if the main carer differed from the delivery person, over 90% of both groups had not met the delivery person.

Continuity of care and carer were confirmed as important factors in enhancing women's satisfaction in the intrapartum period both within midwife managed care and shared care in the further analysis. However, an in-depth analysis of those women receiving care from a known midwife with women cared for by an unknown associate midwife found no evidence of enhanced satisfaction from knowing the midwife during labour although in open-ended comments women cared for by a known midwife appeared more likely to identify continuity as the thing they liked about their intrapartum care, especially 'knowing the midwife'. The influence of 'what is must be best' has to acknowledged (Porter and MacIntyre, 1984) and hardly anyone from both groups made negative comments about continuity. A similar study (Lee, 1994) highlighted that 'ideally' the interpersonal skills of the midwife and choice during labour would be rated as more desirable than actually knowing the carer. Farquhar et al (1996) suggested one interpretation of this is that being delivered by a known midwife simply is the 'icing on the cake' but not a prerequisite to feeling positive about delivery attendants. The open-ended questions illustrated that in the intrapartum period relationships to staff, for example, in terms of inspiring confidence, is perhaps the most important thing to women receiving both types of care. However, the question of meaningful continuity is also raised by the findings. The numbers of women in both groups who reported that one person cared for them for the duration of their labour was very low.

The medicalisation of childbirth may be questioned for women receiving both types of care. For example, more than fifty percent of both groups who returned the questionnaire reported that their labour was induced or augmented. The trial outcomes found the rates to be induction: 23.9% midwife managed care; shared care 33.3%, 95% CI for diff: 4.4 to 14.5; augmentation: midwife managed care 39.7%, shared care 43.1%, 95% CI for diff: -3.4 to 2.9 (Turnbull et al, 1996a). However, those women in the midwife managed care group reported being more satisfied with the discussion around this procedure, although the two groups reported no difference in their satisfaction with having these procedures, with both being highly satisfied.

Forty percent of both groups reported that moving around in labour was not applicable to them and only 40% moved around as much as they wanted. These findings are possibly linked with women's reports of 40% being attached to an electronic monitor in both groups and 34% of both groups reporting they had an epidural with very few in both groups using purely non-pharmacological methods of pain relief. In contrast to induction and augmentation, women in the midwife managed care group reported more satisfaction with discussion and *actual* satisfaction with both monitoring and pain relief. It may be that these findings are

linked to the level of intervention, that is induction and augmentation are major procedures and women have shown to develop a 'loyalty' to their births (Lumley, 1985) and also the influence of 'what is must be best' may be a factor (Porter and MacIntyre, 1984).

Further evidence of a medically dominated view of childbirth was that over 90% of both groups who had a normal delivery delivered in the traditional delivery position. The extent to which these findings are attributable to women's choice and midwives' persuasion is unclear, it appears that choice was somewhat protected (e.g. very few women felt little pressure to move around). However, the high rates of technological intervention with both types of care, although midwife managed care had a positive impact in reducing some interventions, has been questioned. Turnbull et al (1996) stated that it seems the established practice at GRMH appeared to have influenced midwives to monitor continuously despite that it confers no benefit in a low risk population (Neilson, 1994). In addition, it was stated that the hospital's long standing 24hr epidural service may mean that epidural anaesthesia is an accustomed option for midwives and women. It was further stated that the desire to give women choice, plus the preferences of the particular client group (in line with social class differences found by Nelson, 1983), may account for the lack of difference in the type of pain relief. The findings presented in this chapter suggest, however, that midwife managed care had a positive impact in that women felt better informed about these issues both during antenatal and intrapartum care.

The midwife managed care group were more generally satisfied with their care as found from the mean scores and generally reported being more satisfied with the way their labour and delivery went. However, they were not more likely to report their labour better than expected. This may be related to the similarities in the care received in this time period. Further support for this argument is that, when offered the opportunity to write what they liked about their intrapartum care, women in both groups were likely to say similar things, mainly interpersonal relationships with staff. The high degree of satisfaction experienced by both groups was illustrated in the finding that over 30% of both groups reported that they disliked nothing about their intrapartum care.

In relation to factors related to satisfaction and dissatisfaction with care, women who experienced complications in both types of care also appeared generally satisfied with care. In addition, very few women reported mean scores for the key dimensions of satisfaction under 0, further indicating high levels of satisfaction with both types of care during this time period and women who were dissatisfied tended to be with only one dimension of satisfaction. Women experiencing postpartum haemorrhage and preterm labour, regardless of type of care received, appeared to be poor responders to the questionnaire. However, the reasons for this finding are unclear and it is difficult to draw any conclusions due to the small numbers involved.

In conclusion, in similarity to the findings from antenatal care (Chapter 4), women in both groups were satisfied with their maternity care. However, women receiving midwife managed care were significantly more satisfied with the key dimensions of satisfaction, as well as a number of other dimensions of satisfaction. Women receiving midwife managed care were not, for example, however, more likely to report their labour as better than expected. This may relate to the similarities between the two types of care during

the intrapartum period (McGinley et al, 1995). In addition, the findings illustrated a relationship between level of continuity and satisfaction with care in this period.

Chapter 6 Postnatal care

Aim

This chapter reports on women's satisfaction with midwife managed care in the postnatal period when compared with shared care. The information collated was mainly from a seven week postnatal self-report questionnaire (n=445 midwife managed care, n=380 shared care). In addition to quantitative data, qualitative information from open-ended questions is presented. However, data from a case-record review (n=182 midwife managed care, n=184 shared care) was included also to examine continuity of carer. In addition, in order to consider women's satisfaction within the context of the care they received, some information from the trial review of clinical outcomes (Turnbull et al, 1996a) was included.

Postnatal care has been defined as a problem area for maternity services (Dalton, 1989; Glazener, 1993a; House of Commons Health Committee, 1992), especially postnatal care in hospital (Phaff 1986; Jackson, 1996). This chapter reports women's satisfaction with hospital-based care and home-based postnatal care separately. For both these time periods, questions about satisfaction with the organisation (e.g. feelings about length of hospital stay) and process of care (e.g. satisfaction with information received) were included in the seven-week postnatal questionnaire. During the piloting of the seven-week postnatal questionnaire, the issue of information was highlighted as a prominent issue by women. Women highlighted two particular issues: good sources of information during pregnancy and the puerperium and information on maternity and child benefits. The chapter reports results relating to these issues. The chapter also reports results from continuity of care and carer in the postnatal period. Women were asked how important continuity of care and carer was to them in this time period and then asked how much, from their point of view, continuity they had received. Factors which may enhance or reduce satisfaction, as relating to both hospital and home-based postnatal care, were also examined.

Hospital-based postnatal care

Description of care

The trial clinical outcome review found that the average postnatal stay experienced by women in both groups was 3.3 days. Overall, 3.6% of women randomised to the midwife managed care group and 4.0% of women randomised to shared care group were readmitted to hospital in the postnatal period. In similarity to the trial clinical outcome review, from women's self-reports, there were no differences between the groups in their reporting of length of postnatal stay in hospital (X^2 trend = 2.1; p=0.2). Fifty percent of the midwife managed care group and fifty-one percent of the midwife managed care group reported their stay as three days or more. With 30% and 33% of the respective groups reporting they were discharged after two days in hospital. Very small proportions of both groups had an early discharge (i.e. within six to twelve hours after delivery) (2% midwife managed care: 1% shared care), although 7% and 5% of the respective groups reported that they went home within twelve to twenty-four hours of having their baby.

Elements of satisfaction

(a) Organisation of care

Although there were no differences between the two groups in their reported length of postnatal stay in hospital, the midwife managed care group were more satisfied with their length of stay (Table 33). The vast majority of both groups felt that their postnatal stay in hospital was just right, this was more so in the midwife managed care group, however (89% midwife managed care group, 80% shared care group).

Table 33. Satisfaction with organisation of hospital-based postnatal care

	Midwife managed care (%)	Shared care (%)
Feelings about length of postnatal stay[1]		
Far too long	2	4
Too long	5	8
Just the right length	89	80
Too short	4	8
Far too short	<1	<1
X^2 =12.1; df-4; p<0.001		
How good were staff in making you feel comfortable?		
Extremely good	42	25
Very good	28	24
Good	18	25
Only moderately good	10	16
Not at all good	2	10
X^2 trend = 48.4; p<0.001		
How pleasant were the surroundings on the ward?[1]		
Extremely pleasant	42	7
Very pleasant	30	21
Pleasant	18	45
Only moderately pleasant	7	21
Not at all pleasant	3	6
X^2 trend = 152.0; p<0.001		
How well staff discuss where advice on leaving hospital?		
Extremely good	37	22
Very good	30	27
Good	20	26
Only moderately good	8	14
Not at all good	5	11
X^2 trend = 48.4; p<0.001		

1. The extreme negative option was presented first with these items

The midwife managed care group were more likely to report that staff on the postnatal ward were extremely good in making them feel comfortable (e.g. introducing themselves and other mothers to them, asking them whether they would like a bath, showing them where things were kept) (49%: 25% shared care) (Table 33). In contrast, 26% of the shared care group compared to 12% of the midwife managed care group reported that staff were 'only moderately' or 'not at all good' at this aspect of care. In addition, the midwife managed care group reported the postnatal ward surroundings as more pleasant. Forty-two percent of the midwife managed care group felt that the ward surroundings were 'extremely pleasant' compared to 7% of the shared care group. In addition, 27% of the shared care group rated the postnatal ward as 'only moderately' or 'not at all pleasant' compared to 10% of the midwife managed care group.

The midwife managed care group were more likely to report also that staff had discussed where to get advice about themselves and their baby if they needed it on leaving hospital (Table 33). Thirty-seven percent of the midwife managed care group reported this aspect of care had been discussed 'extremely well' compared to 22% of the shared care group. In contrast, 25% of the shared care group reported that staff had carried out this aspect of care 'only moderately' or 'not at all well' compared to 13% of the midwife managed care group.

There were no differences between the groups in the number of women who reported their baby had been admitted to the Special Care Baby Unit (SCBU) (X^2 0.4; df 2; p 0.8; 23% midwife managed care group, 22% shared care group). Seventy-five percent and 76% of the respective groups reported that their baby was not admitted to SCBU (2% and 1% of the respective groups were not sure if this had happened).

Of those women whose baby was admitted to SCBU, over 75% of both groups reported that the reasons for this had been discussed at least 'well' (X^2 trend = 0.2; p=0.6). Although not statistically significant, more women in the midwife group appeared to report reasons were discussed 'extremely well' (23% midwife managed care group, 17% shared care). Conversely, 26% of the shared care group felt that the reasons were discussed 'not at all well' compared to 21% of the midwife managed care group. Over 75% of both groups reported that staff had reassured them at least 'well' about this (e.g. explained they could see their baby any time, roughly how long their baby would be there) (X^2 trend = 2.1; p=0.1). Although, again, more women in the midwife group appeared to report that they were reassured 'extremely well' (36%: 25% shared care). Nineteen percent of the shared care group felt that they were 'only moderately' or 'not at all well' reassured compared to 13% of the midwife managed care group.

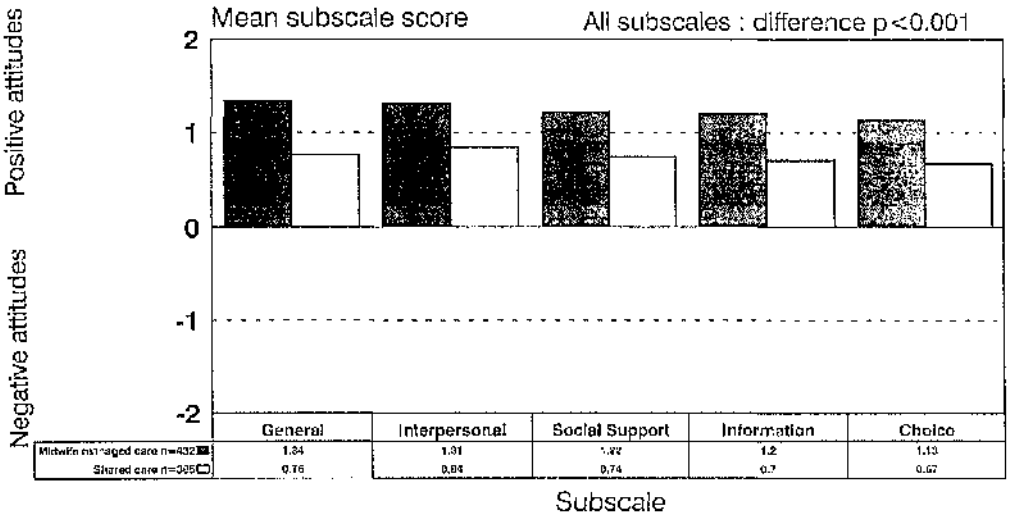
(b) Process of care

The dimensions of satisfaction examined for the process of care were: general satisfaction and satisfaction in relation to interpersonal relationships with staff, social support, information transfer and, choice and decision-making (Figure 11). Each of these dimensions comprised a composite mean score from four statements. Examples of the statements used to measure general satisfaction with care were: 'I felt I could have had better care' and 'I was satisfied with the care I received'. For interpersonal relationships with staff an example of a statement used was: 'The staff I saw were really nice'. For social support, statements used to measure satisfaction with process of care included: 'Staff took an interest in my home circumstances' and 'There was little interest in me after my baby was born'. The dimension of information transfer was measured using statements such as: 'I felt I was given too little information' and 'I was given information without having to ask all the time' and, to measure choices and decisions, statements used were: 'Little attention was paid to my wishes' and 'I felt I was given choices about what I could do'.

Women in both groups were satisfied with the process of hospital-based postnatal care (as indicated by both group mean scores in the positive range of the scale). However, women in the midwife managed care group were significantly more satisfied with the process of care, not only at a general level, but with interpersonal relationships with staff, social support, information transfer, and choices and decisions. The confidence intervals for the group differences were - general satisfaction diff: 0.57, 95% CI: 0.45 to 0.70; interpersonal

relationships with staff diff: 0.47, 95% CI: 0.37 to 0.57; social support diff: 0.47, 95% CI: 0.38 to 0.57; information diff: 0.50, 95% CI: 0.39 to 0.90; and choice/decisions diff: 0.46, 95% CI: 0.35 to 0.56.

Figure 11. Mean satisfaction scores for process of care: hospital-based postnatal care



(c) Overall ratings

Women were asked about their overall satisfaction with hospital-based postnatal care. The midwife managed care group were more satisfied with care in this time period (X^2 trend = 72.8; p<0.001). Forty-seven of the midwife managed care group were 'extremely satisfied' with the care they received in hospital after their baby was born compared to 22% of the shared care group. In contrast, only 5% of the midwife managed care group were 'only moderately' or 'not at all satisfied' with postnatal care in hospital compared to 17% of the shared care group.

Comments made by women in response to questions about what they liked and disliked about their hospital-based postnatal care were coded into dimensions of satisfaction (Table 34). Relatively more comments were made by women in the midwife managed care group. In relation to what women liked most about their care, 444 comments were made by the midwife managed care group and 314 comments were made by the shared care group. In terms of what women disliked most about their care, 298 comments were made by the midwife managed care group and 292 were made by the shared care group.

Table 34. Open-ended questions (what like best and least about hospital based postnatal care)

Item	Midwife managed care (n=445)	Shared Care (n=380)
	responses = 444	Responses = 314
What like best about care	%	%
Interpersonal relationships with staff	51	58
Organisation	15	16
Facilities	13	3
Continuity of care	2	0
Information	2	2
Liked nothing	2	7
Others	15	13
Missing data	N=24	N=47
	Responses = 298	**responses = 292**
What like least about care	%	%
Organisation of care	21	49
Disliked nothing	68	32
Others	11	19
Missing data	N=62	N=32

The majority of positive comments from both groups were made about relationships to staff (51% of comments midwife care, 58% shared care). For example:

> **"I was treated as an individual and staff were so professional."** (shared care)
>
> **"I liked how the nurses took the time to talk and ask how you were."** (shared care)
>
> **"The staff were generally nice and helpful when you asked for help. The physio and the paediatrician were also very nice."** (shared care)

Similarly equal proportions mentioned their satisfaction with the organisation of care. However, more comments were made by the midwife managed care group about the facilities (13%: 3% shared care). In particular, comments were made about how comfortable and homely the postnatal ward was in midwife managed care. For example one comment from the midwife managed group was:

> **"I was very comfortable in the hospital. It has been greatly improved since my last baby. The decor is really nice and soothing and all. The staff were great and do a lot to take your mind of everything."** (midwife managed care)

Seven percent of comments made by the shared group stated they liked nothing about their hospital-based postnatal care, with 2% of midwife managed care comments stating this. For example:

> **"The best thing was going home! Nobody helped me in hospital although I'd had a caesarean. Nobody showed any interest in me or my baby at all and I asked to go home after 2 days."** (shared care)

In contrast to the question of what women liked most about their hospital-based care, relatively more comments were made by the shared care group when they were asked about what they most disliked about their postnatal care in hospital. Women in the shared care group tended to comment on organisational difficulties such as 'not enough help from staff', 'not enough sleep', 'ward too busy and noisy' and 'food awful' (49% of comments made), although 21% of comments made by the midwife managed care group

were in relation to organisational difficulties also. Some examples of comments made by the shared care group about lack of organisation of care in hospital were:

> **"The ward was very cramped, the beds were too close together. There was no privacy and it was noisy as well."** (shared care)

> **"The staff were very busy. As a first time mother, I needed a lot more reassurance and help than was given to me due to the pressures of staff. Staff just didn't have the time for you."** (shared care)

Some women noted specifically about problems of changing wards and wrong wards:

> **"The staff looked after myself and my baby very well in Ward X. On the last 2 days, I was moved to Ward Y because of lack of beds though. One midwife had to look after 13 girls and babies and could not possibly give the amount of care needed by each."** (shared care)

> **"After my caesarean section the staff were very supportive but when I was moved from Ward X I was dumped in another ward. The staff were very busy and looked under staffed."** (shared care)

> **"I was put into a special ward with drug addicts and have never been so embarrassed in my whole life. Don't get me wrong the staff were really nice, it was just embarrassing when I had my visitors but I was told there was no other beds available. All I did was cry in hospital and it was because of the ward. I felt as though I was a drug addict when I told people what ward I was in."** (shared care)

Women in the midwife managed care group were more likely to report there was nothing they disliked about their hospital-based postnatal care (68% of comments: 32% shared care). For example:

> **"I really found nothing to dislike. Everything was fine. Everybody was really friendly and we all got on like one big happy family."** (midwife managed care)

Women who were transferred from midwife managed care reported problems with care in hospital, however:

> **"I was transferred from postnatal ward X to ward Z where all the other mothers had their babies with them and my baby was in intensive care fighting for his life. Mothers like me should have a ward especially for them or should be put in an antenatal ward."** (midwife managed care)

> **"I felt my time on the ward was very upsetting. I felt lonely and helpless. I felt there was not one person there that had any time to spend with me for anything."** (midwife managed care)

> **"The postnatal care in hospital was non-existent. I was dumped in a bed and left to get on with it. There was always no loo paper and cliniwipes. There was no buzzer at my bed side and I spent most of my time walking the floor looking for a nurse."** (midwife managed care)

> **"I felt really strongly about being taken off the MDU. I spent all my pregnancy getting to know the staff and finally I am taken away to a different ward and staff. I really think that you should look at the situation and try and do something about it. I was with another girl who was also taken off the MDU. We were both very upset. I had a caesarean section which was not the fault of my own. I felt I should have been kept on."** (midwife managed care)

One woman receiving shared care noted specifically feeling that because she had had a baby before she felt staff on the ward acted as if she should know it all and another woman felt that all the other mothers knew what to do except her, although another women receiving shared care felt things were generally demonstrated (i.e. how to care for your baby):

> **"Because I had my baby late at night, early in the morning I wasn't shown where the toilets etc. were. I didn't feel the staff showed me enough about her to clean a baby, although this is my second baby they are both very different. There was a gap of over 4 years since my last child and they are opposite sexes."** (shared care)

> **"I've never been in hospital before, and it was all older women on the postnatal ward. I felt they all knew what they were doing and I didn't but that was my fault I didn't go to any of the antenatal classes. I didn't like the hospital. The nurses weren't nice. You had to ask them for things. Unless there was something I felt was really wrong I would just leave it."** (shared care)

> **"They showed you when you were on the ward how to bath him, feed him and that. That was okay but my family have a lot of babies so I knew all that anyway"** (shared care)

and some women in the shared care group commented specifically about lack of support with breastfeeding:

> **"I didn't like anything about my care in hospital after my baby was born. The staff didn't have enough time for you, especially as I wanted to breastfeed, they didn't have the time to help you."** (shared care)

> **"On the day I had my baby I needed support and understanding about how I was feeling and when I wanted to start breastfeeding I needed help not some stuck-up nurse telling me there was no point after my baby had had 2 bottles. I was in no condition as my whole system was shaking for the full day. I hope this information will help others."** (shared care)

> **"I wanted to breastfeed but I was left to myself. The sister that was on, she was older and I know they're not supposed to but I felt she looked down on me. It wasn't until my last night that this nurse came on and said that the nipple shields isn't ideal but if I wanted to breastfeed then it would help. If she hadn't came round on that last night I don't think I would have breastfed."** (shared care)

Home-based postnatal care

Description of care

The trial clinical outcome review (99.2% [643/651] case records available midwife managed care, 97.5% [635/651] shared care) found that, in both groups, midwives visited women at home for postnatal care on average 4.9 times. In addition, the majority of both groups were equally likely to be discharged to the health visitor on the 11th postnatal day.

Elements of satisfaction

(a) Organisation of care

The midwife managed care group reported that their home commitments had been taken into account more often when staff arranged postnatal visits to their home (Table 35). Eighty-four percent of the midwife managed care group reported that their home circumstances had been taken into account enough compared to 74% of the shared care group. Very small proportions of both groups felt that their home circumstances had not been taken into account at all when staff arranged visits to their home (6% and 9% of the respective groups). No differences were found between the two groups in relation to feelings about number of postnatal home visits and amount of time with midwives during these visits. Around 90% of both groups felt that they had 'just the right amount' of postnatal home visits and 'just the right' amount of time with midwives during visits.

Table 35. Satisfaction with organisation of home-based postnatal care

	Midwife managed care (n=436) (%)	Shared care (n=374) (%)
How much take home commitments into account when postnatal visits arranged?		
Enough	84	74
Nearly enough	8	12
Not nearly enough	2	5
Not at all	6	9
X^2 trend = 9.6; p<0.001		
Feelings about number of postnatal visits[1]		
Far too many	<1	<1
Too many	6	5
Just the right amount	90	87
Too little	3	5
Far too little	<1	2
X^2 =4.8; df=5; p=0.4		
Feelings about amount time with midwives during postnatal visits		
Far too much	0	0
Too much	<1	2
Just the right amount	95	92
Too little	4	5
Far too little	<1	1
X^2 =5.4; df=4; p=0.3		

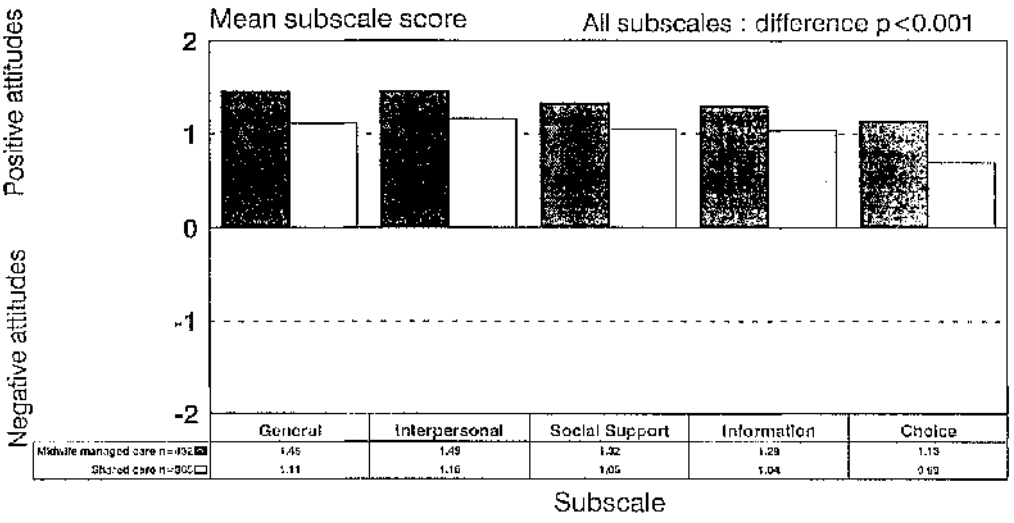
1. The extreme negative option was presented first with these items

(b) Process of care

The dimensions of satisfaction examined for the process of home-based postnatal care were similar to that of hospital-based postnatal care: general satisfaction and satisfaction in relation to interpersonal relationships with staff, social support, information transfer and, choice and decision-making (Figure 12). Each of these dimensions comprised a composite mean score from four statements. The statements used to measure each of the dimensions were identical to that used for hospital-based postnatal care.

Women in both groups were satisfied with the process of home-based postnatal care (as indicated by both group mean scores in the positive range of the scale). However, women in the midwife managed care group were significantly more satisfied with the process of care, not only at a general level, but with interpersonal relationships with staff, social support, information transfer, and choices and decisions. The confidence intervals for the group differences were - general satisfaction diff: 0.33, 95% CI: 0.25 to 0.42; interpersonal relationships with staff diff: 0.28, 95% CI: 0.21 to 0.35; social support diff: 0.26, 95% CI: 0.19 to 0.34; information diff: 0.25, 95% CI: 0.17 to 0.32; and choice/decisions diff: 0.45, 95% CI: 0.34 to 0.55.

Figure 12. Mean satisfaction scores for process of care: home-based postnatal care



(c) Overall ratings

Women in the two groups wrote different things and relatively more positive comments were made by women receiving midwife managed care, in open-ended comments, about what they liked and disliked about their home-based postnatal care (Table 36).

Table 36. Open-ended questions (what like best and least about home based postnatal care)

Item	Midwife managed care n=445	Shared care n=380
	responses = 421	**Responses = 344**
What like best about care	%	%
General	14	17
Feeling relaxed	29	40
Information	8	10
Continuity of care	20	7
Interpersonal relationships with staff	22	22
Other	7	3
Missing data	N=22	N=45
	responses = 278	**responses = 251**
What like least about care	%	%
Dislike nothing	76	63
Organisation of care	15	20
Lack of continuity of care	1	3
Other	8	15
Missing data	N=120	N=66

More comments were made by the shared care group about 'feeling relaxed' and 'happy to be home' during their home-based postnatal care (40%), although a substantial proportion of the midwife managed care group reported feeling like this also (29%). Similar proportions commented that they were generally satisfied or satisfied with 'everything' (around 15% of both groups) or commented on interpersonal relationships with staff (22% of both groups). For example:

> **"The midwives who visited me at home were wonderful. They were full of helpful advice and interested in me too as well as my baby."** (shared care)

However, more comments were made by the midwife managed care group about their satisfaction with continuity of care during home based postnatal care (20%: 7% shared care). For example:

> **"It was great having midwives I had already met visiting me at home. You felt you knew them.** (midwife managed care)

although this was mentioned by some women in the shared care group:

> **"I liked the fact that my community midwife did my antenatal and postnatal care so I got to be at ease with her and was able to talk about anything to her."** (shared care)

The majority of both groups reported that they did not dislike anything about the postnatal care at home (76% midwife care; 63% shared care). For example, one woman receiving shared care commented on the difference in quality from hospital postnatal care:

> **"In comparison to the care in hospital, I felt the midwives had more time for you but I didn't like the fact that it was a different midwife each time."** (shared care)

What women commented on was poor organisation of postnatal care at home. In particular, women commented on 'not knowing what time the midwife would visit them at home'. For example:

> **"They couldn't tell me when they would be out so some days I had to wait in all day for them."** (midwife managed care)
>
> **"It was really inconvenient that you didn't know what time the midwife would come as if I had been up all night with the baby, I felt I had to be up early because the midwife could come at any time."** (midwife managed care)
>
> **"I was discharged from hospital on a Thursday. I was to have a home visit on Friday but due to an accident the midwife did not make it out. I had no visits Saturday, Sunday, Monday. Then I had a visit on Tuesday. None Wednesday. Visited Thursday. None Friday, Saturday then talkback on Sunday. There was nothing sent to our health centre to say I was home from hospital, therefore the health visitor did not visit me nor my own GP. They did not have any information when I went down to the clinic."** (midwife managed care)

More women in the shared care group commented about this lack of organisation (15% midwife managed care group; 20% shared care group). For example:

> **"I felt the midwives were always in a hurry. I didn't enjoy it at all."** (shared care)
>
> **"I felt restricted because I never knew what time the midwives were arriving at therefore I couldn't plan ahead. Also I felt staff didn't have the time to listen and didn't always take heed of what you told them."** (shared care)

Lack of support was a specific issue noted:

> **"The wee one had jaundice. I didn't know what it was or why he had it. I just felt it was because I wasn't feeding him right. That could have been prevented if I had had help.** (shared care)

> **"The second midwife who attended to my new baby and myself wasn't very considerate. She upset me and my baby on her first visit and I did not look forward to her visits for the whole week."** (shared care)

Some women receiving shared care contrasted the difference in support with breastfeeding from hospital and in the community:

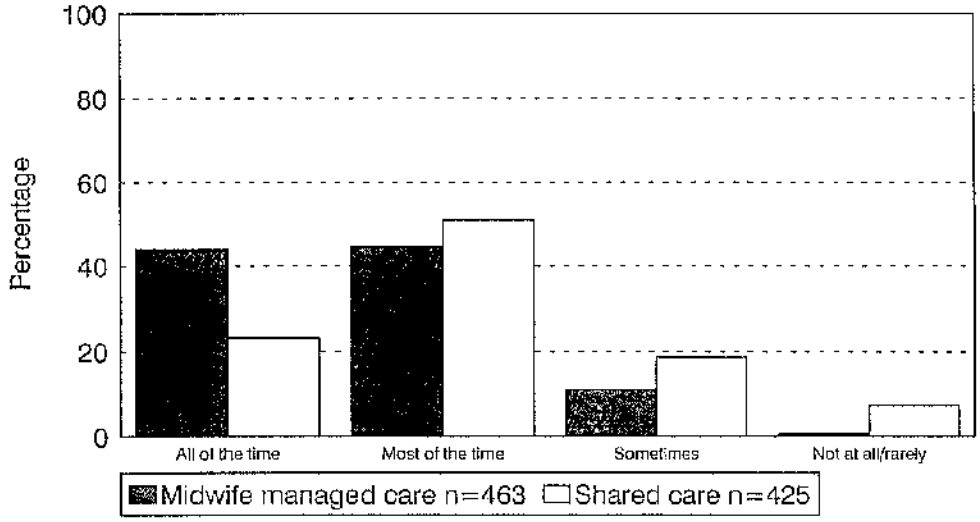
> **"I didn't like anything about my care in hospital. They gave me no encouragement at all especially about breastfeeding. I enjoyed every minute of my care at home, though. I had all the support and help I needed to take up breastfeeding."** (shared care)

Continuity of care and carer in the postnatal period

Women were asked a number of questions about continuity of care and carer. The importance of both these issues to women in the postnatal period were ascertained and how much continuity of care and carer women reported receiving was collated. Women in the midwife managed care group were more likely to report continuity of advice in the postnatal period as important (X^2 trend = 6.0; p=0.01). Forty-six percent of this group reported this issue as 'extremely important' compared to 41% of the shared care group. More women in the shared care group rated this issue as 'not at all' or 'only moderately' important (7%: 3% midwife managed care). On the issue of importance of continuity of carer in the postnatal period, women in the midwife managed care group rated this as more important also (X^2 trend = 25.6; p<0.001). Forty-three percent of the midwife managed care group rated continuity of carer as 'extremely important' compared to 34% of the shared care group. The shared care group were more likely to rate this aspect of care 'only moderately' or 'not at all important' (21%: 10% midwife managed care).

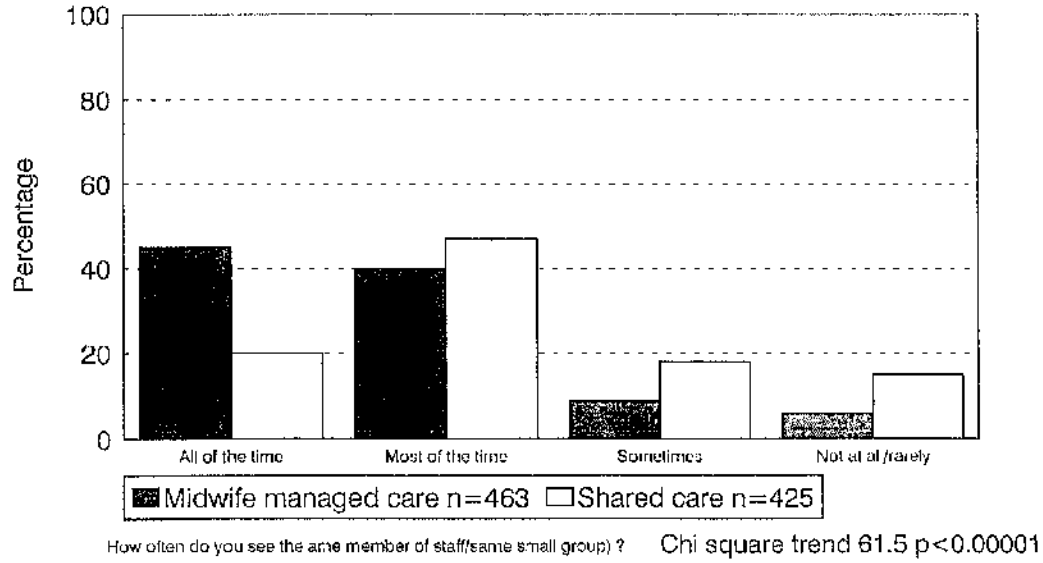
The midwife managed care group reported receiving more continuity of care during postnatal care in hospital (X^2 trend = 52.3; p<0.001; Figure 13). Forty-three percent of the midwife group reported receiving continuity of advice 'all of the time' compared to 21% of the shared care group. However, a further 50% of the shared care group and 43% of the midwife managed care group reported receiving continuity of advice 'most of the time'. Nineteen percent of the shared care group reported that they received continuity 'sometimes', with 11% of the midwife managed care group reporting this. The shared care group were more likely to report that they received continuity of advice 'rarely' or 'not at all' (8%, 1% midwife managed care).

Figure 13. Continuity of care during hospital-based postnatal care



The midwife managed care group reported that they received more continuity of carer during hospital-based postnatal care (X^2 trend = 61.5; p<0.001; Figure 14). Forty-five percent of this group reported seeing the same person or same small group of carers all of the time, with 20% of the shared care group reporting this. However, a further 47% of the shared care group and 40% of the midwife managed care group reported receiving continuity of carer most of the time. The shared care group were more likely to report continuity of carer 'rarely' or 'not at all' during hospital-based postnatal care (15%; 6% midwife managed care).

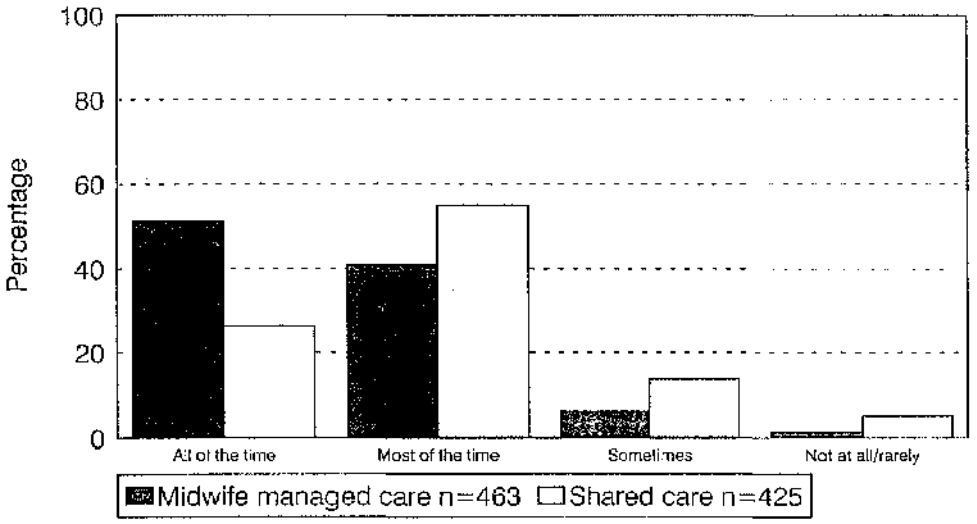
Figure 14. Continuity of carer during hospital-based postnatal care



For home-based postnatal care, women in the midwife managed care group were more likely to report receiving continuity of advice (X^2 trend = 36.1; p<0.001; Figure 15). Fifty-two percent of the midwife managed care group reported receiving continuity of advice 'all the time' at home compared to 25% of the shared care group. However, 52% of the shared care group felt that they received continuity of advice most of the time at home with 40% of the midwife managed care group reporting this. Five percent of the shared

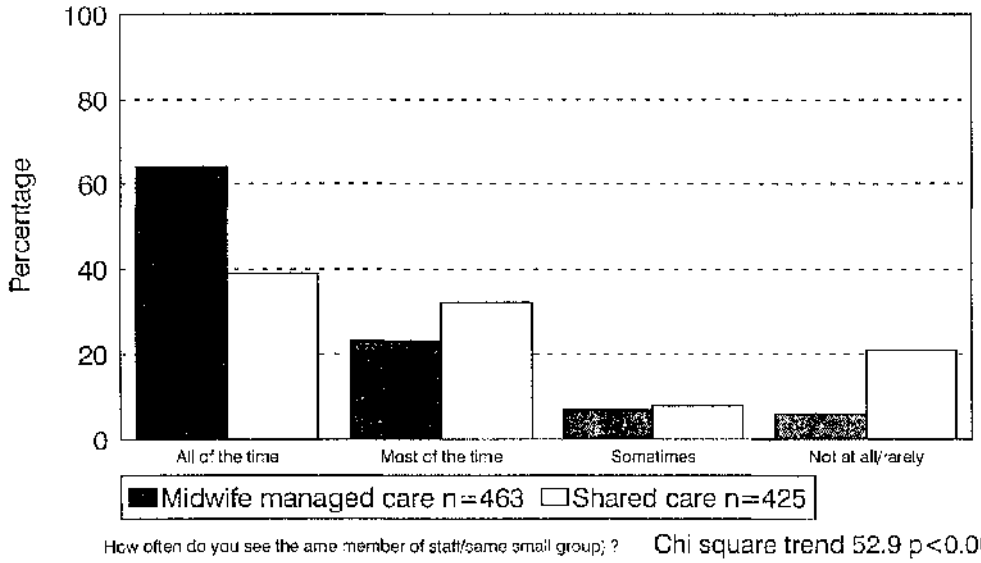
care group compared to 1% of the midwife managed care group felt that they received continuity of advice 'rarely' or 'not at all'.

Figure 15. Continuity of care during home-based postnatal care



As with continuity of advice during home-based postnatal care, women receiving midwife managed care reported receiving more continuity of carer (X^2 trend = 52.9; p<0.001; Figure 16). Sixty-four percent of the midwife managed care group reported that the same member of staff or same small group of staff visited them at home for postnatal care compared to 39% of the shared care group. A further 23% and 32% of the respective groups reported receiving continuity of carer 'most of the time'. However, more women in the shared care group reported receiving continuity of carer 'rarely' or 'not at all' for their postnatal home visits (21%: 6% midwife managed care).

Figure 16. Continuity of carer during home-based postnatal care



In order to ascertain the number of actual different carers involved in the postnatal period, a signature count of case records was utilised. Women receiving midwife managed care were cared for by an average of 5.5 different carers in the postnatal period compared to 6.7 different carers in shared care (95% CI: -1.9 to -0.6). This reduction was due to the midwife managed care group being cared for a smaller number of midwives (mean 5.0 midwife managed care, mean 6.1 shared care; 95% CI: -1.7 to -0.6) with no change in input from the obstetric team (mean 0.5 midwife managed care, 0.6 shared care; 95% CI: -0.3 to 0.1).

Maternity care in general

Information regarding pregnancy and childbirth

Women in the midwife managed care group were more likely to report the midwife as a source of information throughout the childbirth experience (96%: 67% shared care group) (Table 37), although this was high in both groups. More women in the shared care group reported a hospital doctor (25%: 6% midwife managed care) and general practitioner as being sources of information although 31% of the midwife managed care group reported their general practitioner as a source of information (60% shared care group). Similar proportions of both groups reported the physiotherapist was a source of information (approximately 25% of each group).

More women in the shared care group found the dietitian a source of information, although, very small proportions of both groups reported this (4% shared care: 2% midwife managed care). Similarly, very small proportions reported National Childbirth Trust classes were a source of information. More women in the shared care group reported antenatal/parentcraft classes were a source of information (39%: 30% midwife managed care). There appeared no differences between the groups in their reporting of the use of casual sources of information sources such as books/magazines/television (62% midwife managed care, 58% shared care) and friends/relatives (50% midwife managed care, 49% shared care).

Table 37. Information sources during pregnancy and childbirth

	Midwife managed care (n=445) (%)	Shared care (n=380)(%)
From midwife	96	67
X^2 =118.1; df=1; p<0.001		
From hospital doctor	6	26
X^2 =60.2; df=1; p<0.001		
From GP	31	60
X^2 =70.8; df=1; p<0.001		
From physiotherapist	25	27
X^2 =0.5; df=1; p=0.5		
From dietitian	2	4
X^2 =4.5; df=1; p<0.05		
From antenatal classes	30	39
X^2 =7.1; df=1; p<0.001		
From NCT classes	0	1
X^2 =4.7; df=1; p<0.05		
From books/magazines/tv	62	58
X^2 =1.3; df=1; p=0.2		
From friends/relatives	50	49
X^2 =0.2; df=1; p=0.7		

In relation to information received about maternity and child benefits received throughout pregnancy and the postpartum, the midwife managed care group were more satisfied (X^2 trend = 41.4; p<0.001). However, only 10% of the midwife managed care group were 'extremely satisfied', with only 4% of the shared care group stating this. Twenty-two percent of the shared care group were 'not at all satisfied' with 9% of the midwife managed care group stating this. The largest proportion of both groups were satisfied (47% midwife managed care, 45% shared care).

Factors related to satisfaction and dissatisfaction

Do socio-demographic characteristics affect satisfaction with care?

The effect of socio-demographic characteristics: age, smoking status, marital status, neighbourhood type and parity on women's satisfaction with both postnatal care in hospital and postnatal care at home with both midwife managed care and shared care was ascertained. Socio-demographic characteristics did not affect satisfaction with care.

Satisfaction and dissatisfaction - do women differ?

Very few women experiencing major complications in the postnatal period were dissatisfied with their hospital-based postnatal care (Table 38). Only three women experiencing hypertension were dissatisfied with one dimension of care. The three women were dissatisfied with different aspects of care; one was generally dissatisfied, another was dissatisfied with choices and decisions and the other with social support. However, these three women were receiving shared care. In relation to minor complications, it appeared that more women in the shared care group who experienced perineal problems were less likely to return the questionnaire. In addition, statistical testing found women receiving this type of care and experiencing this

complication were more likely to be generally dissatisfied with their hospital-based postnatal care than their counterparts in midwife managed care.

Table 38. Complications: effect on satisfaction with hospital-based postnatal care

	Number of dimensions dissatisfied with Midwife managed care				Shared care			
Major complications	1	2	3	4>	1	2	3	4>
Hypertension (M=13/23,S=16/29)	0	0	0	0	3	0	0	0
Major medical complication (M=1/1, S=0/1)	0	0	0	0	-	-	-	-
Postnatal depression (M=2/2, S=1/1)	0	0	0	0	0	0	0	0
Postpartum haemorrhage (M=1/2, S=2/2)	0	0	0	0	0	0	0	0
Minor complications								
Perineal problems[1] (M=28/36,S=31/55)	1	0	0	0	5	3	0	1
Severe headaches (M=1/1, S=0/0)	0	0	0	0	0	0	0	0
Severe backache (M=0/0, S=2/2)	0	0	0	0	0	0	0	0

1. Includes perineal broken down / inflamed / haematoma and perineum resutured

A similar pattern, as found with hospital-based postnatal care, was found for those experiencing both major and minor complications, with both groups being generally satisfied with home-based postnatal care (Table 39). More women experiencing hypertension and perineal problems receiving shared care were dissatisfied with when compared to midwife managed care. However, less women experiencing these two complications in shared care were dissatisfied with home-based postnatal care when compared to hospital-based postnatal care (compare with Table 39).

Table 39. Complications: effect on satisfaction with home-based postnatal care

	Number of dimensions dissatisfied with Midwife managed care				Shared care			
Major complications	1	2	3	4>	1	2	3	4>
Hypertension (M=13/23,S=16/29)	1	0	0	0	2	0	1	0
Major medical complication (M=1/1, S=0/1)	0	0	0	0	-	-	-	-
Postnatal depression (M=2/2, S=1/1)	0	0	0	0	0	0	0	0
Postpartum haemorrhage (M=1/2, S=2/2)	0	0	0	0	0	0	0	0
Minor complications								
Perineal problems[1] (M=28/36,S=31/53)	1	0	0	0	1	1	1	0
Severe headaches (M=1/1, S=0/0)	0	0	0	0	0	0	0	0
Severe backache (M=0/0, S=2/2)	0	0	0	0	0	0	0	0

1. Includes perineal broken down / inflamed / haematoma and perineum resutured

Are women dissatisfied with only specific aspects of care?

For each dimension of satisfaction, women who were dissatisfied (mean score < 0) were identified. This analysis was carried out for both hospital-based postnatal care and home-based postnatal care. Table 40 presents the results for identifying dissatisfied women across all five dimensions (choice and decisions; information transfer; interpersonal relationships to staff; social support; and general satisfaction). The results indicated that very few women were dissatisfied overall with care in both time periods although more

women in both groups appeared dissatisfied with hospital rather than home-based postnatal care. The dissatisfaction expressed tended to be with social support in hospital (5/8 midwife care, 4/5 shared care).

Table 40. Are women dissatisfied with specific aspects of care? (hospital & home based postnatal care)

	Women who are dissatisfied			
	Hospital-based care		Home-based care	
No. of dimensions dissatisfied with	**MW n=8**	**Shared n=5**	**Midwife n=1**	**Shared n=5**
All five dimensions	0	0	0	0
Four/five	0	0	0	0
Three/five	0	0	0	0
Two/five	0	0	0	1
One dimension	8	5	1	4

Does continuity affect satisfaction?

Women reporting that they received optimum continuity of care and carer were compared with women who reported receiving less than optimum continuity for all key dimensions of satisfaction, whilst maintaining the midwife managed vs shared care group comparison.

Continuity of care

A consistent pattern of differences was found when examining level of continuity of care and dimensions of satisfaction for hospital-based postnatal care (Table 41). Women in the midwife managed care group receiving optimum continuity of care (Grp 1) were significantly more positive than women reporting less than optimum continuity with this type of care (Grp 2), and women receiving shared care, regardless of level of continuity (Grps 3 & 4). In addition, those women who reported that they received less than optimum continuity in midwife managed care (Grp 2) were more satisfied than women in shared care who reported a similar experience (Grp 4). Women in shared care who reported optimum continuity (Grp 3) were more satisfied also with all dimensions of satisfaction than women receiving this type of care with less than optimum continuity (Grp 4).

Table 41. Continuity of care and satisfaction: hospital-based postnatal care

Level of continuity of care	**Midwife care**		**Shared care**		
	All time (Grp 1) n=194	**Less (Grp 2) n=242**	**All time (Grp 3) n=87**	**Less (Grp 4) n=288**	**p value**
Choice & decisions (No diff between Grps 2 & 3)	1.36	0.95	1.01	0.57	<0.0001
Interpersonal relationships (No diff between Grps 2 & 3)	1.54	1.14	1.18	0.75	<0.0001
Social support (No diff between Grps 2 & 3)	1.45	1.04	1.05	0.66	<0.0001
Information transfer (No diff between Grps 2 & 3)	1.55	1.14	1.18	0.75	<0.0001
General satisfaction (No diff between Grps 2 & 3)	1.58	1.18	1.22	0.64	<0.0001

In similarity to hospital-based postnatal care, women in the midwife managed care group who reported receiving optimum continuity of home based postnatal care (Grp 1) were significantly more positive than

women reporting less than optimum continuity with this type of care (Grp 2), and women receiving shared care, regardless of level of continuity (Grps 3 and 4) (Table 42). With the exception of the dimension of information transfer, women receiving less than optimum continuity in midwife managed care (Grp 2) were more satisfied than women reporting a similar experience in shared care (Grp 4). In addition, for all dimensions with the exception of interpersonal relationships with staff, those receiving optimum continuity of care in shared care (Grp 3) were more satisfied than women receiving this type of care who reported less than optimum continuity (Grp 4).

Table 42. Continuity of care and satisfaction: home-based postnatal care

Level of continuity of care	Midwife care		Shared care		
	All time (Grp 1) n=226	Less (Grp 2) n=209	All time (Grp 3) n=107	Less (Grp 4) n=265	p value
Choice & decisions (No diff between Grps 2 & 3)	1.40	1.06	1.11	0.91	<0.0001
Interpersonal relationships (No diff between Grps 2 &3, 3 & 4)	1.59	1.30	1.27	1.13	<0.0001
Social support (No diff between Grps 2 & 3)	1.48	1.15	1.21	1.00	<0.0001
Information transfer (No diff between Grps 2 & 3, 2 & 4)	1.46	1.10	1.21	0.98	<0.0001
General satisfaction (No diff between Grps 2 & 3)	1.60	1.29	1.38	1.02	<0.0001

Continuity of carer

In similarity to findings about continuity of care, women in the midwife managed care group receiving optimum continuity of carer (Grp 1) were significantly more positive than women reporting less than optimum continuity of carer with this type of care (Grp 2), and women receiving shared care, regardless of level of continuity of carer (Grps 3 & 4) (Table 43). In addition, for all dimensions of satisfaction, women receiving optimum continuity of carer in shared care (Grp 3) were more satisfied than women reporting less than optimum continuity of carer in shared care (Grp 4). Further to this, for the dimensions of choices and decisions, social support and general satisfaction, those receiving less than optimum continuity of carer in midwife managed care (Grp 2) were more satisfied than women reporting a similar experience in shared care (Grp 4).

Table 43. Continuity of carer and satisfaction: hospital-based postnatal care

Level of continuity of carer	Midwife care		Shared care		
	All time (Grp 1) n=194	Less (Grp 2) n=240	All time (Grp 3) n=75	Less (Grp 4) n=299	p value
Choice & decisions (No diff between Grps 2 & 3)	1.30	1.00	0.95	0.60	<0.0001
Interpersonal relationships (No diff between Grps 2 & 3, 2 & 4)	1.50	1.19	1.03	0.80	<0.0001
Social support (No diff between Grps 2 & 3)	1.39	1.09	0.94	0.69	<0.0001
Information transfer (No diff between Grps 2 & 3, 2 & 4)	1.50	1.19	1.03	0.80	<0.0001
General satisfaction (No diff between Grps 2 & 3)	1.55	1.18	1.13	0.69	<0.0001

For home-based postnatal care, women in the midwife managed care group who reported receiving optimum continuity of carer (Grp 1) were significantly more positive than women reporting less than optimum continuity of carer with this type of care (Grp 2), and women receiving shared care, regardless of level of continuity of carer (Grps 3 & 4) (Table 44). For all dimensions, women receiving less than optimum continuity of carer in midwife managed care (Grp 2) were more satisfied than women reporting a similar experience in shared care (Grp 4). In addition, for the dimension of social support, those receiving optimum continuity of care in shared care (Grp 3) were more satisfied than women who reported less than optimum continuity of carer in this type of care (Grp 4).

Table 44. Continuity of carer and satisfaction: home-based postnatal care

Level of continuity of carer	Midwife care		Shared care		
	All time (Grp 1) n=272	Less (Grp 2) n=156	All time (Grp 3) n=141	Less (Grp 4) n=222	p value
Choice & decisions (No diff between Grps 2 & 3, 3 & 4)	1.32	1.10	1.06	0.91	<0.0001
Interpersonal relationships (No diff between Grps 2 & 3, 3 & 4)	1.54	1.28	1.24	1.13	<0.0001
Social support (No diff between Grps 2 & 3)	1.40	1.19	1.18	1.00	<0.0001
Information transfer (No diff between Grps 2 & 3, 3 & 4)	1.36	1.18	1.15	0.99	<0.0001
General satisfaction (No diff between Grps 2 & 3, 3 & 4)	1.53	1.31	1.22	1.07	<0.0001

Continuity of care or carer - which is the most important factor on satisfaction?

In similarity to the analysis carried out for antenatal and intrapartum care, for both postnatal care in hospital and postnatal care at home, it was ascertained whether continuity of care or continuity of carer had the greater effect on women's satisfaction with care. This further analysis involved the consideration of a 'model' to explain the importance of continuity of advice (care) and continuity of carer in relation to satisfaction. The model, in the first instance, included also allocation to midwife managed care or shared care as a third factor.

A three way analysis of variance was carried out to look at the effect of each of these three factors and to test for statistically significant interaction effects between them. If no significant interaction effects were found, it was intended to carry out a multiple regression to compare the level of effect on satisfaction of each of the three factors involved. If interaction effects were found (e.g. involving 'allocation'), it was intended to analyse the midwife managed care and shared care groups separately as a simple multiple regression model would not be possible.

The analysis of variance found no interaction effects of the three factors, at a consideration of both a three and two factor analysis, on all five key dimensions of satisfaction for both hospital-based postnatal care and home-based postnatal care. However, statistically significant independent effects of the three factors were found on each dimension for both of these time periods. Thus, the multiple regression was carried out.

Mean scores for group breakdowns were reported (Tables 45 & 46). The multiple regression found approximately equal importance of midwife managed care overall, continuity of advice and continuity of carer (Tables 47 & 48). The following example illustrates this finding. The independent effects of midwife managed care, optimum continuity of advice and optimum continuity of carer on women's satisfaction with choices and decisions during the hospital based postnatal care on the -2 to 2 scale were 0.335, 0.400 and 0.208 respectively (Row 1, Table 47) with an expected mean score of 0.548 if women were receiving shared care with less than optimum continuity of advice and carer. Thus, an optimum midwife managed care score for choices and decisions would be 1.491 (i.e. 0.548 + 0.335 + 0.400 + 0.208).

Table 45. Mean score breakdown - midwife managed care, continuity of advice & continuity of carer effects on satisfaction (Hospital based postnatal care)

	Midwife managed care				Shared care			
Level of continuity of care	**All**		**Less**		**All**		**Less**	
Level of continuity of carer	**All**	**Less**	**All**	**Less**	**All**	**Less**	**All**	**Less**
	n=114	n=73	n=77	n=162	n=28	n=54	n=45	n=240
Choice & decisions	1.44	1.29	1.08	0.88	1.19	0.96	0.81	0.52
Interpersonal relationships	1.68	1.46	1.28	1.08	1.24	1.16	0.90	0.72
Social support	1.55	1.37	1.18	0.99	1.22	0.97	0.77	0.63
Information transfer	1.65	1.47	1.28	1.08	1.24	1.16	0.89	0.72
General satisfaction	1.68	1.47	1.36	1.09	1.41	1.18	0.95	0.59

Table 46. Mean score breakdown - midwife managed care, continuity of advice & continuity of carer effects on satisfaction - home based postnatal care

	Midwife managed care				Shared care			
Level of continuity of care	**All**		**Less**		**All**		**Less**	
Level of continuity of carer	**All**	**Less**	**All**	**Less**	**All**	**Less**	**All**	**Less**
	n=161	n=54	n=106	n=101	n=56	n=40	n=81	n=176
Choice & decisions	1.42	1.37	1.16	0.95	1.20	1.01	0.96	0.89
Interpersonal relationships	1.63	1.48	1.41	1.18	1.32	1.26	1.19	1.10
Social support	1.51	1.44	1.24	1.05	1.28	1.17	1.12	0.96
Information transfer	1.48	1.44	1.17	1.04	1.22	1.23	1.10	0.94
General satisfaction	1.65	1.50	1.36	1.21	1.41	1.42	1.09	1.00

Table 47. Multiple regression - midwife managed care, continuity of advice & continuity of carer effects on satisfaction - hospital based postnatal care

	A+B+C+D[1]
Choice and decisions	0.548+0.335+0.400+0.208
Interpersonal relationships with staff	0.737+0.356+0.389+0.183
Information transfer	0.737+0.357+0.392+0.181
Social support	0.624+0.374+0.376+0.175
General satisfaction	0.644+0.435+0.436+0.242

1. A=Estimated mean score if receiving shared care with less than optimum continuity of care & carer
B=Value to be added to 'A' if receiving midwife managed care
C=Value to be added to 'A' if receiving optimum continuity of care
D=Value to be added to 'A' if receiving optimum continuity of carer

Table 48. Multiple regression - midwife managed care, continuity of advice & continuity of carer effects on satisfaction - home based postnatal care

	A+B+C+D[1]
Choice and decisions	0.854+0.176+0.260+0.118
Interpersonal relationships with staff	1.075+0.179+0.216+0.137
Information transfer	0.943+0.132+0.292+0.097
Social support	0.944+0.157+0.262+0.141
General satisfaction	1.024+0.207+0.303+0.102

1. A=Estimated mean score if receiving shared care with less than optimum continuity of care & carer
B=Value to be added to 'A' if receiving midwife managed care
C=Value to be added to 'A' if receiving optimum continuity of care
D=Value to be added to 'A' if receiving optimum continuity of carer

Discussion

This chapter examined women's satisfaction with midwife managed care in the postnatal period. Satisfaction with hospital-based postnatal care was considered separately from home-based postnatal care. The results indicated satisfaction with care within both these time periods for women receiving midwife managed care and shared care. Women receiving midwife managed care were, however, significantly more satisfied with their care, both in hospital and at home, than women receiving shared care.

In relation to hospital based postnatal care, women receiving midwife managed care were significantly more satisfied with process of care dimensions such as general satisfaction, information transfer, interpersonal relationships with staff, social support and choices and decisions. As to how care was organised in this time period, although midwife managed care aimed to encourage early discharge (i.e. within 6-12 hours after delivery) from hospital, no differences were found with around 50% of both groups reporting their stay as 3 days or more. This was confirmed in the clinical outcomes as well (Turnbull et al, 1996a). The midwife managed care group were more likely to report their length of stay as just right which may reflect that it was women's choice to stay in hospital. Women felt staff were better at making them feel comfortable on the ward with 42% of this group compared to 7% of the shared care group rating the ward surroundings as extremely pleasant. In addition, the main difference between the two groups found in the open-ended comments about what women liked about their care was facilities with the midwife managed care group far more likely to mention this aspect of care. In contrast, 7% of shared care group comments were that they disliked nothing about their postnatal care in hospital versus 2% of midwife managed comments. Further to this, around 50% of negative comments made by the shared care group were about problems with

organisation/facilities. These comments often related to the lack of privacy, busyness and noisiness of the postnatal ward.

It was aimed to ask women comprehensively about their experience and therefore a question about the Special Care Baby Unit (SCBU) was included, with equal proportions of both groups reporting their baby was admitted to SCBU. No significant differences between the two groups were found, for whose baby was in SCBU, about discussion with staff about SCBU although this may be due to the small numbers involved. Further to this 25% of the shared care group reported levels of dissatisfaction with where to get advice on leaving hospital to 13% of the midwife managed care group.

Interestingly, in contrast to the differences in women's satisfaction with the organisation of hospital-based postnatal care, women in both groups were extremely satisfied with the number of postnatal visits midwives made to their home and the amount of time with midwives during these visits (around 90% of both groups were satisfied). However, the midwife managed care group were more likely to report their home commitments were taken into account when visits were arranged. Women in both groups were satisfied with the key dimensions of care during home-based postnatal care although women receiving midwife managed care were significantly more satisfied with all of these dimensions. Levels of satisfaction appeared higher for the shared care group than for hospital-based postnatal care; women receiving midwife managed care appeared equally satisfied with care in both these time periods The high degree of satisfaction with home-based postnatal care felt by both groups was evidenced in that over 60% of both groups comments about what they disliked about their home-based postnatal care stated they disliked nothing.

The open-ended comments indicated that both groups were 'glad to be home' but this was more so in the shared care group with the midwife managed care group more likely to mention continuity as the thing they liked about their care in this time period. This may be linked to the fact that women in the midwife managed care group were more likely to rate continuity of advice and carer in the postnatal period as important as well as receiving more continuity both during hospital and home-based postnatal care. The signature count also identified that women in the midwife managed care group were cared for by fewer different midwives in the postnatal period.

Given the importance of information to women (Scottish Office Home and Health Department, 1993; Department of Health, 1993), a specific question was included in the 7-week postnatal questionnaire about sources of information during maternity care. The differences in the two types of care were further evidenced in this question. For example, 96% of the midwife managed care group compared to 67% of the shared care group reported midwives were a source of information whereas the shared care group were more likely to report a hospital doctor (26%: 6% midwife managed care) and general practitioner (60%: 31% midwife managed care) as well as antenatal classes (39%: 30% midwife managed care). However, for both groups there appeared improvement for staff to inform about maternity and child benefits although the midwife managed care group were more satisfied with this aspect of care. However, there were no differences in sources of casual information with a substantial proportion of both groups consulting books and magazines; and friends and relatives.

In terms of factors related to satisfaction and dissatisfaction with postnatal care, women experiencing either major or minor complications were generally satisfied with their hospital-based and home-based postnatal care. However, women receiving shared care and experiencing hypertension or perineal problems appeared less satisfied than women with other types of complications who were receiving this type of care particularly for hospital based postnatal care. The importance of continuity of care and carer in the postnatal period was confirmed in enhancing satisfaction in the further analysis carried out, with, generally, those women reporting optimum continuity of care and carer in midwife managed care more satisfied than those receiving less than optimum continuity in this type of care. As may be expected, those receiving optimum continuity in midwife managed care were generally more satisfied than those receiving shared care, regardless whether women receiving shared care had optimum or less than optimum continuity and those receiving less than optimum continuity in midwife care were more satisfied than women reporting a similar experience in shared care. The effect of continuity was clearly evident in that women receiving optimum continuity in shared care were significantly more satisfied than those receiving less than optimum continuity in this type of care, although women receiving less than optimum continuity in midwife care were *not* more satisfied than women reporting optimum continuity in shared care.

In summary then, women receiving both types of care were satisfied with postnatal care. However, women receiving midwife managed care were generally more satisfied. Women receiving shared care appeared more satisfied with home-based postnatal care than hospital-based postnatal care reflecting opinion that postnatal care in hospital is a problem area for maternity services (Phaff, 1986; Jackson, 1996). The importance of continuity in enhancing satisfaction with postnatal care was found also. Previous research highlighted (Shields et al, 1997) that not only did women in the midwife managed care group rate their care more highly in relation to the dimensions of care examined in the current study but this group also rated their care better at support and advice with infant feeding; and they were also less likely to be suffering from postnatal depression. These results suggest that midwife managed care has the potential to confer benefit to women in relation to the psycho-social aspects of postnatal care. It is recommended that further research be carried out on the midwife's training in emotional support and steps taken to improve this aspect of care in both midwife managed care and shared care, however. Women who were depressed appeared to rate the emotional preparation they received very badly and this needs to be addressed (Shields et al, 1997). In conclusion, women appeared satisfied with postnatal care although substantial problems still exist within the traditional system of hospital-based postnatal care.

Chapter 7 Satisfaction seven months after delivery

Aim

This chapter aims to report women's satisfaction with midwife managed care and shared care seven months after delivery. An analysis of women's satisfaction was conducted at this time as evidence indicates that women may be more critical of their maternity care in the longer term (Erb et al, 1983; Bennett, 1985; Shearer 1983; Lumley, 1990). Shearer, 1983, concluded that women create an immediate 'loyalty' to their birth and to the reasonable way in which their birth was managed. As such, it was felt very important to test the null hypothesis that, in the longer term, women randomised to midwife managed care would be not more satisfied with their maternity care than women randomised to shared care.

The data included in this chapter is from a self-report questionnaire sent to a consecutive sample of women at seven months postpartum. In addition to quantitative data, qualitative information from open-ended questions is presented. This seven month questionnaire was sent to a reduced sample of women from the study (midwife managed care n = 362; shared care n = 345) due to time constraints of the randomised controlled trial.

The seven month questionnaire asked women about their overall ratings of maternity care related to 'key dimensions' of care examined in the antenatal and, labour and postnatal questionnaire. This included a question on women's satisfaction with the organisation of care, in terms of facilities, and questions about their satisfaction with the process of care. The examination of process of care included questions related to: interpersonal relationships with staff, choice and decision-making, social support, information transfer. In addition, results from questions asked about continuity of care and carer is presented. Women were asked a general question also about their overall satisfaction with maternity care and two open-ended questions about what they liked and disliked most about their maternity care. In addition, women's satisfaction was examined over time. It is the birth experience that is often the most memorable to women (Shearer, 1983). For this reason, it was felt that the seven month questionnaire should review satisfaction with intrapartum care. Thus, the same 'key dimension' (as described above) statements which were used to measure satisfaction with intrapartum care at seven weeks postnatal were repeated in the seven-month postnatal questionnaire. Further to these topics, several issues which were of relevance to women and policy makers arose during the trial. The seven month questionnaire allowed the opportunity to explore these issues. Thus data on women's feelings about transfer from midwife managed care (this concept is described below), doctor involvement in care, preferences for future care-givers, and involvement of significant others during maternity care were collated.

Description of care

Women were asked in the seven month questionnaire to report their satisfaction with their maternity care in general (i.e. an overall feeling of the quality of maternity care received which would include antenatal, intrapartum, hospital-based and home-based postnatal care).

Elements of satisfaction

(a) Organisation of care

Women were asked to rate their satisfaction with the facilities available to them during their maternity care. Women randomised to midwife managed care and shared care, were in the majority, satisfied (Table 49). The midwife managed care group were, however, more highly satisfied with this aspect of care (Chi^2 trend = 42.6; $p<0.00001$). For example, 29% of the midwife group felt that the facilities had been 'extremely good' during their maternity care compared to 11% of the shared care group.

Table 49. Rating of facilities during maternity care

	Midwife managed care (%) n=247	Shared care (%) n=219
Extremely good	29	11
Very good	38	28
Good	30	50
Only moderately good	3	10
Not at all good	0	1
Chi^2 trend = 42.6; p<0.00001		

(b) Process of maternity care overall

On the issue of interpersonal relationships with staff, the midwife group were more likely to rate staff as 'being more friendly' throughout their maternity care (Chi^2 trend = 81.1; $p<0.00001$). Fifty percent of the midwife managed care group and 17% of the shared care group reported that they had found staff 'extremely friendly'. The shared care group were more likely to rate staff as 'friendly' (38%: 11% midwife managed care). Very few women in both groups, however, reported staff as 'only moderately' or 'not at all friendly' (7% shared care: 2% midwife managed care).

The midwife managed care group were more likely to report 'being involved enough in decisions' throughout their maternity care (Chi^2 =23.8; df=3; $p<0.001$). Eighty-nine percent of the midwife managed care group compared to 74% of the shared care group reported that they were 'involved enough'. Fifteen percent of the shared care group reported that they were involved 'nearly enough' compared to 6% of the midwife managed care group. Nine percent of the shared care group reported that they were involved 'not nearly enough' in decisions about their care compared to 2% of the midwife managed care group. Around 3% of both groups reported that they 'did not really want to be involved in decisions about their care'.

On the issue of social support, the midwife managed care group were more likely than the shared care group to report that, throughout their maternity care, 'staff took an interest in their home life' (Chi^2 trend = 46.5; $p<0.00001$). However, in comparison to other issues examined as part of the process of care such as interpersonal relationships with staff, the level of satisfaction was lower for both groups. For example, only 17% of the midwife managed care group and 9% of the shared care group reported that staff had been 'extremely interested in their home life'. Further to this, 15% of the midwife managed care group reported that

staff were 'only moderately' or 'not at all interested' in their home life with 44% of the shared care group reporting this.

The midwife managed care group were more likely to report that 'they were happy with the information they had received' during their maternity care (Chi^2 trend = 50.5; $p<0.00001$). Forty percent of the midwife managed care group were 'extremely happy' with this compared to 13% of the shared care group. The shared care group were more likely to report that they were 'happy' (38%: 22% midwife managed care). However, 14% of the shared care group were 'only moderately' or 'not at all happy' with information that they had received during their maternity care (4% midwife managed care). On the issue of specific information transfer during pregnancy, a new innovation of client-held records was introduced into midwife managed care. To evaluate this innovation, women in both groups were asked about the idea of carrying client-held records. The question was worded so:

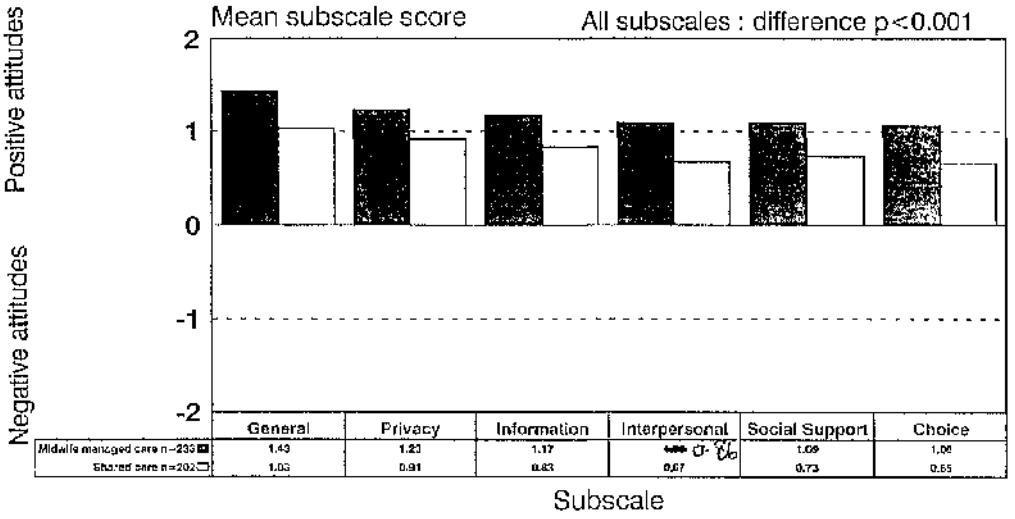
"When women are pregnant they have case notes. These are usually held in a brown folder and kept at the hospital. Midwives and doctors write information down about your pregnancy in them. What do you think of the idea of being able to write down things in your case notes and carrying them? That would mean taking them home and bringing them to the hospital."

No statistically significant differences were found between the two groups in desire to carry client-held records (Chi^2 =4.9; df=4; p=0.3). Substantial proportions of both groups reported that 'they thought having client-held records was a good idea' (43%: 38% of the respective groups). Thirty-seven percent of the midwife managed care group and 45% of the shared care group reported that 'they would not like to carry case notes but they would like to look at them', 12% and 13% of the respective groups reported that 'they were not bothered one way or another'.

(c) Process of intrapartum care reported seven months after birth

The series of questions included to measure satisfaction with the process of intrapartum care in the seven week postnatal questionnaire was repeated in the seven month postnatal questionnaire (Figure 17). The differences between the two groups at seven weeks postnatal were maintained seven months later. Although women receiving midwife managed care and shared care were satisfied with the process of care as reported seven months after birth, women in the midwife managed care group were significantly more satisfied, not only at a general level but with privacy, information transfer, interpersonal relationships with staff, social support, and choice and decisions. The confidence intervals for the differences between the two groups seven months after birth were - general satisfaction diff: 0.40, 95% CI: 0.30 to 0.51; privacy diff: 0.32, 95% CI: 0.20 to 0.42; information diff: 0.33, 95% CI: 0.21 to 0.46; interpersonal relationships with staff diff: 0.19, 95% CI: 0.12 to 0.27; social support diff: 0.36, 95% CI: 0.24 to 0.48; and choice/decisions diff: 0.27, 95% CI: 0.27 to 0.55.

Figure 17. Mean satisfaction scores for process of intrapartum care: 7 months after birth



(d) Overall ratings of maternity care

Women who had a baby before, were asked how their maternity care this time compared to care with their last baby (Table 50). The midwife managed care group were more likely to report their care was much better (63%; 24% shared care; Chi^2 trend = 44.3; p<0.00001), whereas the majority of the shared care group reported that, when compared with the care they had with their last baby their maternity care with this baby was 'about the same' (52%: 14% midwife managed care).

Table 50. How does care this time compare with the maternity care you had with your last baby?[1]

	Midwife managed care (%) n=112	Shared care (%) n=95
Much better	63.4	24.2
Better	19.6	10.5
About the same	14.3	51.6
Worse	1.8	9.5
Much worse	0.9	4.2
Chi^2 trend = 44.3; p<0.00001		

1. The extreme negative option was presented first for this item

The midwife managed care group were more likely also to report that they would recommend the maternity care they had received to their friends (Chi^2 trend = 45.0; p<0.00001). Seventy-nine percent of the midwife managed care group reported that they 'would definitely recommend the maternity care they had received to their friends' compared to 47% of the shared care group. However, very small proportions of both groups reported that they 'would not at all or not really recommend the care they had received' to their friends (4% both groups). Forty-seven percent of the shared care group and 20% of the midwife managed care group reported that they 'would probably recommend their maternity care to their friends'. Women who answered this question were then asked if they had any particular reasons for their answer. The midwife group were more likely to comment (n=216;

shared care n=105). The largest proportion of reasons for recommending care to friends was due to interpersonal aspects of care (47% midwife care, 49% shared care).

When women were asked to rate their maternity care on a one to ten scale, women in the midwife managed care group rated their care more highly (Chi^2 trend = 42.6; $p<0.00001$). Forty-two percent of the midwife managed care group and 24% of the shared care group rated their care at point ten on the scale (excellent care, score 10), with a further 30% of the midwife managed care group and 17% of the shared care group rating it a score nine. More women in the shared care group rated their care as seven or eight on the scale (43%; 22% midwife managed care). However, very small proportions of both groups rated their care at the bottom end of the scale (terrible care, score 1) (1% midwife managed care; 3% shared care).

Further to these questions about overall ratings of maternity care, women were asked about what they liked and disliked most throughout their maternity care (Table 51). The midwife managed care group were more likely to comment on aspects of care they liked (n = 411 comments; n = 235 shared care comments) whereas the shared care group were more likely to make negative comments about the maternity care they had received (n = 212 comments; n = 188 comments midwife managed care). The largest proportion of positive comments made by both groups were about interpersonal relationships with staff. The midwife group were substantially more likely to make positive comments about continuity of care and carer (27%; 4% shared care). Some comments about continuity of care and carer included:

> **"Because it was only a small group involved in my care, I felt that they became friends who had time for me and they were always very informative and encouraging." (midwife managed care)**

> **"I liked the one to one basis. It boosted your morale you feel good about your health and yourself." (midwife managed care)**

In addition, proportions of the two groups made positive comments about social support (6% midwife group; 1% shared care) with the midwife group being positive about having home antenatal visits (5% of comments from this group about social support). One woman in the midwife managed care group reported:

> **"To mothers with other children it's excellent having home visits. The family all knew my midwife through having the home visits." (midwife managed care)**

Around 10% of positive comments made by both groups were about being generally satisfied with the maternity care they had received. For example:

> **"I had an elective section, therefore I didn't labour. I was very happy with the care I received. Everything was explained to me by the various members of staff involved. Several nurses on the ward checked things were okay and this had happened and I had all my questions answered. I was in the MDU ward before the birth and I felt that due to the small numbers in the ward, I got to know a couple of midwives and I really felt like an individual." (midwife managed care)**

> **"The care all staff gave me and my baby was very professional and friendly. I really felt like a V.I.P. All the MDU team are very committed to their jobs and it shows." (midwife managed care)**

"Throughout all stages of my pregnancy everything was explained to me. I found my midwife to be a very caring person who was devoted to her work and I think why I was very relaxed and happy during my pregnancy." (midwife managed care)

When asked about what they disliked about care, the largest proportion of the midwife managed care group who made comments (67%) said they disliked nothing compared to 38% of the shared care group comments. Around 10% of comments from both groups reported a lack of continuity of care and carer. One woman from the shared care group contrasted the quality of care in different locations regarding lack of continuity and two women reported a lack of continuity during labour:

"My maternity care with my GP at the local health centre was consistent with the same people almost all the time. At the hospital clinics, though, I never saw the same person twice. I had to ask for information and as a second time mother I felt the attitude was 'I should know it all'." (shared care)

"I disliked the treatment I had in hospital. Myself and my husband were left in the delivery room on our own. I was plugged into a machine for three hours as staff were very busy. I was told to buzz if the baby's heartbeat dropped below a certain level," (shared care)

"I was treated as an individual until I went into labour then I was told what to do and when to do it. I wasn't asked how I felt during my labour, the only friendly person there was my named midwife, Chi" (midwife managed care)

"During labour I was wired to a monitor for hours, nobody came to check how I was, then my waters broke. My baby came very quickly and the staff were not prepared. I did not get to the delivery room. I had to have the baby on the ward." (shared care)

The shared care group were more likely to comment about lack of quality of care during postnatal care in hospital. For example:

"I really enjoyed my care in the labour ward and the antenatal care was okay, I suppose but the few days in hospital after birth the staff were over-worked and could not spend time with you. I would have been better off at home" (shared care)

In addition, 10% of the midwife managed care group made comments about transfer from midwife managed care. Some of these comments were:

"I was getting on with my midwife extremely well. It was at the request of my GP that I get transferred and he did not inform me that he had done this. I did not find out until my appointment at the hospital. I was not pleased about this at all. " (midwife managed care)

"I felt I should have been kept on the MDU, especially as I was taken off 3 weeks before I was due. It shouldn't just be for well patients. It should be for everyone." (midwife managed care)

"Being moved from the MDU to a ward which was too busy. I found it a very dull and depressing place." (midwife managed care)

Table 51. Open-ended questions - what women liked and disliked about maternity care

	Midwife managed care (%) n=248	Shared care (%) n=219
	% of comments	% of comments
Liked	**n=411 comments**	**n=235 comments**
General	9	9
Interpersonal relationships	49	77
Continuity of care	27	4
Social support	6	<1.0
Information transfer	<1	7
Antenatal home visits	5	0
Other	3	2
Disliked	**n=188 comments**	**n=212 comments**
Nothing	67	38
Lack of continuity of care	8	11
Postnatal care in hospital	14	40
MDU transfer	9.6	0
Poor management	1	11

Continuity of carer and care

Women were asked, if they had another baby, how important it would be for them to be cared for by the same member of staff or same small group of staff. Women in the midwife managed care group were more likely to report that continuity of carer was important to them (Chi^2 trend = 50.3; $p<0.00001$) for a future pregnancy. Forty-six percent of the midwife managed care group reported that continuity of carer would be 'extremely important' to them in a future pregnancy compared to 18% of the shared care group. Thirty-three percent of the shared care group reported that this issue would be 'only moderately' or 'not at all important' (14% of the midwife managed care group) if they had another baby. Women were asked to look back on all their maternity care and consider their feelings about the number of staff who cared for them. The majority of women in both groups reported that they 'just the right amount of staff' for their maternity care. However, more women in the midwife managed care group reported that the number of staff who cared for them was 'just right' (93%: 66% shared care; Chi^2 trend = 18.9; $p<0.001$). More women who were randomised to the shared care group reported that they were cared for by 'too many' or 'far too many different staff' for their maternity care (28%: 4% midwife managed care).

In similarity to continuity of carer, the midwife managed care group were more likely to report continuity of advice as important for a future pregnancy (Chi^2 trend = 10.0; $p<0.05$). Forty-four percent of the midwife managed care group compared to 37% of the shared care group reported that it was 'extremely important' that the staff gave them similar advice (i.e. didn't contradict each other). The shared care group were more likely to report this issue was 'only moderately' or 'not at all important' to them for a future pregnancy (14%: 7% midwife managed care). The midwife managed care group were more likely to report that they received continuity of advice during their maternity care (Chi^2 trend = 32.1; $p<0.001$). Fifty-three percent of the midwife managed care group reported that 'staff contradicted each other not at all' during their care compared to 28% of the shared care group. A further 35% of the midwife managed care group and 39% of the shared care group

reported that 'staff contradicted each other rarely'. Very small proportions of both groups reported that 'staff contradicted each other all or most of the time' (3% midwife managed care; 6% shared care).

Women were asked if they decided to have another baby, how important it would be for them to know the member of staff who cares for them during labour. Women in the midwife managed care group were more likely to report that having a 'known' person in labour was 'important' (Chi^2 trend = 22.3; $p<0.00001$). Twenty-five percent of the midwife managed care group reported that having a known carer was 'extremely important' compared to 12% of the shared care group. However, 29% of the midwife managed care group and 36% of the shared care group reported that having a known carer during labour and delivery was 'only moderately 'or 'not at all important' to them for a future pregnancy.

When women were asked about their views about a known carer in labour, women in both groups were equally likely to comment (n=139 comments per group). Eighty percent of the comments made by the midwife managed care group were in relation to benefits of having a known carer during labour compared to 63% of shared care comments. Comments included:

"It would be good, knowing someone you could trust." (Midwife managed care)

"It would help in getting your wishes." (Shared care)

"It puts you more at ease." (Midwife managed care)

In contrast, more comments from the shared care group stated that a known carer during labour was unnecessary (37%: 20% midwife managed care). Comments included:

"I wouldn't bother who delivered my baby just as long as they knew what they were doing." (Shared care)

"The midwife was very encouraging and supportive, there was a special bond although I had never met her before." (Shared care)

"I didn't know the midwife and she was great anyway." (Midwife managed care)

"I thought it would be really important but on the day I had every confidence in the people who delivered my baby." (Midwife managed care)

Transfer from midwife managed care

On the issue of women's feelings about transfer from midwife managed care, the concept of 'transfer' needs some explanation. Women were eligible for the trial if they fulfilled outset criteria at the booking clinic (i.e. were experiencing a 'normal, healthy' pregnancy and lived within the hospital catchment area). If women were randomised to midwife managed care, however, they may have required to be transferred to the care of an obstetrician during the antenatal, intrapartum or postnatal period. The trial had two concepts of transfer: temporary and permanent transfer.

(a) Transfer statistics

Data from the trial clinical outcome review (Turnbull et al, 1996a) indicated that overall, 34.4% of women experienced no 'transfer' from midwife managed care; 32.8% of women experienced 'temporary transfer', because they requested or required some form of intervention outside the scope of the midwife's practice, and 32.8% of women experienced 'permanent transfer' (28.7% for clinical reasons, 3.7% for non-clinical reasons).

Temporary transfer occurred mostly in the intrapartum period (76%), although this did not mean physical removal from MDU birthing rooms, with 24% in the antenatal period. The most common form of temporary transfer was priming and induction (30%), then epidural anaesthesia since this necessitates input from anaesthetic staff (21%) and deviation from normal in the mother (e.g. fetal compromise) (19%). In all cases where a woman was temporarily transferred, the midwife discusses the reason for transfer with the woman and informs her named midwife, if she is not the carer at the time. The MDU midwife normally continues to provide care, but care is now planned on a team basis involving the obstetrician or anaesthetist as appropriate. The decision to return the woman to MDU care is agreed between the midwife, the obstetrician and the woman.

Permanent transfer from MDU care occurred most frequently in the antenatal period (57%) with 36% in the intrapartum period and 7% postnatally. The most common reason for permanent transfer in the antenatal period was deviation from normal in the mother (e.g. pregnancy induced hypertension, antepartum haemorrhage, or intra uterine growth retardation (74%). In the intrapartum and postnatal period permanent transfers occurred for reasons such as retained placenta, preterm delivery or caesarean section. In permanent transfer, the woman is informed of the decision to transfer her to consultant led care and the reasons are explained and an information letter is sent to the woman's consultant and general practitioner. The MDU midwife often maintained a social contact with the woman where she was no longer the main care provider.

(b) Women's feelings about transfer from midwife managed care

In the seven-month questionnaire, women who were randomised to midwife managed care were asked if they were transferred from care at any point. Of the 248 women from this group who returned this questionnaire, 237 women identified themselves as being cared for by the Midwifery Development Unit. Of those 237 women, 20% reported that they were 'permanently transferred' from midwife managed care (n=46), 10% reported that they were temporarily transferred (n=23) and 70% (n=164) reported that they were cared for by MDU midwives for the duration of their maternity care (missing data n=4). Of the 46 women permanently transferred from midwife managed care, eight women (17%) reported that they were transferred early during their care, seven (16%) towards the middle of their care and thirty (67%) were transferred towards the end of their pregnancy (missing data n=1).

For those women both permanently and temporarily transferred from midwife managed care, how well their named midwife had discussed the reasons for their transfer was ascertained. Of the 69 women who reported being transferred, 34 (50%) reported that the reasons for their transfer had been discussed 'extremely well', 16 (24%) 'very well' and 12 (18%) 'well'. Only six women (8%) reported that the reasons for their transfer from midwife managed care had been discussed 'only moderately' or 'not at all well' (missing data n=1).

In addition, women were asked to comment in their own words, how they felt about being transferred from midwife managed care. Most women who were transferred made one comment, with some making two or three comments (total comments n=93: 69 women transferred). The majority of comments (n=37) intimated 'upset' at being transferred. Examples of the range of comments made are:

> **"I felt very sad. It was such a shame that after building up a relationship with my named midwife, Chi, that I was put back into a system I was unfamiliar with."**

> **"I felt disappointed as I was enjoying being looked after by the one midwife."**

> **"I must admit I was quite upset. I had enjoyed great one to one antenatal care with my named midwife and it was a great disappointment to be removed for the birth and especially the postnatal care that I had very much looked forward to. Although I appreciate the study could only include normal pregnancy and labour a follow-up would have been good for those who had been removed."**

> **"I felt cheated."**

> **"I was very upset but my midwife came round to see me in the ward after my baby was born and she had explained it really well."**

Five women reported that they were given no option about the transfer, for example:

> **"I wasn't pleased about leaving it but my own Dr didn't give me a choice. I liked the MDU care because you felt like a person."**

Twenty-six percent (n=19) of comments were positive about the transfer, however. For example:

> **"I knew it was in the baby's best interests."**

> **"I felt it was best for me as I had to have surgery."**

> **"I didn't want to leave the MDU but I knew why. I needed the doctor's care."**

Ten comments were made in relation to a preference of remaining in midwife care and some confusion about reasons for transfer:

> **"I preferred being under the care of the MDU it made everything much more personal when I was transferred I was just another patient."**

> **"I was transferred apparently because I was given medicine for high blood pressure and had to be induced. I wasn't really sure why this made a difference - it was a pity to be cared for nine months by an MDU midwife and then transferred at the last minute."**

Eleven comments made were in relation to temporary transfer and being pleased to return to midwife managed care after transfer:

> **"During labour I needed a syntocinon drip to speed up contractions and for that reason as medical staff were attendance it was explained to me that I was being transferred out of MDU care. Since I had got that far though I was still admitted to the MDU ward and the MDU midwife continued to care for me which I am very grateful for. I they hadn't I would have been very upset"**

> **"I didn't feel as secure when I was out of the MDU. In fact, I didn't get as good care when I was out, they didn't care as much. I was just another number. It was only while I was being induced I was out of MDU care which was not long at all. Thank god!"**

Involvement of others

Women were asked if at any point during their maternity care, there was someone that they particularly wanted to be involved in their care (e.g. partner, friend, mother). Ninety percent of both groups reported that there had been someone they wanted particularly to be involved during their maternity care (Chi^2 =1.2; df=1; p=0.6). The people who were involved were given the opportunity to describe in their own words how they found the maternity care. The midwife managed care group were more likely to comment (n=176 comments, n=121 comments shared care group). The two groups reported different responses to this question (Table 52). However, the majority of comments in both groups were in relation to general satisfaction (over 50% in both groups). More comments were made by the shared care group about interpersonal relationships with staff and substantially more comments were made by the midwife managed care group about choices and decisions. Some examples of comments were:

"On the whole I thought my wife's care in this pregnancy was much better and easier for her. With our last baby we saw lots of different doctors and midwives."

"My mum and husband said I was cared for really well. It could not have been better."

"Both my partner and sister are overwhelmed by the care and attention they were shown during all the clinic appointments as well as in the labour room and at home. They felt very involved and they feel that has made a better bonding with K, my baby."

"My partner liked the fact that the midwife came to our home and didn't feel strange asking questions the way he did through my first pregnancy."

Table 52. Comments made about involvement of others

	Midwife managed care (%) n=248	Shared care (%) n=219
	n=176 comments	n=121 comments
Excellent care	52.8	52.1
Interpersonal relationships	9.7	13.2
Information transfer	2.8	1.0
Choice and decisions	11.4	3.2
Other	23.3	31.6

In addition, the significant others were asked how welcome they had been made to feel by staff and how well staff had involved them (significant others could answer these questions either with or without the woman). The midwife managed care group were more likely to report significant others were made to feel 'welcome' (Chi^2 trend = 16.6; p<0.001). Forty-seven percent of this group reported staff made them feel 'extremely welcome' compared to 30% of the shared care group. Nine percent of the shared care group compared to 2% of the midwife managed care group reported that their significant others were made to feel 'only moderately' or 'not at all welcome'. In addition, the midwife managed care group were more likely to report that staff involved others 'well' (Chi^2 trend = 19.6; p<0.001). Thirty-four percent of the midwife managed care group compared to 21% of the shared care group reported that staff involved their significant others 'extremely well'. Whereas, 17% of the shared care group compared to 5% of the midwife group reported that staff did not involve the others 'at all well' or 'only moderately well'.

Doctor involvement in care

Women were asked about how often they saw doctors (i.e. hospital doctors or general practitioners) throughout maternity care. The shared care group were more likely to report doctor involvement (Chi^2 trend = 88.7; $p<0.00001$). Thirty-four percent of the midwife managed care group reported that they had not seen doctors at all throughout their care compared to 7% of the shared care group. Whereas, 17% of the shared care group compared to 8% of the midwife managed care group reported that they saw doctors throughout antenatal, intrapartum and postnatal care.

Of those who saw doctors throughout their care, the shared care group reported more involvement (Chi^2 =14.5; df=3; $p<0.01$). Sixty-eight percent of the shared care group stated 'doctors did tests / or examined me and talked to me about my pregnancy' compared to 52% of the midwife managed care group. The midwife managed care group were more likely to report that doctors 'just talked to them about their pregnancy' (17%: 6% shared care). Equal proportions of both groups reported that doctors 'just said hello to them' (4% per group).

All women surveyed at seven months postpartum were then asked:
'Regardless of your previous answers, how often would you have liked to have seen doctors during your maternity care?'

The shared care group were more likely to prefer doctor involvement (Chi^2 trend = 102.1; $p<0.00001$). Forty-two percent of the midwife managed care group would have preferred to not see doctors throughout their maternity care compared to 7% of the shared care group. However, 28% of the midwife managed care group reported that they would like to have seen a doctor a little during their maternity care (13% shared care). A further 17% of the midwife managed care group reported that they would have preferred doctor involvement in 'some' of their maternity care compared to 34% of the shared care group. Nineteen percent of women who received shared care would like to see doctors throughout all of their care (8% midwife managed care) with 27% of this group wishing involvement for 'most' of their care (7% midwife managed care).

Those women who wished to see doctors throughout their maternity care, were asked what they would like the doctors to do. Again the shared care group reported they preferred more involvement (Chi^2 trend = 28.9; $p<0.00001$). Twenty percent of the midwife group reported that they would 'just like the doctor to say hello' compared to 4% of the shared care group. In contrast, 68% of the shared care group would like the doctors to 'do tests / or examine them and talk to them about their pregnancy', although 42% of the midwife managed care group reported this also. A further 14% of those who were randomised to midwife managed care would 'like doctors to do tests / or examine them' (6% shared care). Similar proportions of both groups would prefer 'the doctor to just talk to them about their pregnancy ' (25% and 22% of the respective groups).

Preferences for future care-givers

Women in the two groups reported different preferences for future care-givers (Chi^2 =132.8; df=3; p<0.00001). Sixty-seven percent of the midwife managed care group would prefer to be mainly cared for by a midwife with 17% of the shared care group reporting this preference. However, 23% of the midwife managed care group would prefer most of their care in a future pregnancy from the general practitioner with 35% of the shared care group stating this preference. In addition, the shared care group were more likely to express a preference for care divided between hospital doctor, general practitioner and midwife (32%, 7% midwife managed care). As well as this, 16% of the shared care group reported that 'they did not mind who they received care from for a future pregnancy' (2% midwife managed care).

Factors related to satisfaction and dissatisfaction

Continuity of care or carer - which is the most important factor on satisfaction?

In similarity to the analysis carried out in other time periods, it was ascertained whether continuity of care or continuity of carer had the greater effect on women's satisfaction with care. This further analysis involved the consideration of a 'model' to explain the importance of continuity of advice (care) and continuity of carer in relation to satisfaction. The model, in the first instance, included also allocation to midwife managed care or shared care as a third factor.

A three way analysis of variance was carried out to look at the effect of each of these three factors and to test for statistically significant interaction effects between them. If no significant interaction effects were found, it was intended to carry out a multiple regression to compare the level of effect on satisfaction of each of the three factors involved. If interaction effects were found (e.g. involving 'allocation'), it was intended to analyse the midwife managed and shared care groups separately as a simple multiple regression model would not be possible.

The analysis of variance found no interaction effects of the three factors, at a consideration of both a three and two factor analysis, on all five key dimensions of satisfaction for the key dimensions of satisfaction at 7 months postnatal. However, statistically significant independent effects of the three factors were found on each dimension. Thus, the multiple regression was carried out. Mean scores for group breakdowns were reported (Tables 53 & 54). The multiple regression found approximately equal importance of midwife managed care overall, continuity of advice and continuity of carer (Table 54). The following example illustrates this finding. The independent effects of midwife managed care, optimum continuity of advice and optimum continuity of carer on women's satisfaction with choices and decisions as reported seven months after birth on the -2 to 2 scale were 0.227, 0.219 and 0.443 respectively (Row 1, Table 54) with an expected mean score of 0.299 if women were receiving shared care with less than optimum continuity of advice and carer. Thus, an optimum midwife managed care score for choices and decisions would be 1.188 (i.e. 0.299 + 0.227 + 0.219 + 0.443).

Table 53. Mean score breakdown - midwife managed care, continuity of advice & continuity of carer effects on satisfaction (Intrapartum care as reported 7 months after birth)

	Midwife managed care				Shared care			
Level of continuity of care	**All**		**Less**		**All**		**Less**	
Level of continuity of carer	**All**	**Less**	**All**	**Less**	**All**	**Less**	**All**	**Less**
	n=121	n=7	n=95	n=11	n=46	n=12	n=91	n=58
Choice & decisions	1.19	0.79	0.90	0.95	1.03	0.35	0.76	0.25
Interpersonal relationships	1.00	0.78	0.86	0.78	0.89	0.52	0.76	0.52
Social support	1.14	0.89	0.98	0.82	0.88	0.60	0.73	0.52
Information transfer	1.30	0.96	1.02	1.18	1.09	0.67	0.90	0.57
General satisfaction	1.55	1.21	1.23	1.36	1.33	1.02	1.04	0.78

Table 54. Multiple regression - midwife managed care, continuity of advice & continuity of carer effects on satisfaction (Intrapartum care as reported 7 months after birth)

	A+B+C+D[1]
Choice and decisions	0.299+0.227+0.219 0.443
Interpersonal relationships with staff	0.960+0.233+0.186+0.163
Information transfer	0.576+0.209+0.213+0.286
Social support	0.490+0.273+0.129+0.245
General satisfaction	0.804+0.252+0.263+0.224

1. A=Estimated mean score if receiving shared care with less than optimum continuity of care & carer
B=Value to be added to 'A' if allocated to midwife managed care
C=Value to be added to 'A' if allocated to optimum continuity of care
D=Value to be added to 'A' if allocated to optimum continuity of carer

Discussion

In similarity to all time periods in which satisfaction was measured women in the midwife managed group were more satisfied with their maternity care in all dimensions of satisfaction. This included how care was organised, process of care and comparisons of care with previous babies. Similarly, women in the midwife managed group were more satisfied with continuity of care and carer as well as these factors enhancing satisfaction in both types of care. In addition, the midwife managed group were more likely to comment on aspects they liked about their care whereas the shared care group were more likely to comment on aspects they disliked. Interpersonal relationships with staff were very important to women who had received both types of care with continuity arising as an aspect women in the midwife managed care liked best.

The importance of measuring women's satisfaction in the longer term (Lumley, 1985) was confirmed, however, as women in both groups although still satisfied with their care were less satisfied than as measured antenatally and at 7 weeks postnatal (see Chapters 4-6 for a comparison of mean scores). The impact of midwife managed care appeared positive and lasting, however, as over sixty percent of women who had had a baby before felt their care this time was much better compared to around a quarter of the shared care group.

However, specific issues need to considered. Women and significant others generally liked being asked to be involved in care. The effects of transfer from midwife managed care included many women feeling 'upset'. However, a comparison of clinical (33% temporary transfer rate) and psychosocial data (10% temporary transfer

rate reported) indicates that many women apparently did not realise that they had been temporarily transferred. However, it must be noted that there are methodological difficulties and ambiguity with some of the questions included on transfer. Further to the supposition about not being aware of events , 11 women in the 7 month MDU group reported that they were not allocated to this group when asked about this issue of transfer. The implications for practice of both the issues of involvement of others and transfer, however, need to be considered by planners and midwives.

Chapter 8 Discussion

Introduction

This thesis aimed to examine women's satisfaction with a new type of midwife managed care when compared with shared care. The context of the evaluation was that many maternity units in the United Kingdom had established, or were planning to establish team midwifery schemes or midwife-managed programmes of care (Wraight et al, 1993; Murphy-Black, 1992) and that the 'Changing Childbirth' report recommended that at least 30 percent of women should have a midwife as the lead professional (Department of Health, 1993). At the time the study was initiated, there had been little evidence in the form of large prospective randomised controlled trials to determine what benefits midwife managed care schemes convey to women. This thesis aimed to address this issue by examining women's satisfaction with midwife managed care over three time periods: antenatal, intrapartum and postnatal care, when compared with shared care.

The study had four main objectives:

- to describe, comprehensively, women's satisfaction with midwife managed care when compared with shared care, in the context of a randomised controlled trial;
- to contextualise women's experience of midwife managed care in light of other consumer studies of maternity care;
- to add to the knowledge about midwife managed schemes in terms of women's satisfaction;
- to explore factors which may enhance or reduce women's satisfaction with maternity care including socio-demographic characteristics; clinical complications; continuity of care and carer; and knowing the midwife during labour and delivery.

The findings indicated that the null hypothesis was rejected. That is, that:
Women randomly allocated to midwife managed care would not be significantly more satisfied than those randomly allocated to shared care throughout three periods of care:
- antenatal care (satisfaction measured as 34-35 of pregnancy);
- intrapartum care (satisfaction measured at 7 weeks after birth);
- postnatal care (satisfaction measured at 7 weeks after birth);
- as well as satisfaction with care as reported 7 months after birth.

It was aimed firstly to examine comprehensively women's satisfaction with a total programme of midwife managed care when compared to a programme of shared care and to consider the findings in the context of previous studies of consumer views of maternity care. Satisfaction with a variety of dimensions of care was examined extensively throughout antenatal, intrapartum and postnatal care. Satisfaction was assessed over these three time periods using a variety of scales appropriate to the time period in which maternity care was being received as well as reviewing women's satisfaction seven months after the birth of their baby. The dimensions of care examined included: satisfaction with organisation of care such as waiting times for antenatal visits and number of postnatal visits, satisfaction with process of care such as information transfer and choice and decisions. Secondly, it was aimed to examine factors, which enhance or reduce satisfaction with both types of care. Continuity of care and carer was identified as one of the major differences between the two types of care (McGinley et al, 1995). Given this and that continuity has been viewed as extremely

important in increasing satisfaction within policy documents (House of Commons Health Committee, 1992; Department of Health, 1993; Scottish Office Home and Health Department, 1993), the effect of continuity on women's satisfaction was examined throughout all time periods.

Before considering emergent themes from the findings and the findings in the context of previous work, methodological and theoretical difficulties of carrying out a study such as this will be discussed. The limitations of the study will then subsequently be considered. The chapter further discusses the contribution to research knowledge from the study and makes recommendations for further research and practice.

Theoretical and methodological difficulties

The literature review followed an integrative strategy (Ganong, 1987) considering both quantitative and qualitative studies. The review of the literature indicated that the major problems within the traditional system of maternity care in the United Kingdom, shared care, were lack of continuity, choice and control for women.

The study should be viewed as an example of health services research within a feminist framework. In particular, disciplines such as psychology, medical sociology and public health had much to offer in the way of theoretical and methodological underpinning for the study. However, feminist theory and principles of feminist research (Roberts, 1985; 1992) had most to offer in terms of raising the author's awareness of the societal context of childbearing and the importance of considering this context when asking women about their views of care. In addition, the theories of attitude development were very useful when considering the many factors at work when measuring women's satisfaction with care. As an example of health services research, this study did not aim to test any philosophical theory or fit any specific theoretical framework. The focus of the work was to examine comprehensively whether, when in the ideal conditions of a randomised controlled trial with a methodologically sound framework, midwife managed care improved satisfaction with maternity care and if so what were the main factors contributing to this improvement. In line with recommendations (Blaxter, 1995), the research was conducted within a multi-disciplinary approach with a multi-disciplinary team of researchers employed to carry out the randomised controlled trial although the author had sole responsibility for the psychosocial outcome evaluation.

The methodological difficulties of measuring satisfaction are well documented (Lumley, 1985; Bramadat & Driedger, 1993; Locker & Dunt, 1978; Fitzpatrick & Hopkins, 1983; Ware et al 1983) and therefore the methods used included several strategies to minimise the possibility of bias. The evaluation addressed dimensions of care of particular importance to consumers (House of Commons Health Committee 1992, Scottish Office Home & Health Department 1993, Department of Health 1993) which mirror those advocated by satisfaction theorists (Ware et al, 1983; Pascoe, 1983) : relationships with staff, information transfer, choices and decisions, and social support. Moreover, the results from the open-ended questions confirmed issues most salient to consumers were being covered in the evaluation. As previously described the attempt to carry out semi-structured interviews was not successful. This will be discussed with regard to the limitations of the study. The plan for the semi-structured interviews aimed to, however, minimise bias by the author developing an interview schedule based on issues raised by women during the 'pilot' interviews, the literature review and consultation with the research team and members of the steering group. The author's awareness of bias and power relationships between interviewer and interviewee, and indeed

survey respondent and researcher, was raised also from a literature review of qualitative and feminist research methodology.

In relation to the main data collection method used: the self - report questionnaires, it was aimed to minimise bias not only in the way that the questionnaires were administered but also in their format. The questionnaires were sent to women's homes by the research team who were not involved in providing care, as previous research (Lumley, 1985) has shown that women may feel captive in hospital and provide socially desirable responses. In addition, half the mean score items were negatively worded to minimise to avoid acquiescent bias (Ware et al, 1983). The open-ended questions allowed the opportunity to explore aspects of satisfaction which may not have been covered by the mean score items, although the responses to these questions should not be taken as representative as some women did not wish to comment. However, the responses to the open-ended questions were very useful as they help put the quantitative data into context. It is argued that the comments made by women can be much more powerful than 'percentages of women reporting X' as they present women with the opportunity to describe in their own words what the care they received meant to them. However, there is the difficulty of interpretation of comments made in open-ended questions and the possibility of bias in interpreting results. By coding comments into broad categories it was felt the meaning of comments made would be simplified and by involving 3 coders (2 categorising blind from each other) in this process it was aimed to minimise bias. To further minimise bias comments were selected at random to represent emergent themes.

By developing the questionnaires in line with the development of the programmes of care, it was aimed to build flexibility in, with the antenatal questionnaire developed first then the other two questionnaires developed subsequently. For example, issues that became more salient to women, providers and policy makers, such as 'transfer' from midwife managed care during the conduct of the trial could be addressed extensively in the 7 month questionnaire. In addition, it was felt important to carry out additional analysis about 'knowing your midwife during labour and delivery' due to the controversial nature of this issue in the United Kingdom (Stewart, 1995; Warwick, 1997) and the lack of specific research able to be carried out on this issue. Thus, although the research was carried out as a randomised controlled trial, it may be argued it also followed a more flexible research model as great flexibility was built in to address issues as they arose and for change to the programmes of care to be made where innovative practice was clearly not working (e.g. the attempt to offer women at scan at booking or at their next visit to the hospital was clearly unsuccessful and discontinued). At the same time, the integrity of the trial was maintained.

The questionnaires were developed solely in English as routine hospital statistics indicated only a handful of women attending Glasgow Royal Maternity Hospital would not speak or read English. In attempt to elicit views from all eligible women for the trial, however, a translating service was contacted but could not be provided due to the costs involved. During study recruitment, women who did not speak or read English usually had a person accompanying them (usually male partner) who translated the study information and asked if the woman would like to join the study. All the partners indicated that they were happy to translate when the questionnaires arrived at home. On one occasion, the partner of a woman could speak but not read English thus the author went to the couple's home at questionnaire administration times where the partner translated the questions that the author asked. No blind or deaf women were attending the hospital during the recruitment period. This should have been considered but was not at the inception of questionnaire development. As further regards the involvement of partners / significant others, it was considered

important in line with recommendations (Barbour, 1993), that partners / significant others have the opportunity to comment on care they were involved in. Questions were built into the surveys for this purpose.

Key themes and the study findings in context of previous work

To consider the findings in the context of previous work, key themes emerging from the findings will be discussed as well as issues relevant to care time periods.

Overall findings

Similar to other studies of maternity care (Waldenstrom and Nilson, 1993; Hundley et al, 1997) women were satisfied with their care. Given that women remember intense memories 20 years after childbirth (Simkin, 1991) and this can effect how a woman perceives and values herself in future, women's satisfaction with childbirth experience is very important. In addition, given that the United Kingdom is moving towards a more evidence based health service (Evans, 1996), evidence should be welcomed particularly if the evidence is based not only on the traditional clinically focussed measures but on the views of those who are served by health services.

The mean scores for both groups were in the positive range of the scale throughout all periods of care and women in both groups were more likely to make positive than negative comments about their care in the open-ended questions. However, women randomised to midwife-managed care reported significantly higher levels of satisfaction with all dimensions of satisfaction throughout antenatal, intrapartum, hospital-based and home-based postnatal care when compared to women randomised to shared care. The results from the open-ended questions tended to support these findings, as women in the midwife managed group made more positive comments than the shared care group and conversely the shared care group made more negative comments throughout all time periods. These findings concur with other trials of midwife managed care (Flint & Poulengeris, 1987; Giles et al, 1992; MacVicar et al, 1992; Hundley et al, 1994; Rowley et al, 1995; Waldenstrom and Nilson, 1993) which found women randomised to a midwife managed programme of care report enhanced satisfaction with care.

The comments indicated also the necessity for care individualised to women's needs, as it was evident that different women wanted different things. Further support for individualised care were the findings that women who expressed dissatisfaction with care tended to be dissatisfied with specific aspects of care. In contrast to previous work, in particular social class, (Macintyre, 1982; Nelson, 1986; Scottish Health Feedback, 1993) no effect of socio-demographic characteristics was found on satisfaction. However, social class is an important consideration for service providers given that staff have been found to communicate more effectively with middle class women, with preferences more likely to be taken into account than with working class women, euphemisms more likely to used with working class women and middle class women more likely to elicit information from staff (*ibid*). The effect of ethnic minority status could not be examined due to the small number of women from ethnic minorities involved in the study. This is another important consideration for service providers given that staff have been found to have difficulty in communicating with women from minority ethnic groups (Fleissig, 1992).

The necessity for surveying women over time is supported, as they may be more critical in the longer term after reflecting on their care (Erb et al, 1983; Lumley, 1985; Bennett et al, 1985). For example, with the exception of the 'choices and decisions' dimension, the mean scores for intrapartum care for both groups as measured at 7-weeks were higher than those obtained at 7-months follow-up. However, the differences in satisfaction between the two groups demonstrated in all other periods of care were maintained 7-months after delivery. This suggests that the new model of midwife-managed care, had a positive and lasting impact on women's satisfaction. In contrast to other theorists who argue recall bias may occur in the longer term (Carr-Hill, 1992), the author accords with the view that by giving women the opportunity to reflect on their care and discuss their experiences of care in the context of their life with family and friends, provides a different consideration of satisfaction (Lumley, 1985).

Organisation of care

Women randomised to the midwife managed group were more satisfied with the way their care was organised throughout antenatal, intrapartum and postnatal care as well as reported at seven months after birth when compared with women randomised to the shared care group. Enhanced satisfaction was evidenced, for example, with the amount of time with staff during antenatal care; the admission procedure for labour; with advice from postnatal ward staff on what to do on leaving hospital and with home commitments being taken into account when postnatal visits were arranged. It was clear that women in both groups appreciated the role of a midwife. That fact that 70% of the midwife managed care group had a strong preference for midwife only care during the antenatal period for any future pregnancy and a similar proportion expressed this preference for total care as measured 7 months after birth whereas the shared care had no strong preference for care provider indicated a substantial impact of the new type of care on women. However, the influence of 'what is must be best' (Porter and McIntyre, 1984) must be considered as a factor in the interpretation of these preferences. McClain (1983) found also that women discount the risks and magnify the benefits of a chosen service and exaggerate the risks and minimise the advantages of rejected services. Further support for the influence of 'what is must be best' is that the midwife managed care group had a strong preference for hospital-based antenatal care for a future pregnancy contrary to evidence based policy (Clinical Resource and Audit Group, 1995). Visits to hospital require significantly more of the woman's own time. However, it may be that despite higher costs women in the midwife managed care group opted for more hospital-based antenatal care because they were more satisfied with the quality of care they received in that location. Their level of satisfaction was statistically significant higher than the shared care group on a number of important indicators including their feelings about the facilities where they received most of their antenatal care, the appointments system, waiting times, time spent with staff and feelings about personal costs during care. Further evidence for differences in the quality of care received by the two groups also arose from other organisational issues during antenatal care. Although the case record review identified women randomised to shared care received more antenatal visits, they were less satisfied with the amount of visits received and time spent with staff during these visits. These findings are in concordance with previous work which states increased effectiveness of care will be achieved if the number of antenatal visits for 'low risk' women is reduced (Parsboosingh and Kerr, 1982; Hall et al, 1980).

A problem area remains for both types of care in the length of the booking visit although the amount of time waiting during this visit was not ascertained. This perhaps is no surprise, however, as studies have indicated waiting times as a source of complaint for maternity services for many years (Reid & Garcia, 1989). At usual visits both groups appeared to be relatively happy with the length of waiting although 15% of the

shared care group felt they waited too long at the their routine visits. However, over a third of both groups felt their booking visit was too long or far too long. Innovative ways of addressing these issues need to be considered.

In similarity to previous assertions (Phaff, 1986; Jackson, 1996), the way care is organised in the postnatal care in hospital still appears to be problematic. The fact that many women stated they were glad to be home after their stay in hospital serves as evidence to this. However, substantial differences were found in how pleasant women found the postnatal ward. The midwife managed ward was a small, eight-bedded ward, which was decorated to have a homely feel specifically for the study. Indeed, the slightly higher costs attributed to midwife managed care were attributed to the this ward (Midwifery Development Unit, 1995). Thus, after the trial, managers had to consider the provision of a 'rolls royce' service to women receiving midwife managed care. The decision was that the benefits of the ward did not outweigh the costs and equity issues. However, the open-ended comments indicated substantial problems with noise and overcrowding within shared care wards. This was also raised with managers. As to home-based postnatal care, women receiving shared care in this study appeared to rate their postnatal care at home more highly than hospital-based postnatal care. For example, satisfaction was very high for both groups with 90% of both groups were satisfied with the number of postnatal visits and the time they had with staff during these visits. This is encouraging given that the hospital provides a system of visits individualised to need (Twaddle et al, 1993).

Process of care

The five core issues identified, from the literature review and pilot interviews, as process of care dimensions were relationships with staff; information transfer; choice and decisions; social support and general satisfaction. Women in both groups were satisfied with these core issues as evidenced by all mean scores in the three time periods being in the positive range of the scale. However, the midwife managed group were statistically significantly more satisfied on all these dimensions throughout all time periods. In addition, with the exception of choices and decisions during the intrapartum period, the midwife managed group reported consistently high levels of satisfaction for these core dimensions throughout all time periods whereas the shared care group reported less satisfaction for antenatal and hospital-based postnatal care rather than intrapartum and home-based postnatal care. Thus, indicating the importance of examining not only different dimensions of satisfaction but different care periods. This theme will be addressed further under the issue of '*care periods*'.

In concurrence with previous research (Carr-Hill, 1992), general satisfaction was reported as much higher than with specific dimensions of care for both groups throughout all time periods. Thus the importance of examining individual dimensions of care is further confirmed. However, the difference in the quality of care received by the two groups is evident even in this dimension of general satisfaction. For example, as reported 7 months after birth, 63% of women in the midwife managed group who had had a baby before rated their care much better this time compared to 24% of the shared care group. In addition, the difference in quality for the shared care group in time periods was evidenced. For example, the contrast between intrapartum findings for a general satisfaction question (less than 10% of both groups were 'only moderately / not at all satisfied' with the way their labour went) with a similar question for hospital-based postnatal care (5% midwife managed care: 17% shared care 'only moderately / not at all satisfied' with their hospital-based postnatal care).

Cleary and McNeil, 1988 have found that good communication skills, empathy and caring appear to be the strongest predictor of how an individual will evaluate the care received. The fact that interpersonal relationships with staff was rated by both groups as the thing they liked best about their care, from the open-ended questions, in certain time periods may link with the fact that both groups were generally satisfied with their care throughout all dimensions of care and time periods. Further support for this link was that in the lengthy antenatal period substantial proportions of both groups reported the thing they wanted most out of antenatal care was 'seeing staff that were helpful'.

In contrast, to the findings about interpersonal relationships to staff, although women in both groups were generally satisfied with choice and decisions, it did not appear as one of their priorities (i.e. evidence from the lengthiest time period: antenatal where choice was rated much lower than interpersonal relationships, continuity (for the midwife managed group) and information about what they wanted most out of their care)). As discussed in Chapter 1 - Section 2, it may be argued that choice is a difficult concept for women given that they often feel grateful for NHS services. The new programme aimed to empower women receiving the new type of care to feel free to make choices (e.g. with birthplans etc). Evidence from the intrapartum period suggests this may have occurred. In this time period, the midwife managed group reported significantly more preferences for their labour. However, there appeared an issue of choice and dissatisfaction for *both* groups when there was something they didn't want for their labour that they received. In contrast, women randomised to the midwife managed group were significantly more satisfied with discussion around the issue when there was something that they did want for their labour they did not get.

Further to these findings, in relation to procedures during labour, the issue of choice is raised again. The clinical outcomes (Turnbull et al, 1996a) indicated high rates of intervention for both groups in contradiction to previous studies of women's views on what they like (Kitzinger, 1975; Cartwright, 1979; Jaccoby, 1988). The new programme aimed to encourage a more 'natural' childbirth in concordance with the previous research evidence (*ibid*), however, it is questionable whether this was achieved. The issue of whether intervention such as epidural / continuous electronic fetal monitoring has become an accustomed option for midwives / women or both has been raised (Turnbull et al, 1996a). It has been concluded that in relation to continuous electronic fetal monitoring, for example, that the established practice of the hospital seems to have influenced the midwives to monitor continuously despite evidenced that it confers no benefit in terms of neonatal outcome of a low-risk population (*ibid*). The fact that the midwife managed group was more satisfied than the shared care group with the discussion around these procedures indicates perhaps that this group did have a choice. How much that choice is influenced by the attitudes of midwives (whether consciously or unconsciously) is left unanswered, however. Specifically, in relation to instrumental deliveries and episiotomies, women receiving both types of care would like more discussion when these procedures are deemed necessary and are dissatisfied when this does not occur. As these procedures are often on the 'spur of the moment', these findings may be understandable. However, they should not be ignored and if not possible at the time, women should have the opportunity to discuss the necessity of the procedures post delivery.

In relation to the two remaining core dimensions, information transfer and social support, women's desire for information during their maternity care cannot be overestimated. Women were generally satisfied with the information they received throughout the three time periods, and 'being informed without having to ask'

was rated by 23% and 31% of the respective groups as the thing they wanted most out of their antenatal care. Although substantial proportions of both groups made comments about information being the thing they most liked about their care, substantial proportions of comments were made by both groups about lack of information. These findings are similar to previous research (Elbourne et al, 1987; Lovell, 1987; Jaccoby, 1988; Fleissig, 1992; Seguin, 1989) that information needs to be individualised and is a key factor in women's satisfaction with the care they receive.

Similarly to information, the importance of social support has been found in previous research (Elbourne & Oakley, 1989; Oakley, 1985; 1992; 1993). The mean scores indicated that women in both groups were generally satisfied with this issue. However, at seven months postnatal, when discussing their maternity care overall, 15% of the midwife managed group and 44% of the shared care group reported their care in this respect. In addition, women receiving shared care and experiencing complications expressed dissatisfaction with social support particularly. Thus there appears scope for both types of care to develop further a 'holistic' approach to care. This approach raises issues of the midwives role and training, however. That is a truly holistic approach would take on board a social model of health fully recognising that having a baby cannot be divorced from the rest of a woman's life. Thus, the midwife's role in this scenario is to act as an 'advocate' directing the woman to a possible solution. For example, if the woman arrived at the first antenatal visit with a housing problem, it would be the duty of the midwife to give the woman advice and a contact number. Unfortunately, this is not the case. Even on factual information such information provided by midwives on maternity benefits, the findings indicate vast improvements can be made (e.g. only 10% and 4% were extremely satisfied with this issue and 9% and 22% of the respective groups were not at all satisfied).

Continuity of care

In relation to continuity of carer, women in the midwife managed group rated this as consistently more important to them when receiving maternity care, as measured for all time periods, when compared to women in the shared care group. For example, in the 7 month questionnaire 46% of the midwife managed group compared to 18% of the shared care group rated this issue as extremely important whereas 14% and 33% of the respective groups reported this issue was 'only moderately' important. In contrast, no differences were found in the two groups' ratings of the importance of continuity of advice in antenatal and intrapartum periods with over 90% of both groups rating it as important. However, in the postnatal period women receiving shared care were less likely to view this issue as important than the midwife managed group. It appears that within this time period other issues may be of more importance to the shared care group such as support. At all time periods the midwife managed group reported greater continuity of care and carer (with the case record review confirming the midwife managed group saw less different carers), however, and this must be acknowledged when interpreting the results (i.e. 'what is must be best', Porter and McIntyre, 1984).

The additional analyses indicated continuity of carer and care as important factors in raising women's satisfaction in line with previous work (O'Brien and Smith, 1981; Cleary and McNeil, 1988). Women in both groups who reported optimum continuity of care and carer were generally more satisfied with care throughout dimensions of care than women who reported less continuity. Interestingly women randomised to shared care rated continuity of care (i.e. not receiving contradictory advice) as much more important in the antenatal period than in the intrapartum period. This may be due to short duration of the intrapartum

period. The affirmation from policy documents, however, of the *equal* importance of these issues (House of Commons Health Committee, 1992; Scottish Office Home and Health Department, 1993; Department of Health, 1993) was confirmed by the study findings presented here although midwife managed care was confirmed as having an independent effect as well.

An indicator of success of improving maternity services cited in the Department of Health's Changing Childbirth report (1993) is that, ' at least 75% of women should know the person who cares for them during delivery.' The Scottish Office Policy Review (1993) states 'women have clearly stated views and expectations that they will be attended during labour by at least one carer, usually a midwife, whom they have met during pregnancy.' Jackson, 1994, has highlighted that in Changing Childbirth (1993) the 'known carer' does not necessarily mean a midwife. However, it appears midwives are the main care providers affected by these recommendations. The findings from this study and other studies (Lee, 1994; Farquhar, 1996) suggest a lack of evidence to support these targets. Further to these findings, other research has found that there has been a limited success on the 'knowing your midwife' targets (Audit Commission, 1997; Scottish Programme for Clinical Effectiveness In Reproductive Health, 1998) with midwives reporting or perceiving difficulties in providing care with such a component (Sandall, 1995; 1997; Hillan et al, 1997). Indeed some schemes with such a component have been under threat, viewed as a 'rolls royce' service (Carlisle, 1997) and others have had to attempt 'coffee mornings' in order that women have 'met' the midwife who will care for them in labour (Curran, 1994). Green et al, 1998, in their review of midwife care studies stated that: "*The provision of continuous care by a known midwife has come to be perceived as a desirable objective, a means to an end. However, it may be that the effort and resources required to reorganize midwifery services, to facilitate this objective have clouded the ultimate goal. Providing continuous care by a known caregiver has come to be an end in itself, rather than a means to an end. The way in which midwives are organised within the health care service is less important to a woman than the quality of the interactions she has with her caregivers.*" (p138).

Transfer from midwife managed care

As mentioned in Chapter 3, flexibility in questionnaire development meant that issues could be addressed as they arose - transfer from midwife managed care was such an issue and specific questions were asked about this issue in the 7 month postnatal questionnaire. As well as this, 10% of the negative comments made by the midwife managed group in the 7 month open-ended questions related to this issue. Although women felt the reasons for their transfer from midwife managed care had generally been discussed well, the majority of comments made be women intimated 'upset' at being transferred. On reflection, it may have been better to 'target' women who were dissatisfied with care for interview such as those who were upset at transfer, thus the qualitative research may have been more successful. Thus the real world issue is, is it not better for women experiencing complications to remain under the care of midwives they already know as midwives always provide care for women experiencing complications anyway?

Involvement of others

The importance of considering not only the mother's view of care but significant others has been raised (e.g. Barbour, 1990). However, this is often quite difficult to do as study consent is usually gained just from the pregnant woman and the 'significant other' may not be present throughout all the woman's maternity care. However, the study aimed to address this issue by asking significant others to consider their views about overall maternity care in the 7 month questionnaire. Ninety percent of women in both groups reported there

had been someone they wanted to be involved in their maternity care. However, the 'significant others' of women randomised to the midwife managed group were more likely comment about how they found the maternity care with more positive comments about being given the opportunity to participate in choices and decisions as well as reporting they were made to feel more welcome and involved when compared to shared care.

Care period differences

For all emergent themes, the largest differences in satisfaction between the two groups occurred for antenatal care and hospital-based postnatal care. Women in the midwife-managed group consistently rated their care highly throughout antenatal, intrapartum and postnatal care, whereas the shared care group reported less satisfaction with antenatal and hospital-based postnatal care than with care in other time periods. These findings were replicated in both the mean scores and open-ended comments and may reflect that within these periods the two models of care potentially differed most. For example, in the midwife-managed group, women were allocated a named midwife who aimed to provide the majority of planned episodes of antenatal and postnatal care. In contrast, with shared care, there is typically lack of integration with care divided between the general practitioner; hospital-based medical and midwifery staff and community midwives. The two models of care were more similar, in terms of continuity of carer, during the intrapartum period and in home-based postnatal care (McGinley et al, 1995) where smaller differences were found in satisfaction.

From the open-ended questions, relationships with staff were what women in both groups most liked about their care throughout all time periods and at seven month follow-up. Continuity of care appeared important to the midwife managed care group whereas having regular antenatal examinations seemed important to the shared care group. These findings may reflect the 'task-orientated' nature of shared care and demonstrate that continuity appears a significant factor in raising satisfaction. However, a number of women in both groups expressed dissatisfaction with information transfer and choices and decisions in the antenatal and intrapartum periods. These findings highlight how important the issues of continuity, choice and control are to women, as emphasised in Changing Childbirth (Department of Health, 1993). Additional analysis indicated the potential for continuity of care and carer to enhance satisfaction with both types of care. Thus the importance of carrying out analysis which explores what factors detract and enhance satisfaction (Hall et al, 1988a) was confirmed. Problem areas commented on by both groups were antenatal waiting times and not knowing what time the midwife would arrive during home-based postnatal care. A further implications for practice is that women receiving shared care experiencing complications appeared more dissatisfied with antenatal than intrapartum care. In addition, a substantial number of women in the shared care group emphasised lack of privacy and over-crowding on the postnatal ward. These are issues, which are known to be difficult to resolve and are constrained by financial and environmental factors.

Theoretical issues

An important consideration in the interpretation of findings is the issue of whether women are fully informed about care. To take the example as discussed in relation to women's satisfaction with the organisation of antenatal care (Chapter 4), contradictory evidence exists from the findings of this study and the study by Sikorski et al, 1996, on the relationship between satisfaction and reduced antenatal visits. Women in this study were informed the aim of the study was to ascertain their views of a new type of midwife managed care which guaranteed care from a small group of midwives for the duration of their care

as long as their pregnancy remained uncomplicated. They were not explicitly informed that this would involve a lesser number of visits. Whereas in the Sikorski study (*ibid*), women were informed the study aim was to ascertain their views about care with a reduced number of antenatal visits. It may be asked of the Sikorski study (*ibid*) were women informed of the research evidence that a reduced schedule of visits is more clinically effective (it is unclear from the study findings if this was the case), if so, it may be argued that satisfaction may reduce when women perceive 'care is being cut back'. This example raises consideration of the relationship between attitudes, and thus satisfaction, with behaviour. Women may have been informed by the researchers in the Sikorski study about the perceived benefits of reduced visit schedules but as described in Chapter 1, Section 2, although the link between attitudes and behaviour is substantial (Krauts, 1995; Evans, 1996; Kincey et al, 1975; Larsen & Rootman, 1976; Ley, 1980; Roghmann et al, 1979; Fitzpatrick et al, 1983; Inui & Carter, 1985; Green et al, 1990; Jews and Rican, 1990), it is mediated by previous experience, future expectations, personality, individual social values and societal social values. Thus although women may have known of the perceived benefits of reduced schedules (Sikorski et al, 1996), their satisfaction response to this is mediated by many factors. In contrast, women randomised to midwife managed care in the current study, although they received fewer antenatal visits, were more satisfied with the number of visits they had. However, the reduced visits were an embedded part of the new care package. As discussed above, continuity of care and carer were confirmed as key factors in enhancing satisfaction with maternity care. It may be that these factors overrode the fact that women were receiving fewer visits and confirming (Hall et al, 1980; Parboosingh & Kerr, 1982; Howie et al, 1991) that quality of care is more important than amount of care. However, in retrospect, this raises questions of ethics in the sense of women being fully informed about the possible care packages they may be randomised to (this will be discussed below in relation to the limitations of the study).

Of further relevance to the importance of considering the link between satisfaction and behaviour is the finding that in contrast to research and policy recommendations (Williams et al, 1989; Clinical Resource and Audit Group, 1995), women randomised to midwife managed care were more satisfied with the way their care was organised in the antenatal period although they received the majority of it at hospital. As discussed earlier in this Chapter, due to logistical consideration during the trial, the option of largely community based antenatal care was not an option for women. It may be argued that despite the problems associated with hospital based care such as longer travel time and waiting, the quality of care women received overrode these factors and their behaviour may not have been different if quality were not as good. However, cognisance must be given to the fact that women view caregivers as 'experts' (Bluff & Holloway, 1994) and 'take what is advised' (Porter & McIntyre, 1984; Melia et al, 1989) and may have thought they had no option but to go the hospital although this did not transpire in their comments about what they disliked about their care.

As described above, the link between attitudes and behaviour is substantial (Krauss, 1995; Evans, 1996; Kincey et al, 1975; Larsen & Rootman, 1976; Ley, 1980; Roghmann et al, 1979; Fitzpatrick et al, 1983; Inui & Carter, 1985; Green et al, 1990; Joos and Rickman, 1990) and it is mediated by previous experience, future expectations, personality, individual social values and societal social values. Locker & Dunt, 1978 and Calnan, 1988, state that it is not enough just to measure satisfaction alone. Indeed, the framework for measuring satisfaction advocated by Calnan (*ibid*) argues that the above factors should also be measured. However, Carr-Hill, 1992, states the those who set out to measure all these aspects involved in satisfaction are on a hopeless quest and the best that can be achieved is to measure only aspects or indicators of

satisfaction. The author accords with Carr-Hill (*ibid*) on the issue of measuring aspects, however, considered the wider context of satisfaction, such as the importance of the social world and that the measurement of satisfaction is not an unbiased process, as advocated by Calnan, 1988. In line with this view was the utilisation of feminist theory in stating that the 'neutrality of science' is a myth and that any method is of value (Wilkinson, 1991). For example, the study included psychological based questions (e.g. feelings of control) similar to other woman centered studies (Green, 1990) as well as 'factual' reports and evaluation questions (Cleary & McNeil, 1988).

Woman centered and evidenced based approach

1The example of the continued influence of bonding theory despite evidence to the contrary described in Chapter 1 and the many examples from Effective Care In Pregnancy & Childbirth (Chalmers et al, 1989) indicate the need for practitioners to be always questioning their practice especially in relation to the effect of the care they give on women and their families. The findings from this study indicate that in both types of care there appears scope for improvement in attempting to achieve a truly 'women-centered, holistic' approach to maternity care. No longer is it acceptable that maternal and infant mortality / morbidity figures determine if a quality maternity service is provided. In line with consumer centered thinking (NHMSE, 1990, 1992; Nuffield Institute, 1992; National Consumer Council, 1992; McIver, 1991), a truly Woman centered service would be one whereby women are not just viewed as a receiver of services but an active participant in decision-making and priority setting.

The basic training midwives receive has at it a lack of training on the principles of Woman centered care. Training that midwives receive should prepare them to continually question if the care they provide to women really addresses women's needs. The Midwives Code of Practice, 1992, as discussed in Chapter 1, states that: *"important task of the midwife is health counselling of the family and community"* (p23) and reviews (Elbourne, 1989a & b; Hodnett, 1995) have indicated the importance of social support provided by health professionals. However, this study indicated that even on Woman centered practical details (e.g. information on maternity and child benefits) both types of care were poor. It may be argued that midwives view these issues as particularly difficult to achieve as, as discussed in Chapter 1, their training makes them 'streamline' their procedures (DeVries, 1984). Thus changes are needed in the training of midwives.

In relation to an evidenced based approach to care, the difficulties of research are the time lag between publication of evidence of good practice and the wide spread implementation of this good practice as well as 'what constitutes a body of evidence'. Although the Cochrane Pregnancy and Childbirth Database (Chalmers, 1993) addresses some of these dilemmas, the focus on randomised controlled trials limits its scope for implementing good practice. In addition, the culture in which midwives work cannot change over night. The trials have indicated that whilst being safe, midwife managed care enhances satisfaction (Flint et al, 1987; Turnbull et al, 1996; Giles et al, 1992; MacVicar, 1993; Hundley et al, 1994; Rowley et al, 1995). There is a body of evidence then to the efficaciousness of midwife managed care. The extent to which these findings will be implemented widely will be dependent on a variety of factors. However, Chapter 1 indicated resistance from general practitioners and obstetricians (Steer, 1992; Anderson, 1993; Stephen, 1993; Dunlop, 1993; James, 1995; Smith, 1996) to midwife managed schemes although obstetricians in this study were generally favourable (Cheyne et al, 1995) after working alongside midwife managed care. During the study, however, there was opposition from some general practitioners with some 'refusing to allow their women to join the study'. This should be considered in light of the finding that women

randomised to shared care were found to have little general practitioner input and midwife managed care did not reduce this although women allocated to shared care were far more likely to identify a GP rather than a midwife as their main carer during the antenatal period. Graham, 1996 has stated: *"To the impartial outsider it appears that the evidence from trials of midwife-led care is not always being judged primarily on scientific grounds."* (p396). However, although social science research has traditionally not operated at the policy level (Ong, 1993), there is a movement for this to change (Deykin, 1996). Thus, the need for researchers and midwives to constantly question the service they provide and the context in which they provide it is confirmed. It may be argued that opposition from GPs may have been alleviated with more involvement in the design of the trial. A contrary argument to this is that, after trial completion there has been increased opposition from GPs in line with Graham's, 1996 supposition.

Limitations of the study

The background to this study was government concern over the issue of care provided to women during pregnancy and childbirth and subsequent funding for a randomised controlled trial to address this issue. Robinson, 1996, has stated that in funded research similar to the randomised controlled trial utilised for this study, it is often the case that researchers are trying to answer questions which may be important for them, their funders, or the government but which are not necessarily most important for consumers. This study aimed to combat this problem by consulting a wide range of literature and people including consumers themselves in order that the research agenda observed a consumer focus. However, the research question was largely dictated by the study funders.

Although the study was conducted as a randomised controlled trial and this is viewed traditionally as the best way to test out innovations, research on the consumer experience is very difficult to conduct in such a controlled way. This study demonstrates that women's views can be collected comprehensively within such a framework. However, qualitative interviews guided what user quantitative data should be collected. The author accords with Roberts, 1992, that while quantitative data have their place they are not sufficient to encompass all the important questions raised in studying women's health. The study aimed to address this difficulty by 'mixing' quantitative and qualitative methods. Unfortunately the qualitative research with women was unsuccessful. In retrospect, during study recruitment, more could have been done to encourage women to take part in the interviews. More emphasis was put on replying to the self-report questionnaires, as all women with the exception of those who lost their baby would be receiving a survey. The use of interviews in guiding what user data should be collected was very successful, however.

Although the study was conducted as a piece of health services research, feminist theory and methodology had much to offer. The study consulted women, therefore, about many methodological issues. In retrospect, however, more could have been done to alleviate the position of power the researcher has in carrying out a study. For example, although consumers were asked their opinions, before questionnaire development was initiated and during the piloting, in order that the questionnaire developed was based on the issues they viewed as important, consumers representatives could have been consulted at each stage of questionnaire development. This would be in line with current thinking on good practice which states that consumer representatives should be involved in setting the research agenda, designing the research, the conduct of the research and the analysis, dissemination and implementation of the research. Further to this, it was not considered at the time that women might wish to receive information about the study findings and implications for practice by the research team or the steering group. It seems a contradiction now that the

new programme of care aimed to provide women with 'informed choice' although the research failed to inform them about the implications of the information they had provided about their views of services. Discussions about the inuplications of the study findings did include consumer representatives, however.

In relation to the trial methodology, there has been the some debate (Carr, 1996; Baird & Walker, 1996; Grant, 1996). The issues raised related to generalisability (see Turnbull et al, 1996b). However, some issues require consideration. In particular, the control group was not identified to caregivers. This has been cited as a source of bias. Grant, 1996, suggests: '...the trial is not a comparison of midwife managed care and standard antenatal care; it is a comparison of antenatal care according to a rigorous protocol and antenatal care without a protocol, the identity of the carers being unimportant.' However, the decision not to identify the control group has precedence (MacVicar et al, 1993) and all care givers was aware of the aims of the trial, and its starting and completion dates. Grant, 1996, questioned also the concept of risk criteria with the high rates of temporary (33% and permanent transfer (33%) from the trial (Turnbull et al, 1996a). The findings from this study indicate that although women felt that the reasons for their transfer had been discussed well, they were 'upset' at being transferred. These findings need to be considered for practice. In addition, it is clear that the trial aimed to test the innovation under ideal conditions, thus only 'low risk' women were eligible for the new type of care. The issue arises; now, as to would not all women benefit from schemes, which ensure continuity of care and carer? In addition, the ethical issue about fully informing women about the care packages they could be randomised to needs to be considered (see subsection on 'Theoretical issues' in the previous section of this Chapter). For example, the midwife managed package involved a reduced number of visits when compared to traditional shared care. Women were not informed about this at recruitment. The consideration at the time was to provide women with unbiased information about the care packages and to avoid information overload. However, in relation to this example, this method becomes problematic when research has found women randomised to reduced antenatal visits (Sikorski et al, 1996) were less satisfied with care. As this is only one component of care, it may be argued that the stance on information overload was ethical, as there were many different features between the two types of care, which would require lengthy explanation.

Other difficulties for application of the research findings to the real world includes the following related to options for care: community based antenatal care and postnatal stay. GRMH routinely provides midwives clinics in specific health centres and GP surgeries for women receiving shared care. However, during the trial period, since midwives providing midwife managed care looked after women attached to many GP surgeries and health centres, it would have been extremely difficult for them to offer midwife clinics at every surgery on a routine basis. The question is whether or not GP surgeries or health centres were really an option for the midwife managed care group. As regards postnatal stay, midwife managed care aimed to encourage shorter postnatal stay. However, it appeared women wished to stay 3 days in hospital similar to the shared care group. Thus, the implications for practice appear to be that the original aim of encouraging shorter stay was misguided.

The main method of data collection for this study was self-report questionnaires. The response rates for the questionnaires ranged from 66 percent to 82 percent. While women in the midwife-managed group were significantly more likely to return the 34-35 week and the 7-week questionnaires, the differences were small (around 8 percent). Nevertheless, this may introduce some bias. The case record data was very reliable with almost 100% found. In relation to the sub-analysis of knowing your midwife during labour, as the groups

involved in the sub-analysis were not defined by randomisation, there is the possibility of systematic bias from unknown sources. However, no statistically significant differences were found between the baseline characteristics of the two groups. An analysis of the questionnaires indicated them to be valid and reliable. In relation to the timing of the questionnaires, with the antenatal questionnaire administered at 34-35 weeks of pregnancy, it may be argued that women still have a 'loyalty' to care givers, especially are they are still having care which perhaps links to the higher response rate of the midwife managed group. However, an attempt to address this problem was by asking questions indirectly such as 'if you had another baby'.

Contribution to knowledge

The study contributed to knowledge in several ways. Firstly, it indicated, that in an ideal setting with a rigorous methodology, midwife managed care enhances women's satisfaction with the care they receive throughout antenatal, intrapartum and postnatal care when compared to traditional shared care. Secondly, the study indicated that the questionnaires developed were acceptable to women. Thirdly, the questionnaires developed were valid and reliable measures of women's satisfaction with maternity care, as measured in different time periods. Thirdly, the need for care individualised to women's needs was found. Fourthly, the study indicated that antenatal and hospital-based postnatal care should be target areas for improvement in shared care. Fifthly, continuity was found to significantly enhance satisfaction with maternity care. Finally, transfer from midwife managed care appeared to have negative effects on women who go through this experience.

Recommendations

Recommendations for practice and research will be considered.

Practice recommendations

Given the findings of this study and other recent trials of midwife managed care, ways of extending the benefits of this type of care to all pregnant women need to be considered. However, as new models of midwife managed care develop consideration needs to be given as how to standardise the care women receive. One of the major barriers to standardisation is the focus of the 'named midwife caring for women during labour'. The findings from this study indicate that no benefits accrue to women from such models when compared to midwife managed programmes, which do not aim to achieve such a component. However, as only a small number of studies have been carried out on this issue, a dilemma remains when policy is in favour of schemes with such a component.

The study indicates the importance of individualised care as different women expressed different preferences and satisfaction with different aspects of care. It is recommended that the model be extended to truly address women's needs. Midwives are in an ideal position to provide a 'holistic' service to women, which would bring great benefit.

Research recommendations

The study was the first randomised controlled trial to examine the clinical, psychosocial and economic effects of a programme of total midwife managed care. Further research is needed on different models of midwife managed care. In particular, although a small sub-study was carried out on the issue of knowing your midwife in labour, more research on clinical, psychosocial and economic effects of this is badly

needed. In addition, effects on women of transfer from midwife managed care is needed given the ambiguity of questions utilised in this study as well as postnatal support. Midwives attitudes to providing a 'non-medicalised, advocating, holistic' service need to be ascertained as well research on techniques of attitude change for general practitioners and obstetricians.

A major problem with satisfaction research is understanding what it means (Linder-Pelz, 1982; Locker and Dunt, 1978; Pascoe, 1983) and comparisons are extremely difficult (Cartwright, 1983). Further research is required on which factors make women's experience of maternity care satisfying or dissatisfying and how these factors change over time. In particular, research is needed on what choices in maternity care are important to women as well as how they make choice (including a consideration of where women access information before booking for maternity care). This is particularly important given that women are having less babies than ever before in this century (number of live births (n=59,308 for one year) in Scotland is the lowest number recorded since civil registration was introduced in 1885). In addition, nearly 40% of live births are to women aged over 30 years old (Registrar General for Scotland, 1996) and around one in three families in urban areas headed by a lone parent, with the similar figure of 90% of lone parents being women (Hair et al, 1994). Thus, the decision to have a baby is not one taken lightly and researchers and policy makers need to consider the context in which women have babies.

Although women receiving shared care were reasonably satisfied with their care, the model of midwife-managed maternity care reported here appears to have substantial benefits in terms of increasing women's satisfaction throughout all time periods. This detailed analysis suggests that the problem areas in relation to shared care are antenatal and hospital-based postnatal care and research into interventions in these time periods to improve shared care is required.

General recommendations

- Every research project on health care should consider, primarily, the consumer's point of view. This view should then be balanced with the views of health care providers.
- All studies examining the consumer point of views should attempt to use triangulation techniques. In particular, qualitative research should be attempted where possible as well as quantitative.
- All studies of satisfaction with care should, if possible, include a longer term follow-up of women's views postpartum

Conclusion

The move towards midwife-managed schemes is apparently well under way, but it is important to ensure that such developments, while politically sanctioned, are supported by sound, evaluative research. This study, using a randomised controlled trial with a large study population, provided the ideal setting to test the innovation and therefore should contribute to the debate about the relative benefits to women of midwife-managed care. Previous research by the Midwifery Development Unit indicates that this model of care, for healthy women, integrated into existing services, is clinically efficacious in that it reduces interventions, improves some outcomes and has the same rate of complications (Turnbull, 1996a). This study confirmed the importance of asking women their views about the care they receive and suggests additional benefit in the form of improving satisfaction, throughout all time periods for a variety of aspects of care.

Appendix 1

Literature review search strategy

The main aim of the literature review was to review consumer studies of maternity care with an examination of studies of midwife managed care although it was aimed also to review research on the social, psychological and political context of childbearing. The literature review would then identify features of satisfaction that may need to be examined in the current study and put the study findings into context. The literature review identified a tremendous number of studies on maternity care. However, a critical evaluation of the literature was carried out with an integrative strategy (Kirkevold, 1997).

Of particular relevance were studies carried out in the context of the National Health Service in the United Kingdom. However, the international context was recognised and where relevant, studies from other countries were included. For example, it was important to review in-depth, the methodology of randomised controlled trials of midwife managed care carried out internationally given the issue of generalisability. Critical evaluation of the literature was carried out which has been described as an 'objective, critical and balanced appraisal of a research report's various dimensions'. This includes consideration of factors such as 'is the problem clearly stated?', is the literature review relevant to the topic?', 'is the design of the study adequately described?', 'is the sample clear in how it was selected?', 'is data collection and analysis appropriate to the research question?', 'are limitations identified before implications and recommendations made?', and 'are ethical questions considered?' (Hek, 1996).

A systematic approach to the review of the literature was employed. This involved both systematic searches on electronic databases and hand searching of journals (e.g. the journal Professional Care of Mother and Child is not indexed on any of the major databases). Medline is the traditional electronic database for studies of health services and is employed by the Cochrane Collaboration (Cullum, 1997), however, calls for wider searches have been made (Seers and Milne, 1997). Seers and Milne stated in 1997, for example, that future reviews of nursing interventions should search beyond Medline to other databases such as CINAHL and PsycLIT.

The review of electronic databases included employing a list of 'simple' and 'advanced' searches on the following computerised databases: Medline 1966 - October 1997, National Academy of Medicine, USA; CINAHL (Nursing Information) 1983 - October 1997, Bowker Saur, UK; ASSIA (Applied Social Science Index and Abstracts), 1987 - October 1997, Bowker Saur, UK; and PsycLIT 1974 - October 1997 (Psychological abstracts). In addition, the BIDS (Bath Information and Data Services, University of Bath, UK) system was accessed which included EMBASE 1980 -

Science; and SSCI (Social Sciences Citation Index) 1981 - October 1997, Institute of Scientific Information, USA.

The simple searches identified that more advanced searches were necessary. For example, a search of the term 'satisfaction' on medline and cinahl combined identified 27,595 articles. It is obviously impossible to identify relevant material from such a number of articles, therefore advanced searches included terms such as 'maternity care', 'midwi-', 'childbirth' and 'childbirth experience'. With the medline and cinahl search on satisfaction with maternity care, 87 articles were identified. For all the databases, studies were identified if written in English and specifically consumer studies of women's satisfaction and experience on maternity care, particularly in the United Kingdom, were identified. The article abstract was scanned for relevancy, obviously all studies were unable to be presented and studies with reasonable sample sizes and therefore more generalisable, also those which were influential in terms of policy were reviewed. Medline and Cinahl were the most productive databases in terms of relevant articles. For example, although PsycLIT identified 851 articles about childbirth from 1974 onwards, only 15 related to childbirth experience and 16 about maternity care. Articles on this database tended to concentrate on morbidity issues, for example, postnatal depression and experience of pain. The hand searches also proved useful identifying 38 relevant articles not indexed on the electronic databases. Reference lists at the end of research articles led also to relevant studies being found which were not indexed on the databases mentioned.

Theoretical positions

The theoretical framework for this thesis may be viewed as a 'health services research' framework. With health services research, it is aimed that findings from research will have a direct impact on practice and this was what was aimed with the study discussed in this thesis. Thus it is important to consider the study implications from a number of points of view such as consumers, policy makers and providers. In health services research, then, it is necessary to pull on many disciplines in the search for a theoretical framework for the conduct of research studies in order that the research has 'real world' applicability. In this thesis, thus, no particular relevant discipline, such as psychology or sociology, dominated the conduct of study. Indeed, the author's background in social sciences, public health and health services research led to a theoretical foundation pulling of ideas from social psychology, sociology, feminist theory, public health theory and health promotion theory. It is argued that this type of theoretical framework is really the only way in which health services can be carried out as it is vital to see the implications of the research from a number of perspectives.

APPENDIX 2

Addressograph Label	*M.D.U CRITERIA FORM*
	Date *Consultant*

Instructions:
1. Booking midwife: please tick *Yes/No/Don't Know* for Q1-Q34 and record Parity
2. Research midwife : please check *Don't Know* categories and *Check*
: enter *E* or *NE* in Check Outcome column.

Parity: [ ][ ]

CLINICAL CRITERIA	YES	NO	DON'T KNOW	*For Office Use Only* CHECK OUTCOME E (Eligible) NE (Not eligible)
BOOKING				
1. Booking later than 16 completed weeks				
SOCIAL				
2. Age less than 16				
3. Age greater than 40				
4. Parity = 6 or more (check)				
PHYSICAL				
5. Obesity (greater than 85kgs) (check) (If height greater than 5'7" check centile chart)				
6. Small stature in a primagravida (less than 152cm) (check)				
GENETIC				
7. Family history of : Congenital malformation				
8. Inheritable disease				
9. Previous major fetal abnormality e.g. cardiac, renal, neurotube defect				

CLINICAL CRITERIA	YES	NO	DON'T KNOW	CHECK OUTCOME E (Eligible) NE (Not eligible)
22. Last baby preterm delivery (less than 37 weeks)	☐	☐	☐	☐
23. Previous IUGR below 5th Centile (check)	☐	☐	☐	☐
24 Previous severe pre-eclampsia	☐	☐	☐	☐
25. Previous large baby (greater than 4.5kgs)	☐	☐	☐	☐
26. Previous abruption	☐	☐	☐	☐
27. Previous manual removal of placenta	☐	☐	☐	☐
28. Previous significant post partum haemorrhage\ (greater than 800mls)	☐	☐	☐	☐
29. Previous caesarean section	☐	☐	☐	☐
30. Previous surgery to the reproductive tract i.e. myomectomy, removal of the septum, cone biopsy, classical caesarean section, pelvic floor repair, hysterotomy,anal rectal surgery	☐	☐	☐	☐
31. Assisted conception	☐	☐	☐	☐
CURRENT PREGNANCY				
32. Haemaglobin less than 10g at booking	☐	☐	☐	☐

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Date *Consultant*

Instructions:
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: enter *E* or *NE* in Check Outcome column.

Parity:

CLINICAL CRITERIA

	YES	NO	DON'T KNOW	*For Office Use Only* CHECK OUTCOME E (Eligible) NE (Not eligible)
BOOKING				
1. Booking later than 16 completed weeks				
SOCIAL				
2. Age less than 16				
3. Age greater than 40				
4. Parity = 6 or more (check)				
PHYSICAL				
5. Obesity (greater than 85kgs) (check) (If height greater than 5'7" check centile chart)				
6. Small stature in a primagravida (less than 152cm) (check)				
GENETIC				
7. Family history of : Congenital malformation				
8. Inheritable disease				
9. Previous major fetal abnormality e.g. cardiac, renal, neurotube defect				

CLINICAL CRITERIA	YES	NO	DON'T KNOW	CHECK OUTCOME E (Eligible) NE (Not eligible)
MEDICAL				
10. Essential hypertension i.e. known diagnosis or DBP greater than 90mmhg at booking	☐	☐	☐	☐
11. Cardiac disease	☐	☐	☐	☐
12. Renal disease	☐	☐	☐	☐
13. Diabetes	☐	☐	☐	☐
14. Endocrine disease	☐	☐	☐	☐
15. Epilepsy	☐	☐	☐	☐
16. History of thromboembolism	☐	☐	☐	☐
17. Prescribed drug therapy	☐	☐	☐	☐
OBSTETRIC / GYNAECOLOGICAL				
18. Previous perinatal or neonatal loss	☐	☐	☐	☐
19. Previous spontaneous abortion (greater than or = 3)	☐	☐	☐	☐
20. Previous termination of pregnancy greater than or = 3 (check)	☐	☐	☐	☐
21. Last baby mid-trimester abortion or fetal loss (check)	☐	☐	☐	☐

CLINICAL CRITERIA	YES	NO	DON'T KNOW	CHECK OUTCOME E (Eligible) NE (Not eligible)
22. Last baby preterm delivery (less than 37 weeks)				
23. Previous IUGR below 5th Centile (check)				
24 Previous severe pre-eclampsia				
25. Previous large baby (greater than 4.5kgs)				
26. Previous abruption				
27. Previous manual removal of placenta				
28. Previous significant post partum haemorrhage\ (greater than 800mls)				
29. Previous caesarean section				
30. Previous surgery to the reproductive tract i.e. myomectomy, removal of the septum, cone biopsy, classical caesarean section, pelvic floor repair, hysterotomy,anal rectal surgery				
31. Assisted conception				
CURRENT PREGNANCY				
32. Haemaglobin less than 10g at booking				

CLINICAL CRITERIA	YES	NO	DON'T KNOW	CHECK OUTCOME E (Eligible) NE (Not eligible)
PSYCHOLOGICAL				
33. Previous postnatal psychosis requiring hospital admission (check)	☐	☐	☐	☐
OTHER				
34. For referral to Women's Reproductive Health Unit (Dr. Hepburn) (check)	☐	☐	☐	☐

If YES is ticked for any item, the woman is excluded from the study and should proceed to the normal clinic. (Please retain form for Research Midwife.
Otherwise, please pass all notes and this form to the Research Midwife.

TO BE COMPLETED BY THE RESEARCH MIDWIFE

The client is not eligible if 1. a YES response is given in any of the above OR
2. a NE response is given in any of the categories.

CLIENT ELIGIBLE : ☐ NO ☐ YES

CONSENT GIVEN ☐ NO ☐ YES If Yes, GP Name .....
(If No, Reason) Address .....
.....
.....
.....
.....

MDU Number: ☐
(1 M.D.U care)
(2 Existing care)

Appendix 3

Information for women living in the North East of Glasgow who are booking at Rottenrow or Stobhill Hospitals

Welcome to the Glasgow Royal Maternity Hospital, Stobhill Hospital. These hospitals have a long history of providing a high standard of maternity care. The midwives and doctors are constantly looking for ways to improve this care.

The Midwifery Development Unit has been set up to improve care for healthy women who live in the north east of Glasgow. This Unit is running a study which compares two types of care so that we can find out the advantages and disadvantages of each.

1. Existing care

Women who receive this type of care will be seen by midwives and doctors.

2. Midwife Unit Care

Women who receive Midwife Unit Care will be seen by a small group of midwives. If the pregnancy remains healthy and normal, midwives will continue to provide care. If any problems develop, women will be referred to the appropriate care providers such as the hospital doctor, physiotherapist, dietician and general practitioner.

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At your booking visit, you may be asked to join this study. If you agree, you will be randomly allocated to receive the existing type of care **or** Midwife Unit care.

This means that you will be allocated by chance to one particular type of care. This is done so that the study is not biased in any way.

While you cannot choose which group you will be allocated to, you will receive the highest standard of care available at the Glasgow Royal Maternity Hospital.

When you attend the antenatal clinic for the first time you may meet research midwives: Helen Cheyne and Ann Holmes. They will talk to you about the study,and answer any questions you have.

Should you have any questions about the study please contact Helen or Ann 552 3400 ext. 256 (Mondays and Tuesdays).

Dr Deborah Turnbull
Unit Manager

Miss Mary McGinley
Head of Midwifery Services

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APPENDIX 4

Patient's summary sheet: to be discussed with eligible women

The aim of this study is to compare two types of care so that we can find out the advantages and disadvantages of each.

1.Existing care

Women who receive this type of care will be seen by midwives and doctors.

2.Midwife Unit care

Women who receive Midwife Unit Care will be seen by a small group of midwives. If the pregnancy remains healthy and normal, midwives will continue to provide care. If any problems develop, women will be referred to the appropriate care providers such as the hospital doctor, physiotherapist, dietician and general practitioner.

If you agree to join this study, you will be randomly allocated to receive existing care or midwife unit care. This means that you will be allocated by chance to one particular type of care. This is done so that the study is not biased in any way.

While you cannot choose which group you will be allocated to, you will receive the highest standard of care available at the Glasgow Royal Maternity Hospital.

You are under no pressure to join the study.

You are free to leave the study at any time and this will not affect your care in any way.

We value women's opinions and therefore women participating in the study will be asked to complete questionnaires. We may also ask to meet with you to discuss your views.

After the birth of your baby, the research midwife will want to look at your medical notes and care card to collect details of your pregnancy and labour.

All information provided to the research team is strictly confidential and will not affect your care in any way. Results of the study will not use details of individuals, but describe the care of around 3000 women and their experiences.

Appendix 5

Consent sheet: to be discussed with eligible women

The aim of this study is to compare two types of care so that we can find out the advantages and disadvantages of each.

1.Existing care

Women who receive this type of care will be seen by midwives and doctors.

2.Midwife Unit care

Women who receive Midwife Unit Care will be seen by a small group of midwives. If the pregnancy remains healthy and normal, midwives will continue to provide care. If any problems develop, women will be referred to the appropriate care providers such as the hospital doctor, physiotherapist, dietician and general practitioner.

If you agree to join this study, you will be randomly allocated to receive existing care or midwife unit care. This means that you will be allocated by chance to one particular type of care. This is done so that the study is not biased in any way.

While you cannot choose which group you will be allocated to, you will receive the highest standard of care available at the Glasgow Royal Maternity Hospital.

You are under no pressure to join the study.

You are free to leave the study at any time and this will not affect your care in any way.

We value women's opinions and therefore women participating in the study will be asked to complete questionnaires. We may also ask to meet with you to discuss your views.

After the birth of your baby, the research midwife will want to look at your medical notes and care card to collect details of your pregnancy and labour.

All information provided to the research team is strictly confidential and will not affect your care in any way. Results of the study will not use details of individuals, but describe the care of around 3000 women and their experiences.

Statement of agreement

I (Name).....of (Address).....

.....

agree to take part in the Midwifery Development Unit study.

.....has explained to me what I have to do, how it might affect me and the purpose of the study.

Signed..... **Date**.....

Witness.....

APPENDIX 4

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The aim of this study is to compare two types of care so that we can find out the advantages and disadvantages of each.

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2. Midwife Unit care

Women who receive Midwife Unit Care will be seen by a small group of midwives. If the pregnancy remains healthy and normal, midwives will continue to provide care. If any problems develop, women will be referred to the appropriate care providers such as the hospital doctor, physiotherapist, dietician and general practitioner.

If you agree to join this study, you will be randomly allocated to receive existing care or midwife unit care. This means that you will be allocated by chance to one particular type of care. This is done so that the study is not biased in any way.

While you cannot choose which group you will be allocated to, you will receive the highest standard of care available at the Glasgow Royal Maternity Hospital.

You are under no pressure to join the study.

You are free to leave the study at any time and this will not affect your care in any way.

We value women's opinions and therefore women participating in the study will be asked to complete questionnaires. We may also ask to meet with you to discuss your views.

After the birth of your baby, the research midwife will want to look at your medical notes and care card to collect details of your pregnancy and labour.

All information provided to the research team is strictly confidential and will not affect your care in any way. Results of the study will not use details of individuals, but describe the care of around 3000 women and their experiences.

Appendix 5

Consent sheet: to be discussed with eligible women

The aim of this study is to compare two types of care so that we can find out the advantages and disadvantages of each.

1.Existing care

Women who receive this type of care will be seen by midwives and doctors.

2.Midwife Unit care

Women who receive Midwife Unit Care will be seen by a small group of midwives. If the pregnancy remains healthy and normal, midwives will continue to provide care. If any problems develop, women will be referred to the appropriate care providers such as the hospital doctor, physiotherapist, dietician and general practitioner.

If you agree to join this study, you will be randomly allocated to receive existing care or midwife unit care. This means that you will be allocated by chance to one particular type of care. This is done so that the study is not biased in any way.

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All information provided to the research team is strictly confidential and will not affect your care in any way. Results of the study will not use details of individuals, but describe the care of around 3000 women and their experiences.

Statement of agreement

I (Name).....of (Address).....

.....

agree to take part in the Midwifery Development Unit study.

.....has explained to me what I have to do, how it might affect me and the purpose of the study.

Signed..... **Date**.....

Witness.....

Appendix 9

The M.D.U Record

Date *Clinic*

M : Missed CR: Ceiling Reached

	Missed	Outwith Study area	Clinical Exclusions	Already Booked	To be checked at booking	Attend booking clinic	Excluded at clinic	Consented	Arm
1. Name: Unit No: Comments:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
2. Name: Unit No: Comments:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
3. Name: Unit No: Comments:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
4. Name: Unit No: Comments:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
5. Name: Unit No: Comments:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING

	Missed	Outwith Study area	Clinical Exclusions	Already Booked	To be checked at booking	Attend booking clinic	Excluded at clinic	Consented	Arm
11. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
12. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
13. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
14. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
15. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
16. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									

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2. Name: Unit No: Comments:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
3. Name: Unit No: Comments:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
4. Name: Unit No: Comments:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
5. Name: Unit No: Comments:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING

	Missed	Outwith Study area	Clinical Exclusions	Already Booked	To be checked at booking	Attend booking clinic	Excluded at clinic	Consented	Arm
6. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
7. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
8. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
9. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
10. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									

	Missed	Outwith Study area	Clinical Exclusions	Already Booked	To be checked at booking	Attend booking clinic	Excluded at clinic	Consented	Arm
11. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
12. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
13. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
14. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
15. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M / CR	Y / N	MDU / EXISTING
Unit No:									
Comments:									
16. Name:	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N	Y / N / M	Y / N	MDU / EXISTING
Unit No:									

Total On Booking List	Missed Initially	Outwith Study Area	Initial Clinical Exclusions	Already Booked	To Be Checked	Potentially Eligible Attenders

Missed At Clinic	Excluded At Clinic	Consenters	Non-Consenters	MDU	Non-MDU

Pilot studies

Piloting of all data collection tools was carried out. As well as the self-report questionnaires and clinical outcome data collection forms, this included piloting of trial information leaflets with women and members of staff. Initial piloting illustrated that only minor adjustments were needed with information leaflets. Extensive piloting was carried out, however, with all data collection tools (described below). Final piloting indicated that all tools worked well and were valid for the purposes of the trial.

Pilot interviews

The aim of the pilot interviews was to provide qualitative information about what local women think is important in their maternity care. Some of these interviews were carried out by the project manager and some by the author. This information would then facilitate discussion around the literature (Mays and Pope, 1995) and decisions about study questionnaires to measure satisfaction (i.e. identify if satisfaction themes in the literature were similar to local women's feelings).

Fifteen women were interviewed; aged between 19 and 36 years. It was decided not to tape record the interviews, as the purpose was to generally gauge women's experience. Notes from these pilot interviews were collated instead. The majority of the women interviewed at this stage were in their early 20s. Seven women were primigravida and eight were parous. The majority had had their baby (n=11) and were in a postnatal ward. Although women on the antenatal ward may not be indicative of the study population (i.e. not experiencing normal healthy pregnancy and thus experiencing complications), it was decided to interview a small sample (n=4) to try and ascertain factors which local women thought at this stage of pregnancy were important in making pregnancy a positive experience. As a matter of convenience, the women were interviewed in the hospital wards in a private coffee room.

One of the main themes that arose from these pilot interviews was continuity of care. Some comments included: 'I would have felt more secure with 1 or 2 people'; 'I hoped I'd deliver before the next set of staff', 'It's really nice when you can deliver with the same one' and 'When you see somebody different each time at the antenatal, they don't know your background, you have to repeat yourself'. In addition, interpersonal relationships with staff, information transfer, choice and decisions and specifically tests in the antenatal period were raised as major issues. The importance of interpersonal relationships with staff and how women rated it in relation to their overall satisfaction with care was evident in some comments: 'Giving birth you've got to trust the people and have confidence in them', '...the happy look on her face...like it was happening to her' and 'the

'It's great...they let you know what's happening every minute', 'The more I know about something the less I panic, the more I am in control' and 'I think they should have told me without having to ask'. In relation to choice and decisions, one woman mentioned being offered options was important: 'What would you like?' 'Would you mind?' and another talked specifically about the desire for options for pain relief during labour. In relation to tests, three women mentioned the importance of getting results back and information about why tests were carried out. For example, one woman stated: 'You don't want to ask them all the time but they should be able to tell you when the result is due back'.

Pilot using OPCS maternity questionnaires

The aim of carrying out a pilot study with the OPCS maternity questionnaires (Mason, 1989) was to test the possibility of using these questionnaires in the study and to test the response of local women to self-report questionnaires posted out to their homes. As such no socio-demographic information about the women involved was collated during this pilot.

Both the OPCS antenatal and the postnatal questionnaire (Mason, 1989) were included in the pilot; but sent to different women. The pilot study using local women indicated a response questionnaire rate of 77% (n=17/22 questionnaires returned, 10 antenatal questionnaires and 7 postnatal returned). This response was very good considering the OPCS questionnaires are quite lengthy and that take at least 40 minutes to fill in. It was decided that self-report questionnaires were an appropriate data collection method for this study population and it was anticipated a good response could be achieved with questionnaires. However, the applicability of the OPCS questionnaires to answer the study questions would need to be considered.

The themes that arose from this pilot were similar to the pilot interviews. Particularly evident were a desire for information, interpersonal relationships with staff in terms of a relaxed and friendly approach, continuity in terms of getting to know the same midwife or doctor, and choice (in particular during labour, about moving around, monitoring and pain relief). On the basis of this pilot; the literature review and the pilot interviews (described above), it was decided that the study required to examine specific issues such as satisfaction with continuity of care and carer not covered in depth in the OPCS questionnaires. It was therefore decided to adapt the OPCS questionnaires for study purposes.

Piloting the study self-report questionnaires

Three study self-report questionnaires were developed based on Mason's (1989) OPCS questionnaires. The timings of the questionnaires were also guided by the OPCS questionnaires

pregnancy (ANQ), labour and postnatal questionnaire (LPQ) at 7 weeks postnatal and a seven month postnatal questionnaire (7MQ).

It took approximately five months to develop the 34-35 week antenatal questionnaire (ANQ). During this time, 14 pilots of the questionnaire were carried using 3 women each time. Women were informed that the aim of piloting was to test out the questionnaire and that there were no right or wrong answers. They were asked to point out errors and ask questions if the meaning of items was unclear. Also, the author would act as 'participant observer' during the pilots to identify consistent difficult items (e.g. if items were skipped) or an inordinate amount of time was spent consistently on certain items.

The women involved in the antenatal pilots had been admitted to a ward. It was decided too disruptive to both women and staff to carry out piloting in the antenatal clinic. Similarly, with the LPQ, women in the postnatal ward were piloted. With the LPQ a similar amount of piloting was carried out as it was a substantially lengthier questionnaire. Three pilots were carried out with the 7MQ, with again 3 women each time, as the 7MQ had a substantial number of questions similar to the LPQ. With the 7MQ no available reference population was available in the hospital for piloting as it is administered 7 months after birth. Previous delivery lists were consulted and women who had delivered 7 months ago were approached. The researcher visited women at their home. Pilots in this style were carried out on 2 women. It was decided not to repeat the exercise as it proved very time consuming, each pilot taking around 3 hours in total and very few problems arose with this questionnaire due to extensive piloting of the former two questionnaires.

The piloting confirmed that women generally understood the language used in the questionnaires although continuous improvements were made during subsequent piloting. Women generally found the questionnaires acceptable in terms of not causing any offence. For all 3 questionnaires, the original themes covered in the questionnaires were confirmed during the pilots.

Piloting case record data collection form

The piloting of the case-record data collection form to measure continuity of carer was carried out as part of the piloting of forms for clinical outcome data collection. In actuality, the piloting of this form was quite a straight forward procedure. Each coder (5 coders involved) used the staff signatures on two case records to ascertain if they understood the process. The signatures counts were then reviewed by another coder. A double check on staff signatures was carried out before the commencement of data collection, in order that all staff were accounted for.

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APPENDIX 8

7 MONTH SURVEY - COVERING LETTER

Date:_____

Dear

STUDY OF WOMEN'S EXPERIENCE OF MATERNITY CARE

Our study about maternity care is nearly complete. We would like to take this final opportunity to thank all of you who have filled in questionnaires for this study.

This is our last questionnaire. It asks your general opinions on the maternity care you received. Remember all information you provide is strictly confidential.

You may find some questions similar to a previous questionnaire. However we are particularly interested in what you think now of the maternity care you received.

We know that you will be very busy with your young baby but would be grateful if you could spare the time to complete the questionnaire. Please return it in the pre-paid envelope within the next few days.

If you left the study or for any other reason are not in the study now, we are very interested in your opinions. We would be very grateful if you could fill in this questionnaire.

Thank you very much for taking the time to complete the questionnaire and for helping us in this important study.

Yours sincerely

Noreen Shields
(Researcher)

Appendix 9

Date:_____

Dear

STUDY OF WOMEN'S EXPERIENCE OF MATERNITY CARE

I am writing about the questionnaire we recently sent to you asking about your maternity care.

We have not received your questionnaire yet. We know that you may be busy with your young baby. We would be very grateful if you could return the completed questionnaire within the next day or two.

If you have already sent the questionnaire back, we apologise for sending this reminder letter. Thank you very much for your co-operation.

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Yours sincerely

Noreen Shields
(Researcher)

APPENDIX 11

Antenatal Questionnaire

Thank you for taking the time to complete this survey.
We are interested in your general thoughts on the antenatal care you receive.

Think about the first contact you had with the health services when you discovered you were pregnant and all further contacts such as hospital visits, GP visits and care in the home.

Please answer the questions in your own time. There are no right or wrong answers.
All answers will be treated in the strictest confidence.
Answering this questionnaire does not affect your care in any way.

Please read the example and then answer the following questions

Example

Where did you have your last antenatal visit ?	**Circle one number only**
Hospital	1
Health centre	2
GP surgery	(3)
Home	4

The circle around number 3 shows this woman had her last antenatal visit at the GP surgery

1. Where do you have most of your antenatal care ?	**Circle one number only**	
Hospital	1	Go to Question 2
Health centre	2	Go to Question 2
GP surgery	3	Go to Question 2
Home	4	Go to Question 4
Other (Please explain)_____	5	Go to Question 2

2. How easy is it for you to get to the place where you receive antenatal care ?	**Circle one number only**
Extremely easy	1
Very easy	2
Easy	3
Only moderately easy	4
Not at all easy	5

3. How good are the facilities at the place where you receive antenatal care (e.g. toilets, comfortable seats, play area for children) ?	**Circle one number only**
Not at all good	1
Only moderately good	2
Good	3
Very good	4
Extremely good	5

4. How difficult is it to make antenatal appointments that suit you ?	**Circle one number only**
Extremely difficult	1
Very difficult	2
Difficult	3
Only moderately difficult	4
Not at all difficult	5

Please turn over the page n

12. We are interested in the amount of time you spend with staff at your visits. Do you feel this is ?

	Circle one number onl
Far too much	1
Too much	2
Just the right amount	3
Too little	4
Far too little	5

13. Think about all the financial costs you have during your antenatal care (e.g. travel costs, childminding costs, unpaid time of work). How reasonable are these costs ?

	Circle one number onl
Extremely reasonable	1
Very reasonable	2
Reasonable	3
Only moderately reasonable	4
Not at all reasonable	5

Please read the example and answer the following questions

Example	Strongly Agree	Agree	Not Sure	Dis-Agree	Strc Disa
The staff are friendly.	1	2	3	(4)	

The circle around number 4 shows that this woman disagrees that the staff are friendly

For each question circle one number o

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strc Disa
14. Staff are willing to give me the information I want	1	2	3	4	
15. I'm offered little choice about my care	1	2	3	4	
16. I'm satisfied with the care I receive	1	2	3	4	
17. I feel staff have little interest in my home life	1	2	3	4	
18. Many of the questions I raise are ignored	1	2	3	4	
19. I am told little about my test results	1	2	3	4	
20. I feel pleased with the care I receive	1	2	3	4	
21. I feel I'm treated as an individual	1	2	3	4	
22. Staff are more concerned with checking the baby's progress than mine	1	2	3	4	
23. I could get better care elsewhere	1	2	3	4	
24. I can discuss what is important to me	1	2	3	4	

Please turn over the page r

45. Which of the following staff do you mainly see for antenatal care ? **Circle one number only**

A hospital doctor only	1
A hospital doctor and midwife at the same visit	2
A midwife only	3
GP only	4
GP and midwife at the same visit	5
Other (Please explain)_____	6

46. Apart from the staff you mentioned in Question 45, at any time throughout your antenatal care was there anyone you wanted to see and didn't ? **Circle one number only**

Yes	1 Go to Question 47
No	2 Go to Question 48

47. Which of the following staff did you want to see and didn't ? **Circle all which apply**

A hospital doctor	1
A midwife	2
GP	3
A physiotherapist	4
A dietician	5
Others (Please explain)_____	6

48. If you decided to have another baby who would you like to see for most of your antenatal care ? **Circle one number only**

A hospital doctor only	1
A hospital doctor and midwife	2
A midwife only	3
GP only	4
GP and midwife	5
Don't really mind	6

49. If you decided to have another baby where would you like to have most of your antenatal care ? **Circle one number only**

Hospital	1
Health centre	2
GP surgery	3
Home	4
Don't really mind	5

Please turn over the page nc

56. How important is it that you see the same member of staff or same small group of staff for antenatal care ?

	Circle one number only
Not at all important	1 Go to Question 58
Only moderately important	2 Go to Question 58
Important	3 Go to Question 57
Very important	4 Go to Question 57
Extremely important	5 Go to Question 57

57. Do you see either the same member of staff or same small group of staff for antenatal care ?

	Circle one number only
All of the time	1
Most of the time	2
Sometimes	3
Rarely	4
Not at all	5

58. What is the thing you want most out of antenatal care ?

	Circle one number only
Seeing staff that are helpful	1 Go to Question 59
Getting useful information	2 Go to Question 59
Being treated as an individual	3 Go to Question 59
Seeing the same member of staff or same small group of staff	4 Go to Question 59
That antenatal care fits in with my routine	5 Go to Question 59
Being offered different choices about my care	6 Go to Question 59
Being informed of what is happening without having to ask	7 Go to Question 59
Something not listed above (Please explain this below)	8 Go to Question 59
_____	
Don't want anything in particular	9 Go to Question 60

59. Think about your answer to Question 58. Now tell us how satisfied you are with this aspect of your care ?

	Circle one number only
Extremely satisfied	1
Very satisfied	2
Satisfied	3
Only moderately satisfied	4
Not at all satisfied	5

60. How prepared do you feel for your baby's birth ?

	Circle one number only
Extremely prepared	1
Very prepared	2
Prepared	3
Only moderately prepared	4
Not at all prepared	5
Not sure	6

Please turn over the page n

68. Do you feel you get enough support from staff to help you change your health ?

	Circle one number only
No, definitely not	1 Go to Question 69
No, not really	2 Go to Question 69
Yes, probably	3 Go to Question 70
Yes, definitely	4 Go to Question 70

69. What else do you need in the way of support ?_____

_____

Please tick this box if you have no comment ☐

70. How confident have you felt in your attempts to change your health ?

	Circle one number only
Not at all confident	1
Only moderately confident	2
Confident	3
Very confident	4
Extremely confident	5

71. What do you like about your antenatal care ?

_____

_____

_____

_____

72. What do you dislike about your antenatal care ?

_____

_____

_____

_____

It would be helpful if you could give us some information about yourself by answering these additional questions.

73. Do you live with any of the following people ?

	Circle all which apply
Partner	1
Parents	2
Children	3
Others	4
Live alone	5

IF ANY CHILDREN LIVE IN YOUR HOUSEHOLD PLEASE ANSWER Q74, ELSE GO TO Q75.

Please enter the number of children in each category (if none, write NONE)

74. How many children live in your household ?

Children not in school yet	_____
Young children at school (up to aged 11 years)	_____
Teenagers (12 years and over)	_____

Please turn over the page now

Appendix 12

Labour and Postnatal Questionnaire

Thank you for your time in completing this survey.

We are interested in your general thoughts on the care you received during your labour and postnatally after your baby was born. If you had a **planned caesarean delivery**, this period refers to the time you were taken to theatre to have your baby and postnatally after your baby was born.

Please answer the questions in your own time. There are no right or wrong answers.
All answers will be treated in the strictest confidence.
Answering this questionnaire does not affect your care in any way.

Section 1

THINK ABOUT WHEN YOU FIRST REALISED YOU WERE IN LABOUR UP UNTIL ONE HOUR AFTER YOUR BABY WAS BORN.

Please read the example and answer the following questions.

Example

How did you get to the hospital when your labour started ?	**Circle one number only**
By bus	(1)
By ambulance	2
By car	3
By taxi	4

The circle around number 1 shows this woman got to the hospital by bus when her labour started.

1. How prepared did you feel about coming to the hospital to have your baby (e.g. knowing who to contact at the hospital if you thought your labour was starting, knowing what to bring to the hospital) ?

	Circle one number only
Extremely prepared	1
Very prepared	2
Prepared	3
Only moderately prepared	4
Not at all prepared	5

2. A false alarm is one of the following : when you come into hospital thinking you are in labour and are sent home, or when you telephone the hospital thinking you are in labour and told that you are not. Did you have any false alarms ?

	Circle one number only
Yes, one	1
Yes, two	2
Yes, more than two	3
No	4
Not sure	5

3. Think about the time when you were admitted to hospital when you were actually in labour. How satisfied were you with the way you were greeted (e.g. time kept waiting and the way staff treated you) ?

	Circle one number only
Not at satisfied	1
Only moderately satisfied	2
Satisfied	3
Very satisfied	4
Extremely satisfied	5

Please turn over the page now

9. Overall, how satisfied were you with the monitoring you had ?

	Circle one number only
Not at all satisfied	1
Only moderately satisfied	2
Satisfied	3
Very satisfied	4
Extremely satisfied	5

10. During your labour, what did you use for pain relief ?

	Circle ALL which apply
Gas and air (Entonox)	1
Bathing	2
Massage and movement	3
Breathing exercises	4
Painkillers (Pethidine or diamorphine)	5
Epidural	6
TENS (stimulation from pads on back)	7
Nothing	8
Other (Please explain)_____	9

11. When you were in labour, did staff talk to you at all about pain relief ?

	Circle one number only
No, it wasn't mentioned at all	1
Yes, but they kept talking about it when I wasn't really interested	2
Yes, but they talked to me about it very little	3
Yes, they talked to me enough about it	4
I feel this question is not applicable to me because of the way my labour went (e.g. labour went too quickly, had a planned caesarean section, had a drip in, had an epidural)	5

12. How satisfied were you with what was done for your pain relief ?

	Circle one number only
Extremely satisfied	1
Very satisfied	2
Satisfied	3
Only moderately satisfied	4
Not at all satisfied	5

13. Was your labour started off or speeded up ? (This can be done by inserting a pessary or gel into your vagina, breaking your waters or by putting a hormone drip into your arm).

	Circle one number only
Yes	1 Go to Question 14
No	2 Go to Question 16
Not sure	3 Go to Question 16

14. When you were in labour, did staff talk to you at all about your labour being started off or speeded up ?

	Circle one number only
Yes, they talked to me enough about it	1
Yes, but they talked to me about it very little	2
Yes, but they kept talking about it when I wasn't really interested	3
No, it wasn't mentioned at all	4
I feel this question is not applicable to me because of the way my labour went (e.g. labour went too quickly, had a planned caesarean section, had a drip in, had an epidural)	5

Please turn over the page no

21. How well was the type of delivery you had discussed with you ?

	Circle one number only
Not at all well	1
Only moderately well	2
Well	3
Very well	4
Extremely well	5
It wasn't mentioned at all	6
I feel this question is not applicable to me because of the way my labour went (e.g. labour went too quickly, had a planned caesarean section, had a drip in, had an epidural)	7

Think about information you received both during your antenatal care and in labour. How satisfied were you with the information you received on the following things ?

	Extremely Satisfied	Very Satisfied	Satisfied	Only Moderately Satisfied	Not At All Satisfie
22. Types of pain relief	1	2	3	4	5
23. Monitoring of your baby's heartbeat	1	2	3	4	5
24. Induction-having labour started off or speeded up	1	2	3	4	5
25. Types of delivery e.g. forceps delivery	1	2	3	4	5
26. Doing particular things with your baby (e.g. holding your baby immediately after it is born, cutting the cord)	1	2	3	4	5

27. Think back to the antenatal period before you had your baby. Were there things you wanted or didn't want for your labour (e.g. partner present, an epidural) ?

	Circle one number only
Yes	1 Go to Question 28
No	2 Go to Question 35
Not sure	3 Go to Question 35

28. Please describe these things to us.

29. During your antenatal care, how well did staff discuss these things with you?

	Circle one number only
Extremely well	1
Very well	2
Well	3
Only moderately well	4
Not at all well	5
It wasn't mentioned at all	6

Please turn over the page nov

37. How well did staff involve these people during your labour ? **Circle one number only**

I didn't really want them to be involved / or they didn't want to be involved	1
Extremely well	2
Very well	3
Well	4
Only moderately well	5
Not at all well	6

Please read the example and answer the following questions

Example	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
The staff in the labour suite were friendly	1	2	3	(4)	5

The circle around number 4 shows that this woman disagrees that the staff in the labour suite were frien

For each question circle one number onl

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
38. I was told the truth during my labour	1	2	3	4	5
39. I was generally unhappy about the care I received during my labour	1	2	3	4	5
40. I felt really supported by the labour staff	1	2	3	4	5
41. I was treated like just another patient in labour	1	2	3	4	5
42. I had enough privacy during my labour	1	2	3	4	5
43. I got on well with the staff	1	2	3	4	5
44. I felt little attention was paid to my wishes	1	2	3	4	5
45. Throughout my labour, it was rarely explained what would happen next	1	2	3	4	5
46. I feel satisfied with the way I was looked after	1	2	3	4	5
47. During my labour, I was left by staff more than I liked	1	2	3	4	5
48. I was able to trust the staff who cared for me	1	2	3	4	5
49. The labour suite had too many machines around	1	2	3	4	5
50. I felt I had as much control of my labour as I wanted	1	2	3	4	5
51. I felt I had little choice about what happened to me	1	2	3	4	5
52. I was treated as an individual	1	2	3	4	5
53. I had little confidence in the staff who cared for me	1	2	3	4	5

Please turn over the page nov

68. Did you see the same member of staff or same small group of staff during your labour ?

	Circle one number only
Yes	1____Go to Question 70
No	2____Go to Question 70

69. During your labour, did you feel this member of staff contradicted themselves ?

	Circle one number only
Not at all	1
Rarely	2
Sometimes	3
Most of the time	4
All of the time	5

70. Generally speaking, how important was it that the same member of staff or same small group of staff cared for you during your labour ?

	Circle one number only
Not at all important	1
Only moderately important	2
Important	3
Very important	4
Extremely important	5

71. Think about the different individual members of staff who can look after you throughout your labour (e.g. midwives, doctors, student midwives).

	Circle one number for each question					
	Total 1 staff	Total 2 staff	Total 3 staff	Total 4 staff	Total 5 staff	6 or more
How many do you think is ideally right to see ?	1	2	3	4	5	6
Now, how many do you think is realistic to see ?	1	2	3	4	5	6

72. Now think about the number of staff you saw during your labour. Do you think you saw ?

	Circle one number only
Far too many	1
Too many	2
Just the right amount	3
Too few	4
Far too few	5

73. Who delivered your baby ?

	Circle one number only
My MDU midwife	1
Another MDU midwife	2
Other midwife	3
A student midwife	4
A hospital doctor	5
A student doctor	6
Not sure	7

If you had a **planned caesarean delivery** please go straight to Question 77, else go to Question 74.

Please turn over the page now

81. In general, how worried did you feel during your labour and delivery ?

	Circle one number only
Extremely worried	1
Very worried	2
Worried	3
Only moderately worried	4
Not at all worried	5

82. Overall, how satisfied were you with the way your labour and delivery went ?

	Circle one number only
Extremely satisfied	1
Very satisfied	2
Satisfied	3
Only moderately satisfied	4
Not at all satisfied	5

83. What did you like about your care during your labour and delivery ?

_____

_____

_____

84. What did you dislike about your care during your labour and delivery ?

_____

_____

_____

85. Was your baby taken to the Special Care Baby Unit ?

	Circle one number only
Yes	1 Go to Question 86
No	2 Go to Question 88
Not sure	3 Go to Question 88

86. How well were the reasons for this discussed with you ?

	Circle one number only
Not at all well	1
Only moderately well	2
Well	3
Very well	4
Extremely well	5

87. How well did staff reassure you about this (e.g. explain you could see your baby any time, roughly how long your baby would be there) ?

	Circle one number only
Extremely well	1
Very well	2
Well	3
Only moderately well	4
Not at all well	5

Please turn over the page now

93. On leaving hospital, how well had staff discussed with you where to get advice about yourself and your baby if you needed it ?

	Circle one number only
Extremely well	1
Very well	2
Well	3
Only moderately well	4
Not at all well	5

94. Overall, how satisfied were you with the care you received in hospital after your baby was born ?

	Circle one number only
Not at all satisfied	1
Only moderately satisfied	2
Satisfied	3
Very satisfied	4
Extremely satisfied	5

Section 3

THE FOLLOWING QUESTIONS ARE ABOUT POSTNATAL CARE YOU RECEIVED AT **HOME** AFTER THE BIRTH OF YOUR BABY.

95. How much did staff take your home commitments into account when arranging visits to your home ?

	Circle one number only
Not at all	1
Not nearly enough	2
Nearly enough	3
Enough	4

96. We are interested in the number of postnatal visits you had to your home. Do you feel you had ?

	Circle one number only
Far too many	1
Too many	2
Just the right amount	3
Too little	4
Far too little	5

97. We are interested in the amount of time you had with staff during your home visits. Do you feel this was ?

	Circle one number only
Far too much	1
Too much	2
Just the right amount	3
Too little	4
Far too little	5

98. Think about the number of staff who visited you at home for postnatal care. Did you see ?

	Circle one number only
Far too few	1
Too few	2
Just the right amount	3
Too many	4
Far too many	5

Please turn over the page now

104. Did you see the same member of staff or same small group of staff at home ?

	Circle one number only
All of the time	1 Go to Question 10
Most of the time	2 Go to Question 10
Sometimes	3 Go to Question 10
Rarely	4 Go to Question 10
Not at all	5 Go to Question 10

105. Did you feel the member of staff you saw at home contradicted themselves ?

	Circle one number only
Not at all	1
Rarely	2
Sometimes	3
Most of the time	4
All of the time	5

106. How important was it that you saw the same member of staff or same small group of staff for your postnatal care ?

	Circle one number only
Extremely important	1
Very important	2
Important	3
Only moderately important	4
Not at all important	5

Please read the example and answer the following questions

Example : The staff were friendly

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disag
(a) In hospital	1	(2)	3	4	5
(b) At home	1	2	3	(4)	5

The example shows that this woman agrees the staff she saw in hospital were friendly but disagrees the staff she saw at home were friendly.

107. I was given information without having to ask all the time

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disag
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

108. The staff were really supportive

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disag
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

109. I felt I could have had better care

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disag
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

Please turn over the page no

118. The staff I saw were really nice

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

119. I was really well looked after

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

120. Staff took time to discuss any information I wanted

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

121. I had little control over what happened to me after I had my baby

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

122. Staff took an interest in my home circumstances

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

123. The care I received was not as good as it should have been

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

124. I felt I was given choices about what I could do

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

125. I was frightened to tell staff how I was actually feeling

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

Please turn over the page now

SOME WOMEN IN GLASGOW ROYAL MATERNITY HOSPITAL WERE CARED FOR BY THE MIDWIFERY DEVELOPMENT UNIT(SOMETIMES CALLED THE MDU OR MIDWIFE UNIT) DURING THEIR PREGNANCY AND AFTER THE BIRTH OF THEIR BABY.

135. Were you cared for by this unit?

	Circle one number only
Yes	1____Go to Question 13
No	2____Go to Question 15

136. Who was the MAIN person who looked after you during your antenatal care before you had your baby ?

	Circle one number only
My MDU midwife	1
Another MDU midwife	2
Midwife at GP's surgery	3
GP	4
Hospital midwife	5
Hospital doctor	6

137. Was this the same person who MAINLY looked after you postnatally after your baby was born ?

	Circle one number only
Not at all	1____Go to Question 13
Rarely	2____Go to Question 13
Sometimes	3____Go to Question 13
Most of the time	4____Go to Question 13
All of the time	5____Go to Question 13

138. Who was the MAIN person who looked after you during your postnatal care ?

	Circle one number only
My MDU midwife	1
Another MDU midwife	2
Hospital midwife	3
GP	4
Hospital doctor	5
Not sure	6

Think back to your antenatal care before you had your baby

139. Overall how often do you feel your antenatal care was planned to suit you ?

	Circle one number only
Not at all	1____Go to Question 140
Rarely	2____Go to Question 140
Sometimes	3____Go to Question 140
Most of the time	4____Go to Question 141
All of the time	5____Go to Question 141

140. Can you tell us about this ?

Please turn over the page no

Think about your postnatal care after you had your baby

148. During your antenatal care, had you planned when to go home after your baby was born ?

	Circle one number only
Yes	1 Go to Question 149
No	2 Go to Question 151

149. When did you plan to go home ?

---

150. After your baby was born, did you go home as you had planned ?	Circle one number only
Yes	1
No, I didn't want to at the time	2
No, after discussing it with the MDU midwives my plan changed	3
No, but I'm not sure why	4

151. When you were at home, how often did you know which MDU midwife would be visiting you next ?	Circle one number only
Not at all	1
Rarely	2
Sometimes	3
Most of the time	4
All of the time	5

Think back to your last visit with the midwife before you saw the health visitor.

152. During this visit, how much did the midwife discuss your pregnancy and the care you received ?	Circle one number only
I didn't really want to discuss it	1
Not at all	2
Not nearly as much as I wanted	3
Nearly as much as I wanted	4
As much as I wanted	5

153. During this visit, were you encouraged to write down any comments you had about MDU care in your Careplan ?	Circle one number only
Yes, as much as I wanted	1
Nearly as much as I wanted	2
Not nearly as much as I wanted	3
No not at all	4
I didn't have anything to write	5

154. Looking back now, when do you feel your Careplan was of most use to you ?	Circle one number only
I didn't find it useful at all	1
During my pregnancy	2
During my labour	3
After I had the baby	4
It was useful all the time	5

Please turn over the page now

161. I have blamed myself unnecessarily when things went wrong.	**Circle one number only**
Yes, most of the time	1
Yes, some of the time	2
Not very often	3
No never	4
162. I have been anxious or worried for no good reason.	**Circle one number only**
No, not at all	1
Hardly ever	2
Yes, sometimes	3
Yes, very often	4
163. I have felt scared or panicky for no very good reason.	**Circle one number only**
Yes, quite a lot	1
Yes, sometimes	2
No, not much	3
No, not at all	4
164. Things have been getting on top of me.	**Circle one number only**
Yes, most of the time I haven't been able to cope at all	1
Yes, sometimes I haven't been able to cope at all	2
No, most of the time I have coped quite well	3
No, I have been coping as well as ever	4
165. I have been so unhappy that I have had difficulty sleeping.	**Circle one number only**
Yes, most of the time	1
Yes, some of the time	2
Not very often	3
No never	4
166. I have felt miserable or sad.	**Circle one number only**
Yes, most of the time	1
Yes, some of the time	2
Not very often	3
No never	4
167. I have been so unhappy that I have been crying.	**Circle one number only**
Yes, most of the time	1
Yes, some of the time	2
Not very often	3
No never	4

Please turn over the page now

APPENDIX 13

Maternity Care Questionnaire

Thank you for your time in completing this survey. It is probably quite a few months since you had your baby. We are particularly interested in what you think now of the maternity care you received.

Please answer the questions in your own time. There are no right or wrong answers.
All answers will be treated in the strictest confidence.

The following questions ask about what you think now of the **care you received during labour.**

Please read the example and answer the following questions

Example	Strongly Agree	Agree	Not Sure	Dis-Agree	Strongly Disagree
The labour staff were friendly	1	2	3	(4)	5

The circle around number 4 shows that this woman disagrees that the labour staff were friendly

For each question circle one number only

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strongly Disagree
1. I was told the truth during my labour	1	2	3	4	5
2. I was generally unhappy about the care I received during my labour	1	2	3	4	5
3. I felt really supported by the labour staff	1	2	3	4	5
4. I was treated like just another patient in labour	1	2	3	4	5
5. I had enough privacy during my labour	1	2	3	4	5
6. I got on well with the staff	1	2	3	4	5
7. I felt little attention was paid to my wishes	1	2	3	4	5
8. Throughout my labour, it was rarely explained what would happen next	1	2	3	4	5
9. I feel satisfied with the way I was looked after	1	2	3	4	5
10. I was able to trust the staff who cared for me	1	2	3	4	5
11. The labour suite had too many machines around	1	2	3	4	5
12. I felt I had as much control of my labour as I wanted	1	2	3	4	5
13. I felt I had little choice about what happened to me	1	2	3	4	5
14. I was treated as an individual	1	2	3	4	5
15. I had little confidence in the staff who cared for me	1	2	3	4	5
16. The staff did little to ease my mind	1	2	3	4	5

Please turn over the page now

29. Looking back on **all** your maternity care, how interested were the staff you saw in your home life ?

	Circle one number only
Extremely interested	1
Very interested	2
Interested	3
Only moderately interested	4
Not at all interested	5

30. Looking back on **all** your maternity care, how good were the facilities on offer for your care ?

	Circle one number only
Extremely good	1
Very good	2
Good	3
Only moderately good	4
Not at all good	5

31. Looking back on **all** your maternity care, how do you feel about the number of staff you saw ?

	Circle one number only
I saw far too many	1
I saw too many	2
I saw just the right amount	3
I saw too few	4
I saw far too few	5

32. If you had another baby, how important would it be that your maternity care is by the same person or same small group of people ?

	Circle one number only
Not at all important	1
Only moderately important	2
Important	3
Very important	4
Extremely important	5

33. Looking back on **all** your maternity care, how often did staff contradict each other ?

	Circle one number only
All the time	1
Most of the time	2
Sometimes	3
Rarely	4
Not at all	5

34. If you had another baby, how important would it be that the staff you saw told you similar things, that is didn't contradict each other ?

	Circle one number only
Extremely important	1
Very important	2
Important	3
Only moderately important	4
Not at all important	5

Please turn over the page now

You might like to answer Questions 43 and 44 with the person or people you mentioned in Question 41.

43. How welcome was this person or people made to feel ?

	Circle one number only
Extremely welcome	1
Very welcome	2
Welcome	3
Only moderately welcome	4
Not at all welcome	5

44. How well did staff involve them in your care ?

	Circle one number only
Not at all well	1
Only moderately well	2
Well	3
Very well	4
Extremely well	5

45. How often did you see doctors (hospital doctors or your GP) during your maternity care?

	Circle one number only
Not at all	1 Go to Question 47
Throughout a little of my care	2 Go to Question 46
Throughout some of my care	3 Go to Question 46
Throughout most of my care	4 Go to Question 46
Throughout all of my care	5 Go to Question 46

46. What happened when you saw the doctors ?

	Circle one number only
They did tests / or examined me	1
They talked to me about my pregnancy	2
They did tests / or examined me and talked to me about my pregnancy	3
They just said hello to me	4

47. Regardless of your previous answers, how often would you have liked to have seen doctors during your maternity care ?

	Circle one number only
Throughout all my care	1 Go to Question 48
Throughout most of my care	2 Go to Question 48
Throughout some of my care	3 Go to Question 48
Throughout a little of my care	4 Go to Question 48
Not at all	5 Go to Question 49

48. Regardless of your previous answers, what would you have liked the doctor to have done during your maternity care ?

	Circle one number only
Just to say hello to me	1
To talk to me about my pregnancy	2
To do tests / or examine me	3
To do tests / or examine me and talk to me about my pregnancy	4

49. Looking back on **all** the maternity care you received. How would you rate it on this one to ten scale ?

Terrible care 1 2 3 4 5 6 7 8 9 10 **Excellent care**

Please turn over the page now

57. How have you been **milk** feeding your baby ?

	Circle one number only
I always bottle fed my baby	1 Go to Question 60
I always breast fed my baby	2 Go to Question 58
I always used a combination of bottle and breast	3 Go to Question 58
I tried bottle feeding then breast fed	4 Go to Question 58
I tried breast feeding but then bottle fed	5 Go to Question 59

58. Are you still breast feeding ?

	Circle one number only
Yes	1 Go to Question 60
No	2 Go to Question 59

59. How old was your baby when you stopped breast feeding ?_____

60. How good were staff at giving you advice and support with feeding your baby ?

	Circle one number only
Not at all good	1
Only moderately good	2
Good	3
Very good	4
Extremely good	5

61. What did you like about your maternity care ?

_____

_____

_____

62. What did you dislike about your maternity care ?

_____

_____

_____

In this final section we are interested in finding how much you feel the total maternity care you have received is **worth**. We are not interested in how much you think it actually costs.

One way of measuring this is to ask you how much you think the Government should spend on care for you.

When answering the next question please remember that the Government funds are limited. When they spend money on maternity services it means that money may not be spent on other health services or on other types of Government expenditure, such as education.

63. Do you think the Government should pay £2250 on maternity care for you ?

	Circle one number only
Yes, definitely	1
Yes, probably	2
No, probably not	3
No, definitely not	4
Don't know	5

THANK YOU VERY MUCH FOR COMPLETING THIS QUESTIONNAIRE.

Please return in the pre-paid envelope provided.

APPENDIX 11

Antenatal Questionnaire

Thank you for taking the time to complete this survey.
We are interested in your general thoughts on the antenatal care you receive.

Think about the first contact you had with the health services when you discovered you were pregnant and all further contacts such as hospital visits, GP visits and care in the home.

Please answer the questions in your own time. There are no right or wrong answers.
All answers will be treated in the strictest confidence.
Answering this questionnaire does not affect your care in any way.

Please read the example and then answer the following questions

Example

Where did you have your last antenatal visit ?	**Circle one number only**
Hospital	1
Health centre	2
GP surgery	(3)
Home	4

The circle around number 3 shows this woman had her last antenatal visit at the GP surgery

1. Where do you have most of your antenatal care ?

	Circle one number only	
Hospital	1	Go to Question 2
Health centre	2	Go to Question 2
GP surgery	3	Go to Question 2
Home	4	Go to Question 4
Other (Please explain)_____	5	Go to Question 2

2. How easy is it for you to get to the place where you receive antenatal care ?

	Circle one number only
Extremely easy	1
Very easy	2
Easy	3
Only moderately easy	4
Not at all easy	5

3. How good are the facilities at the place where you receive antenatal care (e.g. toilets, comfortable seats, play area for children) ?

	Circle one number only
Not at all good	1
Only moderately good	2
Good	3
Very good	4
Extremely good	5

4. How difficult is it to make antenatal appointments that suit you ?

	Circle one number only
Extremely difficult	1
Very difficult	2
Difficult	3
Only moderately difficult	4
Not at all difficult	5

Please turn over the page n

12. We are interested in the amount of time you spend with staff at your visits. Do you feel this is ?

	Circle one number only
Far too much	1
Too much	2
Just the right amount	3
Too little	4
Far too little	5

13. Think about all the financial costs you have during your antenatal care (e.g. travel costs, childminding costs, unpaid time of work). How reasonable are these costs ?

	Circle one number only
Extremely reasonable	1
Very reasonable	2
Reasonable	3
Only moderately reasonable	4
Not at all reasonable	5

Please read the example and answer the following questions

Example	Strongly Agree	Agree	Not Sure	Dis-Agree	Stron Disag
The staff are friendly.	1	2	3	(4)	5

The circle around number 4 shows that this woman disagrees that the staff are friendly

	For each question circle one number onl				
	Strongly Agree	Agree	Not Sure	Dis-Agree	Stron Disag
14. Staff are willing to give me the information I want	1	2	3	4	5
15. I'm offered little choice about my care	1	2	3	4	5
16. I'm satisfied with the care I receive	1	2	3	4	5
17. I feel staff have little interest in my home life	1	2	3	4	5
18. Many of the questions I raise are ignored	1	2	3	4	5
19. I am told little about my test results	1	2	3	4	5
20. I feel pleased with the care I receive	1	2	3	4	5
21. I feel I'm treated as an individual	1	2	3	4	5
22. Staff are more concerned with checking the baby's progress than mine	1	2	3	4	5
23. I could get better care elsewhere	1	2	3	4	5
24. I can discuss what is important to me	1	2	3	4	5

Please turn over the page nc

45. Which of the following staff do you mainly see for antenatal care ? **Circle one number only**

A hospital doctor only	1
A hospital doctor and midwife at the same visit	2
A midwife only	3
GP only	4
GP and midwife at the same visit	5
Other (Please explain)_____	6

46. Apart from the staff you mentioned in Question 45, at any time throughout your antenatal care was there anyone you wanted to see and didn't ? **Circle one number only**

Yes	1____Go to Question 47
No	2____Go to Question 48

47. Which of the following staff did you want to see and didn't ? **Circle all which apply**

A hospital doctor	1
A midwife	2
GP	3
A physiotherapist	4
A dietician	5
Others (Please explain)_____	6

48. If you decided to have another baby who would you like to see for most of your antenatal care ? **Circle one number only**

A hospital doctor only	1
A hospital doctor and midwife	2
A midwife only	3
GP only	4
GP and midwife	5
Don't really mind	6

49. If you decided to have another baby where would you like to have most of your antenatal care ? **Circle one number only**

Hospital	1
Health centre	2
GP surgery	3
Home	4
Don't really mind	5

Please turn over the page nc

56. How important is it that you see the same member of staff or same small group of staff for antenatal care ?

	Circle one number only
Not at all important	1 Go to Question 58
Only moderately important	2 Go to Question 58
Important	3 Go to Question 57
Very important	4 Go to Question 57
Extremely important	5 Go to Question 57

57. Do you see either the same member of staff or same small group of staff for antenatal care ?

	Circle one number only
All of the time	1
Most of the time	2
Sometimes	3
Rarely	4
Not at all	5

58. What is the thing you want most out of antenatal care ?

	Circle one number only
Seeing staff that are helpful	1 Go to Question 59
Getting useful information	2 Go to Question 59
Being treated as an individual	3 Go to Question 59
Seeing the same member of staff or same small group of staff	4 Go to Question 59
That antenatal care fits in with my routine	5 Go to Question 59
Being offered different choices about my care	6 Go to Question 59
Being informed of what is happening without having to ask	7 Go to Question 59
Something not listed above (Please explain this below)	8 Go to Question 59
_____	
Don't want anything in particular	9 Go to Question 60

59. Think about your answer to Question 58. Now tell us how satisfied you are with this aspect of your care ?

	Circle one number only
Extremely satisfied	1
Very satisfied	2
Satisfied	3
Only moderately satisfied	4
Not at all satisfied	5

60. How prepared do you feel for your baby's birth ?

	Circle one number only
Extremely prepared	1
Very prepared	2
Prepared	3
Only moderately prepared	4
Not at all prepared	5
Not sure	6

Please turn over the page n

68. Do you feel you get enough support from staff to help you change your health ?

	Circle one number only
No, definitely not	1 Go to Question 69
No, not really	2 Go to Question 69
Yes, probably	3 Go to Question 70
Yes, definitely	4 Go to Question 70

69. What else do you need in the way of support ?_____

_____

Please tick this box if you have no comment ☐

70. How confident have you felt in your attempts to change your health ?

	Circle one number only
Not at all confident	1
Only moderately confident	2
Confident	3
Very confident	4
Extremely confident	5

71. What do you like about your antenatal care ?

_____

_____

_____

_____

72. What do you dislike about your antenatal care ?

_____

_____

_____

_____

It would be helpful if you could give us some information about yourself by answering these additional questions.

73. Do you live with any of the following people ?

	Circle all which apply
Partner	1
Parents	2
Children	3
Others	4
Live alone	5

IF ANY CHILDREN LIVE IN YOUR HOUSEHOLD PLEASE ANSWER Q74, ELSE GO TO Q75.

Please enter the number of children in each category (if none, write NONE)

74. How many children live in your household ?

Children not in school yet	_____
Young children at school (up to aged 11 years)	_____
Teenagers (12 years and over)	_____

Please turn over the page now

APPENDIX 12

: Labour and Postnatal Questionnaire

Thank you for your time in completing this survey.

We are interested in your general thoughts on the care you received during your labour and postnatally after your baby was born. If you had a **planned caesarean delivery**, this period refers to the time you were taken to theatre to have your baby and postnatally after your baby was born.

Please answer the questions in your own time. There are no right or wrong answers.
All answers will be treated in the strictest confidence.
Answering this questionnaire does not affect your care in any way.

Section 1

THINK ABOUT WHEN YOU FIRST REALISED YOU WERE IN LABOUR UP UNTIL ONE HOUR AFTER YOUR BABY WAS BORN.

Please read the example and answer the following questions.

Example

How did you get to the hospital when your labour started ?	**Circle one number only**
By bus	(1)
By ambulance	2
By car	3
By taxi	4

The circle around number 1 shows this woman got to the hospital by bus when her labour started.

1. How prepared did you feel about coming to the hospital to have your baby (e.g. knowing who to contact at the hospital if you thought your labour was starting, knowing what to bring to the hospital) ?

	Circle one number only
Extremely prepared	1
Very prepared	2
Prepared	3
Only moderately prepared	4
Not at all prepared	5

2. A false alarm is one of the following : when you come into hospital thinking you are in labour and are sent home, or when you telephone the hospital thinking you are in labour and told that you are not. Did you have any false alarms ?

	Circle one number only
Yes, one	1
Yes, two	2
Yes, more than two	3
No	4
Not sure	5

3. Think about the time when you were admitted to hospital when you were actually in labour. How satisfied were you with the way you were greeted (e.g. time kept waiting and the way staff treated you) ?

	Circle one number only
Not at satisfied	1
Only moderately satisfied	2
Satisfied	3
Very satisfied	4
Extremely satisfied	5

Please turn over the page now

9. Overall, how satisfied were you with the monitoring you had ?

	Circle one number only
Not at all satisfied	1
Only moderately satisfied	2
Satisfied	3
Very satisfied	4
Extremely satisfied	5

10. During your labour, what did you use for pain relief ?

	Circle ALL which apply
Gas and air (Entonox)	1
Bathing	2
Massage and movement	3
Breathing exercises	4
Painkillers (Pethidine or diamorphine)	5
Epidural	6
TENS (stimulation from pads on back)	7
Nothing	8
Other (Please explain)_____	9

11. When you were in labour, did staff talk to you <u>at all</u> about pain relief ?

	Circle one number only
No, it wasn't mentioned at all	1
Yes, but they kept talking about it when I wasn't really interested	2
Yes, but they talked to me about it very little	3
Yes, they talked to me enough about it	4
I feel this question is not applicable to me because of the way my labour went (e.g. labour went too quickly, had a planned caesarean section, had a drip in, had an epidural)	5

12. How satisfied were you with what was done for your pain relief ?

	Circle one number only
Extremely satisfied	1
Very satisfied	2
Satisfied	3
Only moderately satisfied	4
Not at all satisfied	5

13. Was your labour started off or speeded up ? (This can be done by inserting a pessary or gel into your vagina, breaking your waters or by putting a hormone drip into your arm).

	Circle one number only
Yes	1 Go to Question 14
No	2 Go to Question 16
Not sure	3 Go to Question 16

14. When you were in labour, did staff talk to you <u>at all</u> about your labour being started off or speeded up ?

	Circle one number only
Yes, they talked to me enough about it	1
Yes, but they talked to me about it very little	2
Yes, but they kept talking about it when I wasn't really interested	3
No, it wasn't mentioned at all	4
I feel this question is not applicable to me because of the way my labour went (e.g. labour went too quickly, had a planned caesarean section, had a drip in, had an epidural)	5

Please turn over the page now

21. How well was the type of delivery you had discussed with you ?

	Circle one number only
Not at all well	1
Only moderately well	2
Well	3
Very well	4
Extremely well	5
It wasn't mentioned at all	6
I feel this question is not applicable to me because of the way my labour went (e.g. labour went too quickly, had a planned caesarean section, had a drip in, had an epidural)	7

Think about information you received both during your antenatal care and in labour. How satisfied were you with the information you received on the following things ?

	Extremely Satisfied	Very Satisfied	Satisfied	Only Moderately Satisfied	Not At All Satisfied
22. Types of pain relief	1	2	3	4	5
23. Monitoring of your baby's heartbeat	1	2	3	4	5
24. Induction-having labour started off or speeded up	1	2	3	4	5
25. Types of delivery e.g. forceps delivery	1	2	3	4	5
26. Doing particular things with your baby (e.g. holding your baby immediately after it is born, cutting the cord)	1	2	3	4	5

27. Think back to the antenatal period <u>before you had your baby</u>. Were there things you wanted or didn't want for your labour (e.g. partner present, an epidural) ?

	Circle one number only
Yes	1 ____ Go to Question 28
No	2 ____ Go to Question 35
Not sure	3 ____ Go to Question 35

28. Please describe these things to us.

_____

_____

_____

29. <u>During your antenatal care</u>, how well did staff discuss these things with you?

	Circle one number only
Extremely well	1
Very well	2
Well	3
Only moderately well	4
Not at all well	5
It wasn't mentioned at all	6

Please turn over the page now

37. How well did staff involve these people during your labour ? **Circle one number only**

I didn't really want them to be involved / or they didn't want to be involved	1
Extremely well	2
Very well	3
Well	4
Only moderately well	5
Not at all well	6

Please read the example and answer the following questions

Example	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
The staff in the labour suite were friendly	1	2	3	(4)	5

The circle around number 4 shows that this woman disagrees that the staff in the labour suite were frien

For each question circle one number onl

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
38. I was told the truth during my labour	1	2	3	4	5
39. I was generally unhappy about the care I received during my labour	1	2	3	4	5
40. I felt really supported by the labour staff	1	2	3	4	5
41. I was treated like just another patient in labour	1	2	3	4	5
42. I had enough privacy during my labour	1	2	3	4	5
43. I got on well with the staff	1	2	3	4	5
44. I felt little attention was paid to my wishes	1	2	3	4	5
45. Throughout my labour, it was rarely explained what would happen next	1	2	3	4	5
46. I feel satisfied with the way I was looked after	1	2	3	4	5
47. During my labour, I was left by staff more than I liked	1	2	3	4	5
48. I was able to trust the staff who cared for me	1	2	3	4	5
49. The labour suite had too many machines around	1	2	3	4	5
50. I felt I had as much control of my labour as I wanted	1	2	3	4	5
51. I felt I had little choice about what happened to me	1	2	3	4	5
52. I was treated as an individual	1	2	3	4	5
53. I had little confidence in the staff who cared for me	1	2	3	4	5

Please turn over the page no

68. Did you see the same member of staff or same small group of staff during your labour ?

	Circle one number only
Yes	1 Go to Question 70
No	2 Go to Question 70

69. During your labour, did you feel this member of staff contradicted themselves ?

	Circle one number only
Not at all	1
Rarely	2
Sometimes	3
Most of the time	4
All of the time	5

70. Generally speaking, how important was it that the same member of staff or same small group of staff cared for you during your labour ?

	Circle one number only
Not at all important	1
Only moderately important	2
Important	3
Very important	4
Extremely important	5

71. Think about the different individual members of staff who can look after you throughout your labour (e.g. midwives, doctors, student midwives).

	Circle one number for each question					
	Total 1 staff	Total 2 staff	Total 3 staff	Total 4 staff	Total 5 staff	6 or more
How many do you think is ideally right to see ?	1	2	3	4	5	6
Now, how many do you think is realistic to see ?	1	2	3	4	5	6

72. Now think about the number of staff you saw during your labour. Do you think you saw ?

	Circle one number only
Far too many	1
Too many	2
Just the right amount	3
Too few	4
Far too few	5

73. Who delivered your baby ?

	Circle one number only
My MDU midwife	1
Another MDU midwife	2
Other midwife	3
A student midwife	4
A hospital doctor	5
A student doctor	6
Not sure	7

If you had a **planned caesarean delivery** please go straight to Question 77, else go to Question 74.

Please turn over the page now

81. In general, how worried did you feel during your labour and delivery ?

	Circle one number only
Extremely worried	1
Very worried	2
Worried	3
Only moderately worried	4
Not at all worried	5

82. Overall, how satisfied were you with the way your labour and delivery went ?

	Circle one number only
Extremely satisfied	1
Very satisfied	2
Satisfied	3
Only moderately satisfied	4
Not at all satisfied	5

83. What did you like about your care during your labour and delivery ?

_____

_____

_____

84. What did you dislike about your care during your labour and delivery ?

_____

_____

_____

85. Was your baby taken to the Special Care Baby Unit ?

	Circle one number only
Yes	1____Go to Question 86
No	2____Go to Question 88
Not sure	3____Go to Question 88

86. How well were the reasons for this discussed with you ?

	Circle one number only
Not at all well	1
Only moderately well	2
Well	3
Very well	4
Extremely well	5

87. How well did staff reassure you about this (e.g. explain you could see your baby any time, roughly how long your baby would be there) ?

	Circle one number only
Extremely well	1
Very well	2
Well	3
Only moderately well	4
Not at all well	5

Please turn over the page nov

93. On leaving hospital, how well had staff discussed with you where to get advice about yourself and your baby if you needed it ?

	Circle one number only
Extremely well	1
Very well	2
Well	3
Only moderately well	4
Not at all well	5

94. Overall, how satisfied were you with the care you received in hospital after your baby was born ?

	Circle one number only
Not at all satisfied	1
Only moderately satisfied	2
Satisfied	3
Very satisfied	4
Extremely satisfied	5

Section 3

THE FOLLOWING QUESTIONS ARE ABOUT POSTNATAL CARE YOU RECEIVED AT **HOME** AFTER THE BIRTH OF YOUR BABY.

95. How much did staff take your home commitments into account when arranging visits to your home ?

	Circle one number only
Not at all	1
Not nearly enough	2
Nearly enough	3
Enough	4

96. We are interested in the number of postnatal visits you had to your home. Do you feel you had ?

	Circle one number only
Far too many	1
Too many	2
Just the right amount	3
Too little	4
Far too little	5

97. We are interested in the amount of time you had with staff during your home visits. Do you feel this was ?

	Circle one number only
Far too much	1
Too much	2
Just the right amount	3
Too little	4
Far too little	5

98. Think about the number of staff who visited you at home for postnatal care. Did you see ?

	Circle one number only
Far too few	1
Too few	2
Just the right amount	3
Too many	4
Far too many	5

Please turn over the page nov

104. Did you see the same member of staff or same small group of staff <u>at home</u> ?

	Circle one number only
All of the time	1____Go to Question 106
Most of the time	2____Go to Question 106
Sometimes	3____Go to Question 106
Rarely	4____Go to Question 106
Not at all	5____Go to Question 106

105. Did you feel the member of staff you saw <u>at home</u> contradicted themselves ?

	Circle one number only
Not at all	1
Rarely	2
Sometimes	3
Most of the time	4
All of the time	5

106. How important was it that you saw the same member of staff or same small group of staff for your postnatal care ?

	Circle one number only
Extremely important	1
Very important	2
Important	3
Only moderately important	4
Not at all important	5

Please read the example and answer the following questions

Example : The staff were friendly

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	(2)	3	4	5
(b) At home	1	2	3	(4)	5

The example shows that this woman agrees the staff she saw in hospital were friendly but disagrees the staff she saw at home were friendly.

107. I was given information without having to ask all the time

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

108. The staff were really supportive

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

109. I felt I could have had better care

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

Please turn over the page no

118. The staff I saw were really nice

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

119. I was really well looked after

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

120. Staff took time to discuss any information I wanted

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

121. I had little control over what happened to me after I had my baby

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

122. Staff took an interest in my home circumstances

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

123. The care I received was not as good as it should have been

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

124. I felt I was given choices about what I could do

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

125. I was frightened to tell staff how I was actually feeling

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strong Disagr
(a) In hospital	1	2	3	4	5
(b) At home	1	2	3	4	5

Please turn over the page now

SOME WOMEN IN GLASGOW ROYAL MATERNITY HOSPITAL WERE CARED FOR BY THE MIDWIFERY DEVELOPMENT UNIT(SOMETIMES CALLED THE MDU OR MIDWIFE UNIT) DURING THEIR PREGNANCY AND AFTER THE BIRTH OF THEIR BABY.

135. Were you cared for by this unit?

	Circle one number only
Yes	1____Go to Question 136
No	2____Go to Question 159

136. Who was the MAIN person who looked after you during your antenatal care before you had your baby ?

	Circle one number only
My MDU midwife	1
Another MDU midwife	2
Midwife at GP's surgery	3
GP	4
Hospital midwife	5
Hospital doctor	6

137. Was this the same person who MAINLY looked after you postnatally after your baby was born ?

	Circle one number only
Not at all	1____Go to Question 138
Rarely	2____Go to Question 138
Sometimes	3____Go to Question 138
Most of the time	4____Go to Question 139
All of the time	5____Go to Question 139

138. Who was the MAIN person who looked after you during your postnatal care ?

	Circle one number only
My MDU midwife	1
Another MDU midwife	2
Hospital midwife	3
GP	4
Hospital doctor	5
Not sure	6

Think back to your antenatal care before you had your baby

139. Overall how often do you feel your antenatal care was planned to suit you ?

	Circle one number only
Not at all	1____Go to Question 140
Rarely	2____Go to Question 140
Sometimes	3____Go to Question 140
Most of the time	4____Go to Question 141
All of the time	5____Go to Question 141

140. Can you tell us about this ?

Please turn over the page now

Think about your postnatal care after you had your baby

148. During your antenatal care, had you planned when to go home after your baby was born ?

	Circle one number only
Yes	1 Go to Question 149
No	2 Go to Question 151

149. When did you plan to go home ?

---

150. After your baby was born, did you go home as you had planned ?

	Circle one number only
Yes	1
No, I didn't want to at the time	2
No, after discussing it with the MDU midwives my plan changed	3
No, but I'm not sure why	4

151. When you were at home, how often did you know which MDU midwife would be visiting you next ?

	Circle one number only
Not at all	1
Rarely	2
Sometimes	3
Most of the time	4
All of the time	5

Think back to your last visit with the midwife before you saw the health visitor.

152. During this visit, how much did the midwife discuss your pregnancy and the care you received ?

	Circle one number only
I didn't really want to discuss it	1
Not at all	2
Not nearly as much as I wanted	3
Nearly as much as I wanted	4
As much as I wanted	5

153. During this visit, were you encouraged to write down any comments you had about MDU care in your Careplan ?

	Circle one number only
Yes, as much as I wanted	1
Nearly as much as I wanted	2
Not nearly as much as I wanted	3
No not at all	4
I didn't have anything to write	5

154. Looking back now, when do you feel your Careplan was of most use to you ?

	Circle one number only
I didn't find it useful at all	1
During my pregnancy	2
During my labour	3
After I had the baby	4
It was useful all the time	5

Please turn over the page nov

161. I have blamed myself unnecessarily when things went wrong.	**Circle one number only**
Yes, most of the time	1
Yes, some of the time	2
Not very often	3
No never	4
162. I have been anxious or worried for no good reason.	**Circle one number only**
No, not at all	1
Hardly ever	2
Yes, sometimes	3
Yes, very often	4
163. I have felt scared or panicky for no very good reason.	**Circle one number only**
Yes, quite a lot	1
Yes, sometimes	2
No, not much	3
No, not at all	4
164. Things have been getting on top of me.	**Circle one number only**
Yes, most of the time I haven't been able to cope at all	1
Yes, sometimes I haven't been able to cope at all	2
No, most of the time I have coped quite well	3
No, I have been coping as well as ever	4
165. I have been so unhappy that I have had difficulty sleeping.	**Circle one number only**
Yes, most of the time	1
Yes, some of the time	2
Not very often	3
No never	4
166. I have felt miserable or sad.	**Circle one number only**
Yes, most of the time	1
Yes, some of the time	2
Not very often	3
No never	4
167. I have been so unhappy that I have been crying.	**Circle one number only**
Yes, most of the time	1
Yes, some of the time	2
Not very often	3
No never	4

Please turn over the page now

APPENDIX 13

Maternity Care Questionnaire

Thank you for your time in completing this survey. It is probably quite a few months since you had your baby. We are particularly interested in what you think now of the maternity care you received.

Please answer the questions in your own time. There are no right or wrong answers.
All answers will be treated in the strictest confidence.

The following questions ask about what you think now of the **care you received during labour.**

Please read the example and answer the following questions

Example	Strongly Agree	Agree	Not Sure	Dis-Agree	Strongly Disagree
The labour staff were friendly	1	2	3	(4)	5

The circle around number 4 shows that this woman disagrees that the labour staff were friendly

For each question circle one number only

	Strongly Agree	Agree	Not Sure	Dis-Agree	Strongly Disagree
1. I was told the truth during my labour	1	2	3	4	5
2. I was generally unhappy about the care I received during my labour	1	2	3	4	5
3. I felt really supported by the labour staff	1	2	3	4	5
4. I was treated like just another patient in labour	1	2	3	4	5
5. I had enough privacy during my labour	1	2	3	4	5
6. I got on well with the staff	1	2	3	4	5
7. I felt little attention was paid to my wishes	1	2	3	4	5
8. Throughout my labour, it was rarely explained what would happen next	1	2	3	4	5
9. I feel satisfied with the way I was looked after	1	2	3	4	5
10. I was able to trust the staff who cared for me	1	2	3	4	5
11. The labour suite had too many machines around	1	2	3	4	5
12. I felt I had as much control of my labour as I wanted	1	2	3	4	5
13. I felt I had little choice about what happened to me	1	2	3	4	5
14. I was treated as an individual	1	2	3	4	5
15. I had little confidence in the staff who cared for me	1	2	3	4	5
16. The staff did little to ease my mind	1	2	3	4	5

Please turn over the page now

29. Looking back on **all** your maternity care, how interested were the staff you saw in your home life ?

	Circle one number only
Extremely interested	1
Very interested	2
Interested	3
Only moderately interested	4
Not at all interested	5

30. Looking back on **all** your maternity care, how good were the facilities on offer for your care ?

	Circle one number only
Extremely good	1
Very good	2
Good	3
Only moderately good	4
Not at all good	5

31. Looking back on **all** your maternity care, how do you feel about the number of staff you saw ?

	Circle one number only
I saw far too many	1
I saw too many	2
I saw just the right amount	3
I saw too few	4
I saw far too few	5

32. If you had another baby, how important would it be that your maternity care is by the same person or same small group of people ?

	Circle one number only
Not at all important	1
Only moderately important	2
Important	3
Very important	4
Extremely important	5

33. Looking back on **all** your maternity care, how often did staff contradict each other ?

	Circle one number only
All the time	1
Most of the time	2
Sometimes	3
Rarely	4
Not at all	5

34. If you had another baby, how important would it be that the staff you saw told you similar things, that is didn't contradict each other ?

	Circle one number only
Extremely important	1
Very important	2
Important	3
Only moderately important	4
Not at all important	5

Please turn over the page now

You might like to answer Questions 43 and 44 with the person or people you mentioned in Question 41.

43. How welcome was this person or people made to feel ?

	Circle one number only
Extremely welcome	1
Very welcome	2
Welcome	3
Only moderately welcome	4
Not at all welcome	5

44. How well did staff involve them in your care ?

	Circle one number only
Not at all well	1
Only moderately well	2
Well	3
Very well	4
Extremely well	5

45. How often did you see doctors (hospital doctors or your GP) during your maternity care?

	Circle one number only
Not at all	1____Go to Question 47
Throughout a little of my care	2____Go to Question 46
Throughout some of my care	3____Go to Question 46
Throughout most of my care	4____Go to Question 46
Throughout all of my care	5____Go to Question 46

46. What happened when you saw the doctors ?

	Circle one number only
They did tests / or examined me	1
They talked to me about my pregnancy	2
They did tests / or examined me and talked to me about my pregnancy	3
They just said hello to me	4

47. Regardless of your previous answers, how often would you have liked to have seen doctors during your maternity care ?

	Circle one number only
Throughout all my care	1____Go to Question 48
Throughout most of my care	2____Go to Question 48
Throughout some of my care	3____Go to Question 48
Throughout a little of my care	4____Go to Question 48
Not at all	5____Go to Question 49

48. Regardless of your previous answers, what would you have liked the doctor to have done during your maternity care ?

	Circle one number only
Just to say hello to me	1
To talk to me about my pregnancy	2
To do tests / or examine me	3
To do tests / or examine me and talk to me about my pregnancy	4

49. Looking back on **all** the maternity care you received. How would you rate it on this one to ten scale ?

Terrible care 1 2 3 4 5 6 7 8 9 10 **Excellent care**

Please turn over the page now

57. How have you been **milk** feeding your baby ?

	Circle one number only
I always bottle fed my baby	1 Go to Question 60
I always breast fed my baby	2 Go to Question 58
I always used a combination of bottle and breast	3 Go to Question 58
I tried bottle feeding then breast fed	4 Go to Question 58
I tried breast feeding but then bottle fed	5 Go to Question 59

58. Are you still breast feeding ?

	Circle one number only
Yes	1 Go to Question 60
No	2 Go to Question 59

59. How old was your baby when you stopped breast feeding ?_____

60. How good were staff at giving you advice and support with feeding your baby ?

	Circle one number only
Not at all good	1
Only moderately good	2
Good	3
Very good	4
Extremely good	5

61. What did you like about your maternity care ?

_____

_____

_____

62. What did you dislike about your maternity care ?

_____

_____

_____

In this final section we are interested in finding how much you feel the total maternity care you have received is **worth.** We are not interested in how much you think it actually costs.

One way of measuring this is to ask you how much you think the Government should spend on care for you.

When answering the next question please remember that the Government funds are limited. When they spend money on maternity services it means that money may not be spent on other health services or on other types of Government expenditure, such as education.

63. Do you think the Government should pay £2250 on maternity care for you ?

	Circle one number only
Yes, definitely	1
Yes, probably	2
No, probably not	3
No, definitely not	4
Don't know	5

THANK YOU VERY MUCH FOR COMPLETING THIS QUESTIONNAIRE.

Please return in the pre-paid envelope provided.

Appendix 14

CONTINUITY OF CARE

MDU NUMBER	
ARM NUMBER 1 MDU 2 Non-MDU	

	YES	NO
IN ANN'S SAMPLE	1	0

TOTAL NUMBER OF ANTENATAL VISITS BY MDU MIDWIVES (EXCLUDING ADMISSIONS AND DAYCARE ATTENDANCE'S)

OF THESE, TOTAL NUMBER GIVEN BY NAMED MIDWIFE

	NUMBER OF DIFFERENT:				
	MDU MIDWIVES SEEN	GRMH MIDWIVES SEEN	GRMH DR'S SEEN	GP'S SEEN	UNKNOWN
ANTE					
INTRA					
POST					

	NUMBER OF DIFFERENT:				
	MDU MIDWIVES SEEN	GRMH MIDWIVES SEEN	GRMH DR'S SEEN	GP'S SEEN	UNKNOWN
OVER-ALL					

TOTAL NUMBER OF HOSPITAL POSTNATAL CHECKS SIGNED BY MDU MIDWIVES

OF THESE, TOTAL NUMBER SIGNED BY NAMED MIDWIFE

TOTAL NUMBER OF COMMUNITY VISITS SIGNED BY MDU MIDWIVES (EXCLUDING MISSED VISITS)

OF THESE, TOTAL NUMBER SIGNED BY NAMED MIDWIFE

Appendix 15

Findings from other trial psychosocial outcomes not reported in thesis

Preparation for parenthood

Women in the MDU group reported postnatal care prepared them better to look after themselves (e.g. advice and support from staff about resting, contraceptive advice) (Table 3). Only 9% of the MDU group reported their hospital-based postnatal care had prepared them 'only moderately' or 'not at well' for looking after themselves compared to 22% of the traditional care group. In addition, 5% of the MDU group compared to 12% of the traditional care group had similar feelings about their home-based postnatal care.

The MDU group were also more likely to report care prepared them better to look after their baby (e.g. information and support given by staff in relation to bathing and feeding their baby). Ninety percent of the MDU group reported their hospital-based care had prepared them 'at least well' in relation to this aspect of care compared with 73% of women receiving traditional care. Similarly, 92% of the MDU group rated their home-based postnatal care prepared them 'at least well' in this respect compared with 84% of the traditional care group.

Women in the MDU group rated both their hospital-based and home-based postnatal care better at preparing them to cope with any physical problems they might encounter (e.g. tiredness, sore breasts). For example, 83% of this group, in comparison to 66% of the traditional care group felt their hospital care prepared them 'at least well' to cope with physical problems; with 89% and 80% of the respective groups reporting similar feelings about postnatal care in the community.

In addition, women receiving MDU care reported postnatal care had prepared them better to cope with any emotions they might have (e.g. feeling weepy) after they had their baby. Forty-five percent of the traditional care group and 24% of the MDU group rated their hospital-based care 'only moderately' or 'not at all well' in this aspect of care. The proportions having similar feelings about home-based postnatal care were: 28% traditional

Table 3: Preparation for parenthood

	Hospital postnatal care				Home postnatal care			
	Midwife managed care		Traditional care		Midwife managed care		Traditional care	
Dimension	n=465		n=380		n=465		n=380	
Preparation - looking after self	%	(n)	%	(n)	%	(n)	%	(n)
Extremely well	37.8	(166)	25.1	(94)	38.9	(168)	27.5	(102)
Very well	31.4	(138)	26.2	(98)	32.9	(142)	33.2	(123)
Well	22.3	(98)	26.5	(99)	22.7	(98)	27.8	(103)
Only moderately well	6.2	(27)	17.4	(65)	3.9	(17)	9.4	(35)
Not at all well	2.3	(10)	4.8	(18)	1.6	(6)	2.2	(8)
		(439)		(374)		(432)		(371)
	X^2 trend=35.2; p<0.00001				X^2 trend=17.0; p=0.0004			
Preparation - looking after baby	%	(n)	%	(n)	%	(n)	%	(n)
Extremely well	35.9	(156)	23.4	(88)	34.7	(149)	22.1	(81)
Very well	32.2	(140)	26.9	(101)	31.5	(135)	31.1	(114)
Well	21.4	(93)	22.3	(84)	25.6	(110)	30.8	(113)
Only moderately well	6.4	(28)	16.5	(62)	6.1	(26)	12.0	(44)
Not at all well	4.1	(18)	10.9	(41)	2.1	(9)	4.1	(15)
		(435)		(376)		(429)		(367)
	X^2 trend=39.2; p<0.00001				X^2 trend=22.3; p<0.00001			
Preparation - physical problems	%	(n)	%	(n)	%	(n)	%	(n)
Extremely well	22.1	(97)	11.2	(42)	26.3	(114)	13.9	(51)
Very well	30.1	(132)	21.9	(82)	27.7	(120)	28.5	(105)
Well	31.2	(137)	32.5	(122)	34.9	(151)	37.2	(137)
Only moderately well	11.4	(50)	18.4	(69)	8.5	(37)	12.8	(47)
Not at all well	5.2	(23)	16.0	(60)	2.5	(11)	7.6	(28)
		(439)		(375)		(433)		(368)
	X^2 trend=48.9; p<0.00001				X^2 trend=25.3; p<0.00001			
Preparation - emotional problems	%	(n)	%	(n)	%	(n)	%	(n)
Extremely well	17.3	(76)	8.1	(30)	20.8	(90)	10.7	(39)
Very well	25.7	(113)	16.7	(62)	27.0	(117)	23.1	(84)
Well	33.5	(147)	30.6	(114)	34.2	(148)	38.7	(141)
Only moderately well	15.5	(68)	21.8	(81)	12.9	(56)	15.1	(55)
Not at all well	8.0	(35)	22.8	(85)	5.1	(22)	12.4	(45)

Postnatal depression

The Edinburgh Postnatal Depression Scale was utilised as a 9 item scale (Cox et al, 1987). Unfortunately the EPDS has not been validated as a 9-item scale. therefore it was not possible to give a 'true' measure of point prevalence of postnatal depression (Astbury et al. 1989). It was possible, however, to present mean EPDS scores for the two study groups and 'conservative' estimates of point prevalence (i.e. scores greater or equal to 13 out of 27 were used as an indication of probable postnatal depression; Cox, personal communication).

Women receiving MDU care were found to have a significantly lower mean score on the Edinburgh Postnatal Depression Scale (EPDS). The MDU group mean score was 8.1 (median 8, mode=9, SD = 4.9, range 0 to 24); traditional care group 9.0 (median 9, mode=6, SD = 4.9, range 0 to 27) (t = -2.6; df = 795; P = 0.01; diff -0.9; 95% CI: -1.6 to -0.2). Women in the MDU group who fully completed the EPDS were somewhat less likely to have the possibility of postnatal depression using the point prevalence cut-off score of 13 or more. Seventy-one MDU women out of 426 (16.7%) were rated on the EPDS with a cut off point of 13 or more, compared to 84 women out of 362 in the traditional care group (23.2%; % diff: -6.5%; 95% CI: -12.1% to -0.9%).

Infant feeding

At 34-35 weeks of pregnancy, the largest proportions of both groups reported an intention to bottle-feed (45% MDU care; 47% traditional care). Although not statistically significant, more women in the MDU group reported intending to breast-feed (43%: 37% traditional care). Women in the traditional care group appeared more likely to be undecided (17%: 12% MDU care; X^2 =5.7; df=2; p=0.07).

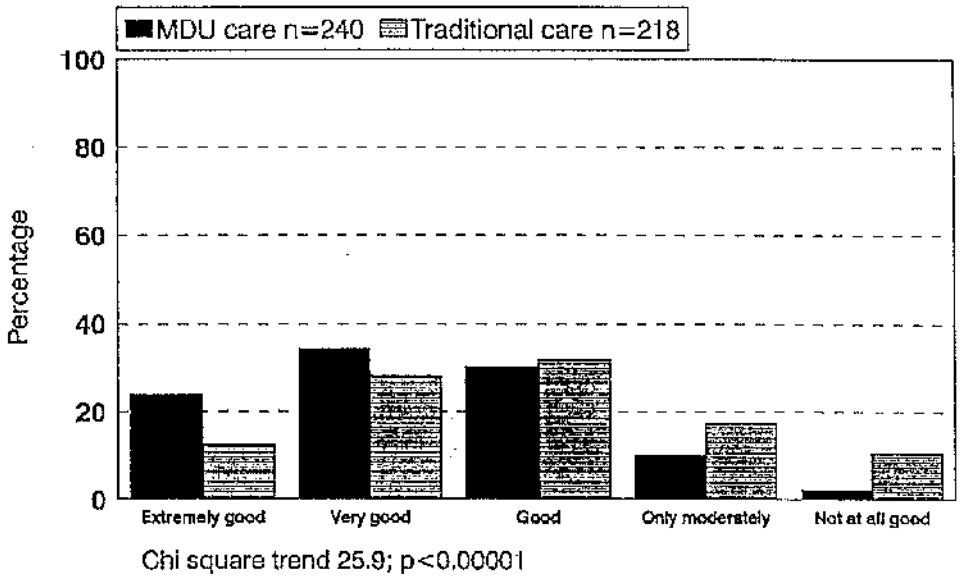
At seven weeks postnatal, no statistically significant difference was found between the groups in relation to infant feeding (X^2 =0.6; df=2; p=0.75) with the majority of both groups reporting they bottle-fed their baby (70% MDU group, 72% traditional care), and 20% and 19% of the respective groups reporting they were breastfeeding only. Similarly, at 7 months postnatal, no differences were found (X^2 =5.6; df=4; p=0.23), with 14% of the

MDU group and 13% of the traditional care group reporting they had always breast-fed only.

Of women who received a 7-month questionnaire and reported breast-feeding, more women in the traditional care group reported giving up breast-feeding within the first few days postpartum (15%: 9% MDU care) and within four to ten days postpartum (10%: 5% MDU care), although no statistically significant trend was found (X^2 = 0.73, df = 1, p=0.39). Thirty-five percent of the MDU group gave up breastfeeding in the eleventh postnatal day compared with 21% of the traditional care group. Overall very few women were still breastfeeding at 7-months follow-up (3% of those with intended breastfeeding in either group) (approximately 9% of both groups who responded to the 7-month questionnaire).

Although no statistically significant differences were found between the two groups in how they intended feeding their baby and actual infant feeding, the MDU group midwifery staff were better at giving advice and support with their chosen method of feeding their baby (p<0.001) (Figure 1). Twenty-eight percent of the traditional care group compared to 12% of the MDU group felt staff were 'only moderately' or 'not at all good' at advising them and giving support with infant feeding. In contrast, 54% of the MDU group felt that support & care had been extremely good compared to 32% of the traditional care group.

Figure 1 : Rating of advice and support with chosen method of infant feeding



Chi square trend 25.9; p<0.00001

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Appendix 14

CONTINUITY OF CARE

MDU NUMBER	
ARM NUMBER 1 MDU 2 Non-MDU	

	YES	NO
IN ANN'S SAMPLE	1	0

TOTAL NUMBER OF ANTENATAL VISITS BY MDU MIDWIVES (EXCLUDING ADMISSIONS AND DAYCARE ATTENDANCE'S)

OF THESE, TOTAL NUMBER GIVEN BY NAMED MIDWIFE

	NUMBER OF DIFFERENT:				
	MDU MIDWIVES SEEN	GRMH MIDWIVES SEEN	GRMH DR'S SEEN	GP'S SEEN	UNKNOWN
ANTE					
INTRA					
POST					

	NUMBER OF DIFFERENT:				
	MDU MIDWIVES SEEN	GRMH MIDWIVES SEEN	GRMH DR'S SEEN	GP'S SEEN	UNKNOWN
OVER-ALL					

TOTAL NUMBER OF HOSPITAL POSTNATAL CHECKS SIGNED BY MDU MIDWIVES

OF THESE, TOTAL NUMBER SIGNED BY NAMED MIDWIFE

TOTAL NUMBER OF COMMUNITY VISITS SIGNED BY MDU MIDWIVES (EXCLUDING MISSED VISITS)

OF THESE, TOTAL NUMBER SIGNED BY NAMED MIDWIFE

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