

***A time of travelling hopefully: a mixed methods study of
decision making by women and midwives about maternity
transfers in rural Aotearoa, New Zealand***

By

Jean Ann Patterson

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Abstract

Making decisions about the reasons for, and the timing of transfer to specialist care from rural maternity care were examined in this study. This is a time when women and midwives ‘travel hopefully’ through labour and birth aware of their rural context.

A Mixed Methods Research (MMR) approach was used to gather data from a national survey of rural maternity units together with individual and small group interviews of women and of midwives. A modified Concurrent Mixed Model Design was used to structure the research process with each data strand collated and discussed consistent with its paradigmatic roots. The findings were then drawn together in a meta-inference.

A 17% rate of transfer during labour and up to 6 hours postpartum was found for the two year period examined. Slow progress in labour was the most common reason for transfer. Interviews with rural women and midwives revealed a similar range of decision making styles. The strategy of ‘thinking ahead’ emerged as a common theme which allowed for the distance and time involved in the transfer and in anticipation of critique from the secondary care system and local community.

This thesis makes a significant contribution to the national and international understanding of the experience of maternity transfer in rural areas and finds that within a regionalised perinatal system, midwives make cautious and timely decisions about transfer in labour and birth. Further, that a rural birthing service contributes to the health and well being of the community and ought to be appropriately resourced to provide the optimal environment for safe decisions about transfer.

Key words: Risk/safety; Decision making; Rural maternity; Keeping birth normal; Mixed Methods Research; Survey; Interview

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Chapter One: Introduction to the thesis

Setting the scene

From that frisson of excitement when the phone rings, to the euphoria of the post birth moment, being with women and their families in rural New Zealand has for me been a rewarding and privileged experience. Getting comfortable, and sometimes uncomfortable, with birth has been an experience shared with colleagues and women over many years. I have learnt how powerful and fulfilling birth can be and curiously how ordinary and everyday it can seem. I have also known the anxiety when circumstances change for the mother or baby. It is at these times that the distance between a rural location and the secondary care maternity unit in the city is realised, and time can slip by more quickly than can be imagined.

Women in rural areas of New Zealand have traditionally had access to local birthing services and it never occurred to me or my friends and neighbours in the 1970s, that we would birth anywhere other, than at our local maternity annexe or hospital. Transfer to the city during labour was rare, as at that time most of the rural hospitals were equipped and staffed to manage the more common problems associated with labour and birth, and in some areas this included emergency caesarean section. Today local rural maternity services continue to provide women with a space that by its very simplicity affirms the ability for well women to plan their birth in their own area among family and friends. It is a time when women and midwives travel together through the process of labour and birth, sharing decisions, aware always of their rural context.

Having to transfer during labour or shortly after birth can be a disruptive and stressful event. It involves leaving the familiar environment of the rural setting and travelling some distance to access additional care. The reason for the transfer is usually a concern about the health or wellbeing of the mother or baby, thus it is accompanied by a level of uncertainty and anxiety. In addition, transfer decisions have a flow on effect on the viability of the rural maternity service. These concerns about safety and viability are also of international

interest. So while this research is set in the New Zealand context, the findings will resonate with those interested in, or involved in rural maternity practice elsewhere.

The context for this study

The topography and climate of rural New Zealand:

New Zealand is comprised of two main islands. The climate varies from warm subtropical in the north to cooler more temperate conditions in the South (NIWA, 2007). Mountain chains extend the length of both Islands and these further divide the islands into two distinct climate patterns. Higher rainfall on the western side can precipitate landslides and flooding, while the east experiences drier conditions (NZ Tourism). Volcanic peaks are found in the north with three still active; while in the South there are several glaciers, large lakes and swift flowing rivers (Te Ara. Encyclopedia of New Zealand, 2007). Severe alpine conditions are encountered in the mountainous areas which cover about one fifth of the North Island and two thirds of the South Island (NZ Tourism). Within these areas, heavy and sometimes unpredictable snow falls are encountered, as well as icy road conditions during the late autumn, winter and spring months. Less than one fourth of the land surface of New Zealand lies below the 200m contour (Statistics, New Zealand). This means that most of the small towns and rural areas are serviced by roads that wind and undulate and as alluded to above, subject to landslides and blizzard conditions during adverse weather.

Defining a rural population

The population of New Zealand was recorded as 4,288,350 on 27th November, 2008 (Statistics New Zealand). During the 19th Century the majority of the population lived in rural areas, by 2001 New Zealand was considered to be one of the most urbanised countries. In fact the rural population figure has changed little since 1916 when it was recorded at 501,258, thus the majority of growth has occurred in the urban areas.

Rural areas have recently been re-classified (Statistics New Zealand, 2007). These now range from 'highly remote' to 'high urban influence'. Remote areas

include those with small settlements and towns where local farming and industry are the main sources of income and are relatively independent of the urban areas for everyday services and employment. By contrast, areas with high urban influence are defined as those highly dependent on adjacent urban areas for both jobs and services. In addition some areas previously considered rural have been redefined as urban given their population density, economic ties and integrated public transport networks with neighbouring city areas.

Definitions of what constitutes a rural area, affects the classification of what is considered a rural maternity facility. However, the Reports on Maternity (Ministry of Health, 2004, 2006 & 2007) group all rurally based maternity services, and those primary facilities close to or even within the city boundaries, under the heading of “primary”. Therefore the range of facilities included in this study range from the remote rural to those close to urban areas. Facilities that were urban or city based have not been intentionally included in this study. However as the boundaries are not totally clear there may be some facilities represented that do not fit neatly into the boundaries of either category.

Rural maternity services in New Zealand

Midwives in rural areas offer care for local women throughout pregnancy, labour, birth and the postnatal period. The rural facilities vary in size and scope, as do their service arrangements (Hendry, 2003). Some are attached to local medical services, while others are within the building or grounds of small hospitals or rest homes for elderly. Others are stand-alone facilities that open when a woman is admitted in labour and close when the woman returns home. Flexible staffing arrangements are particular to each rural facility and reflect the availability of staff as well as the nature of the facility and the number of women who birth there. These facilities are also frequently used as focal points for antenatal assessment clinics, as well as childbirth education classes.

Internationally and in New Zealand, rural maternity facilities are frequently under threat of closure, despite the health benefits to the local communities. Transfer decisions are critical as not only do they have an effect on the local women, their families and the midwives, but also on the confidence of other

local women. Where women decide to birth has an effect on the viability of the rural maternity services. When rural maternity services close there is a loss of skilled care available locally resulting in the need for women to travel often long distances, to access primary maternity care (Chapter 2).

The current New Zealand maternity care context

Rural midwives in New Zealand along with their urban counterparts are able to practice autonomously. That is they assume the primary maternity care for women throughout the childbearing experience. An amendment in 1990 to the Nurses Act (1977) restored midwives' right to offer primary maternity care for women alongside their General Practitioner (GP) and obstetrician colleagues. This included the right to claim the same remuneration for services provided.

In 1996 the concept of a Lead Maternity Carer (LMC) was introduced with service specifications and modular payment schedules for primary maternity care providers. Specialist referral was funded separately (Southern Regional Health Authority, 1996). In the most recent Notice (Ministry of Health, 2007), some minor changes were made but the document retains the organisational, structural and quality components of the earlier notice. It includes guidelines for consultation and referral, plus codes for payment of rural travel expenses. Funding for primary care was devolved to District Health Boards (DHBs) (King, 2000; King 2001) and later to Primary Health Organizations (PHOs). Primary maternity care however was not included and remains centrally funded at this time.

The combination of these structural, contractual and funding changes produced downstream effects for rural facilities, with some struggling to maintain services (Hendry, 2003). Viability was threatened further, by community anxiety raised in the media by doctors who questioned the safety of birth in rural areas since the exit from maternity care of General Practitioners (GPs) (Inskip, 2002; Simmers, 2006). The withdrawal of GPs from rural maternity care has contributed to the reduction of births in some rural areas. However this reduction has also been linked to the withdrawal of other rural services (Janes, Dowell & Cormack, 2005). For instance many regional hospitals have been

replaced with smaller purpose built medical centres without surgical or anaesthetic services.

Many of the midwives in these rural areas, who previously worked with local GPs, have taken the opportunity to offer LMC care for local women. By 2007 midwives had assumed LMC responsibility for over 75% of all births across the country (Ministry of Health, 2007). One unique feature of the New Zealand maternity system is that women in most cases choose their LMC before choosing their place of birth (Skinner, 2005). Thus the place of birth may not be firmly decided until near or even after labour has begun. This is often the situation for women in rural areas. Though in some instances the choice of midwife will be influenced by the setting in which the midwife chooses to practice.

Where New Zealand babies are born, and the circumstances of their births, is contained in the Reports on Maternity (Ministry of Health, 2003- 2007). Aspects of the most recent report, which provides demographic details pertinent to this study, are summarised below.

Birth numbers and place of birth

During 2004, which is the year in which this study began, 58,875 women gave birth in New Zealand (Ministry of Health, 2007); the majority of babies (94%) were born in hospital. Stillbirths were recorded at 7.9%, perinatal deaths 10.5%¹ and neonatal deaths 3.0% per 1000 births. Pacific women and those from Asia more commonly gave birth in tertiary facilities. It was observed that this may be related to the lack of primary facilities in the areas where they live (ibid).

As in other developed countries the age of women giving birth has increased. In New Zealand this was recorded at an average of 30.3 years. In fact almost a third of the women giving birth were between 30 and 34 years of age (Ministry of Health, 2007). This statistic contrasted with that of Maori and Pacific women

¹ ¹ “Perinatal deaths are defined as the number of stillbirths (fetal deaths of 20 weeks gestation or 400 grams birthweight plus early neonatal deaths).

Neonatal deaths are defined as deaths occurring up to 27 days after birth, and are classified as early or late neonatal deaths “(Ministry of Health, 2007. P. 44).

who tended to give birth at younger ages; that are a third were between 20-24 years and 25-29 years respectively. These women were also more likely to have a normal birth; thus the significance for this study is that Maori women are more likely to choose to birth in their local rural area (ibid).

Place of birth is distributed between tertiary, secondary and primary facilities and homebirth. Forty three percent of women gave birth in the six large tertiary facilities and 41.3% in secondary facilities, all situated in urban areas. The total live births in primary facilities, was 15.6%, some of which were close to or within urban areas. Home birth was chosen as the planned place of birth by 4.5% of women and of these 2.5% achieved their goal (Ministry of Health, 2007, p.64).

The larger number of primary facility births are recorded in the more densely populated areas. These are the regional areas of Counties Manakau and Waikato in the North Island, with a peak in the number born in the South Island around Canterbury. Significant for this study was the fact that there is no clear distinction between the primary facilities situated in, or close to major centres, from those in rural or rural remote areas. For the purposes of this research, 45 from a total of 64 primary facilities listed were considered as either rural or remote rural.

The study design

The aim of this research

This study is exploratory in that it seeks to describe the process of decision making about rural maternity transfers for well women near term. Also of interest is the broader context, both logistical and philosophical within which these decisions are made. Specifically the aim is to explore how women and midwives arrive at the decision to either stay, or transfer from a primary/rural maternity facility to a secondary or tertiary facility in labour or post birth.

Getting to the questions

Issues that affect women and midwives in rural areas are both of personal and professional interest to me. I have lived and worked largely in rural areas, and

birthed my children in local rural hospitals. Rural issues have also been my research interest. My masters study (Patterson, 2002) focused on the role and experience of rural midwives following the changes of the early 1990s; this time marking the change in the law which gave midwives the right to care for women throughout the childbirth experience. A rural midwifery discourse was described by retracing historical events over a decade and through the stories of former colleagues. Fundamental for the midwives was a belief in the possibility of normal birth; this was not just that they believed that women could birth unassisted, but also that birth could happen safely for well women at distance from secondary care.

The midwives in the study were deeply embedded in their local communities. While these relationships were largely supportive they could be strained when unanticipated events occurred, such as an urgent transfer. Similarly the midwives were dependent on the support and contact with secondary services. These were critical for help and advice in emergency situations and when transfer was required. Despite the fact that transfer is a part of rural maternity practice tensions often arose around transfer decisions. This could occur if it was deemed that they had waited too long to transfer, or even when it occurred early. So, not only was the wellbeing of the woman and her family dependent on the quality and timing of these decisions, but also the viability and reputation of the rural maternity service.

The topic of decision making concerning transfer was touched on but not explored in this previous work. In hindsight it seemed that this decision point during labour or birth was pivotal, not just for the woman and her family but also for the midwife, the community, and those at the rural/urban interface. Thus I was interested in this interval of time where the decision to transfer requires a significant cognitive and emotional shift on behalf of the woman, her family and the midwife.

At the time of starting this project in 2005 statistics regarding transfer for well women near term were not available in an accessible form from the New Zealand Health Information Statistics (NHIS). Also not easily accessed were the

primary reasons for these transfers. Similarly I was unable to locate any current studies that had dealt specifically with this group of low risk women in regard to the reason for, or the number of transfers. Thus it was this gap in the available statistical reports about the number and reasons for transfer that was sought in this study.

The future of rural birth facilities to a large extent hinges on a reasonable number of women birthing in the area. Primary maternity funding since 1996 has been capped and attached to each woman for modules of care (Southern Regional Health Authority, 1996). So every birth lost to the rural area affects the funding for rural facilities. A period of frequent transfers potentially has an impact on the confidence of the women in the community. Thus ascertaining an indication of what this number might be was an important place to start. Whether the transfers were appropriate or not could not be determined in this study, but there was the opportunity to provide a snapshot to put the transfer numbers in perspective.

In this organic way the question/s for the research unfolded. In essence I wanted to know-

What are the rates of transfer from ²primary /rural maternity facilities to secondary / tertiary maternity facilities over a two year period?

What are the primary reasons for these transfers?

How do women and midwives arrive at the decision to transfer during labour or postnatally from primary/rural facilities to secondary/tertiary care?

Each transfer occurs within a particular social, organisational and geographical context which influences how these decisions are made. Therefore to provide

Primary maternity facilities do not have inpatient secondary maternity services or 24-hour on-site availability of specialist obstetricians, paediatricians and anaesthetists. This category includes birthing units where there is a contract to provide labour and birth services but not inpatient postnatal care (Report on Maternity, 2007, Ministry of Health). Primary maternity facilities and birthing units in rural areas are not distinguished from those in semi-rural or urban areas.

context for the study of decision making and the rates and reasons for transfer, the environments within which these transfers occurred also needed to be explored. The following question addresses these factors.

What are the particular characteristics of the primary/ rural facilities with regard to their topographical, climatic features and local management with regard to how the service is delivered?

The methods

A mix of methods was used in this study in order to address the range of questions posed. These included individual and small group interviews and a survey of rural maternity facilities. Women and midwives were interviewed in regard as to what they perceived were the personal and contextual influences on their decisions concerning transfer. The survey was designed to collect descriptive statistics about the rates and reasons for transfer. Also included in the survey were questions about the local arrangements and geographic details about the rural areas.

Tashakkori and Teddlie's (2003, a) handbook of mixed methods research provided a useful reference for study designs combining research methods, as well as guidance for the subsequent analysis and synthesis of the findings. A modified Concurrent Mixed Model Design (Tashakkori & Teddlie, 2003, b) was used to frame the research process in this study. This model requires that each method remains faithful to its derivative roots with each strand collated and discussed separately in relation to the findings. The final inference is then drawn from both sets of data to provide an overall thesis or meta-inference.

The significance and contribution of this research

Birth in rural areas, as in all other settings is an active and creative process with no certainty as to its pattern or outcome; a time of travelling hopefully. Equally, decisions about transfer need to accommodate the context at the time. This is particularly so with the sometimes disruptive decision to transfer from rural facilities which sits at the heart of this project.

This research provides an insight into the way in which women and midwives make decisions about the possibility and reality of transfer, both in labour and in the early postpartum period. While this study is located in New Zealand, the findings provide insights for rural maternity services in countries with similar rural arrangements. In particular it will be of interest to those who identify with a rural maternity service not attached to a secondary care or specialist facility. In some respects these facilities reflect home birth situations. Thus midwives who assume care for women at home may also identify with some of the issues and sentiments expressed by the midwives and women in this study; in particular the wrestling with decisions about transfer.

In New Zealand, as in other developed countries, concerns are expressed about the rising epidural and caesarean section rates (Ministry of Health, 2004, 2007). For example in 2004 two thirds of women had normal vaginal births. The caesarean section rate was recorded at 23.7 percent; this rate having increased steadily from 11.7% in 1988; a trend shared with other developed countries. This rate exceeds the World Health Organization (WHO) rate of between 10-15% above which it is “unlikely to be associated with additional health benefits” (Ministry of Health, 2007, p.7).

Potentially a richer understanding of the more common reasons and incidence of transfer for this group of low risk women is of interest. This understanding coupled with the complex processes of decision making around transfer could inform and inspire supportive, collegial relationships built on respect for the expertise and knowledge of the other. Women and midwives in rural maternity services show how birth can be managed at a local level. Thus there is the opportunity for those who provide specialist back up to gain an understanding of the strategies which support women to birth without recourse to interventions.

Finally an understanding of the complexity and challenge of managing decisions in rural areas could provide insights for those charged with the resource allocation for these facilities. In particular what structural and personal

resource could be provided or strengthened to support good decision making and ensure safe and timely transfers when required.

Summary

Midwives in rural areas of New Zealand, support well women to birth at distance from secondary specialist care. Should problems arise transfer may be required; this decision being shared between the woman and her midwife in consultation with secondary specialist services. Moving from a rural facility can mean significant disruption and stress for the woman, particularly as some remote rural areas are several hours travel from the city hospital. Preparation for transfer also occurs within a local context and a national context. Each rural area presents different challenges in relation to their topography and arrangements regarding logistical support and available expertise; thus timing and planning are critical for the best outcomes. This study uses a mix of methods to look specifically at this interval in time where the decision to transfer occurs. It also examines the patterns of and reasons for transfer, as well as the local circumstances in which they occur.

The structure of this thesis

The rural environment is the point of difference for the study of transfer decisions in labour and birth. This difference is better appreciated when placed within a historical and political background. In chapter two, an overview of the significant events and legislation that has shaped the rural maternity scene is presented. Of particular interest was the process of regionalization that opened rural areas up to scrutiny and accelerated the rate of closure for several maternity homes and annexes. Many of these early changes in rural services echo down the years, and impact on how facilities are staffed and managed and consequently how decisions for transfer are made today. Maternity services were also regionalised in countries with similar health systems. In particular questions about safety and economic viability continue to challenge the continuation of rural services both in New Zealand and internationally. A case is also made about the importance of rural maternity services for their respective communities. This contribution is presented as a normal birth focus around which there is potential to contribute both socially and economically to the rural area.

Decision making is addressed in chapter three. It is threaded through with a personal account of a complex practice situation around a decision to transfer. Theoretical ideas and styles of decision making are examined and the mix of personal and contextual influences explored. Theoretical ideas of decision making around probability and logic are contrasted with descriptive theory which acknowledges the complexity of decision making and the human factors involved. Theories and strategies for critical reflection both during and after making decisions are explored for how these practices might inform future practice.

In chapter four the aims and assumptions for this project are outlined and an argument presented for the theoretical and conceptual approach to the study and data analysis. To accommodate the broad aims for the study a pragmatic mix of methods both survey and interview was used. This mix was informed by the work and ideas of other researchers working with different combinations of methods (Tashakori & Teddlie, 2003, a). As already mentioned the research design was structured using a variation on a concurrent mixed model.

The research design plus details of the survey and interview processes for both the women and the midwives are presented in chapter five. Ethical issues relevant to the study are considered in this section. The development of the questionnaire is addressed in addition to the pragmatic processes undertaken for its distribution and the meeting of the requisite ethical obligations. Advice from the literature about interview technique is summarised and applied to the flexible processes undertaken to manage the interviews with the women and midwives. The management of the data and the analyses processes for both interview strands are then described.

The next three chapters comprise the data for this thesis. In chapter six the results from the survey, which explored the transfer rates and reasons for transfer are discussed. This is presented in a mix of tables and figures interspersed with the written interpretation and discussion of the results. The spontaneous comments at the end of the survey are collated and discussed in

relation to decision making around transfer in labour and the 'given' circumstances of each of the rural facilities.

In chapters seven and eight, the transcripts from the interviews firstly with the women (Chapter, 7) and then the midwives (Chapter, 8) are analysed and interpreted. Major theme areas which emerged for both sets of interviews are examined and discussed. Themes in common related to processes of decision making that began with birth planning, the decision making and experience surrounding transfer in labour, reflection on the experience postnatally, and views and comments about the local maternity services. These themes are threaded through with the understanding of how distance and time influence all decisions made in rural areas; distance also serving to construct the feeling of community, within which, both women and midwives have a heightened sense of visibility.

In chapter nine the meta-inference or overall findings of the research are drawn together and reviewed with reference to the background chapters. How rural women and midwives grapple with the decisions they make around transfer is shown to be complicated by the uncertain environment in which the decision needs to be made. Thus a strategy of forward thinking is employed to accommodate the time and distance involved in transfer. Decisions are further confounded by personal and historical decision making styles within physical and geographical circumstances. In addition the less readily discernable cultural and ideological influences are acknowledged which influence resource allocation.

In the final chapter the research process and findings are reviewed. This includes the challenges experienced throughout the life of the project. Aspects of the research methodology are reviewed for their appropriateness to answer the research questions and achieve the project aims. Future research possibilities are discussed and suggestions made as to how they might build on this study. The local and international contribution of this research to the understanding of decision making around rural maternity transfer is outlined and recommendations suggested for supporting women and midwives in this task.

The thesis of this research project emerges from the discussion and focuses on the supporting processes that would sustain reflective, sound and timely decisions in rural areas.

The following chapter begins with an introduction to the history and changes in rural areas since early post colonial times. This chapter firmly positions the thesis in a rural context and explains some of the maternity changes, attitudes and memories that continue to impact on the environment for decision making today; in particular the central issue of transfer and the critical decision making that is needed at this time. International research and comment is included reflecting historical events and responses to issues of safety that resonate with the New Zealand experience. Also addressed and pertinent to all rural areas, is the significant contribution skilled maternity practitioners, and the existence of a rural maternity facility, offer rural communities.

Chapter Two: The New Zealand and international rural context

Introduction

All decisions about transfer from rural maternity care are made within a particular context. In this chapter the aim is to place the work of this research project within an historical and social context particular to these areas. To make sense of the current rural maternity arrangements requires an understanding of some of the signal events both national and international, which have been associated with changes over time. It is acknowledged that all historical events have not been included. Thus it is possible some changes were catalysed by events and agendas not fully realised in the literature accessed for this work.

The rural birth tradition in New Zealand is explored beginning in the early postcolonial period. Despite our distance from other countries, health concerns elsewhere within the Commonwealth influenced how change was implemented in New Zealand. These concerns prompted the accelerated changes to maternity services experienced during the 1970s and 1980s, which resulted in the implementation of a regionalised perinatal system of referral (Board of Health, 1976 & 1982).

The goal of regionalisation was to link the rural areas with secondary and tertiary care hospitals (Board of Health, 1976 & 1982). While this aim was laudable, once begun, closures and the downgrading of services continued. This trend persisted despite evidence that for well women near term, choosing to birth locally was shown to be a safe option (ibid). Regionalisation, and in some areas centralisation, was also introduced in other westernised countries. In common with New Zealand, issues of safety, cost and the organisation of the rural services were under close scrutiny.

In the final section the effect of closures and downgrading of rural maternity services is looked at from a rural community viewpoint. The speed of change over the last four decades made it difficult to recruit and retain skilled practitioners in many areas. This not only limited women's choices for

maternity care, but had social and economic consequences for rural communities. It is suggested that these changes affect how transfer decisions are made, and how birth can happen in rural areas today.

Maternity care in post-colonial New Zealand

Colonisation of New Zealand by Europeans occurred between 1840 and 1900 (Cooper, 1998). To provide care for the new settlers, charitable hospitals were established; however this charity did not extend to birthing facilities (ibid). The expectation was that women would be assisted to birth at home or in one of the many privately owned 'maternity homes'. By the early 1900s there were more than 200 small maternity homes in existence (Mein-Smith, 1986). Doctors would refer women to the midwives, though the midwives who were well known and respected were frequently sought out by the women themselves. The women were assisted during the birth and in the following days, by 'Handywomen', who were untrained and unregistered (Donley, 1998; Mein-Smith, 1986). By 1881, 60% of New Zealand's population was living in a rural area (Statistics New Zealand) and birth occurred predominantly in the areas where the women lived.

Changes to maternity care

In 1904 the Midwives Act was passed by the Labour government, who were concerned about the falling birth rate and high rate of infant mortality of the poor (Donley, 1998). The following year the first St. Helen's Hospital was opened in Wellington with further such hospitals established in the other major centres across New Zealand. The purpose of these facilities according to the Maternity Report (1976) was to provide for the wives of working men and soldiers whose income did not exceed four pounds weekly. These hospitals provided midwifery training for nurses and also for women without a qualification (Donley, 1998). Unmarried women however, were excluded from birthing in the St Helen's hospitals, leaving them with few options for birth care. In Dunedin the Batchelor Hospital was opened in 1888 providing a service for these women (ibid). This hospital offered opportunities for clinical practice for medical students which, at that time were not available to them in the St. Helens' Hospitals (Board of Health, 1976).

Concerns were voiced in 1921 about the high maternity mortality rate. Women in New Zealand were believed to be dying from puerperal infection at a higher rate than those in other comparable nations (Mein-Smith, 1986). To investigate this, the *Kelvin Commission* was convened in 1923. This body recommended a regime of antenatal care and standardised aseptic processes in labour. Premises were to be inspected more frequently and training for midwives and doctors was to be improved. In addition maternity beds were to be established within hospitals staffed separately from the medical beds (Mein-Smith, 1986). These changes meant that these new maternity hospitals would manage abnormal labours and emergencies.

Training for midwives was revised following the passing of the Nurses and Midwives Act in 1925. Two years later the Obstetrics and Gynaecology (O & G) Society was founded following the efforts of Doris Gordon (Donley, 1998). A full time Chair of Obstetrics and Gynaecology was also established in the Otago University Medical School (ibid). Further change occurred in the wake of the report by the McMillan Committee in 1938 which recommended that both a doctor and a midwife be present at all births (Maternity Services in New Zealand, 1976).

By 1960 the number of women choosing to birth in private facilities had fallen to 14.4% (Rosenblatt, 1984). This statistic suggests that the majority of rural women were similarly encouraged to birth in hospital. While the Department of Health was encouraging hospital birth with the belief that it would decrease the incidence of puerperal sepsis, women may well have been keen to take advantage of the comparative comfort and rest following birth (Foureur & Hunter, 2006).

The changes canvassed above set the scene for a twenty year period of change in rural maternity services. During this time a process of regionalisation aimed at connecting rural maternity services in a nationwide system of referral was implemented, resulting in the closure of several rural maternity homes and annexes (Rosenblatt, 1984). In the next section these changes are reviewed with reference to the reports to the Board of Health.

Turning the spotlight on rural areas

The *Maternity Services Committee of the Board of Health* was formed in 1960 to advise the Minister of Health on matters related to pregnant women and their children. This committee was made up of health professionals including medical and nursing representatives. To become informed, the committee undertook to visit all the base hospitals in each Hospital Board Area. From here they planned to meet with the staff and doctors in the smaller surrounding hospitals. Altogether 160 hospitals were visited (Board of Health, 1976).

Maternal and perinatal mortality and morbidity had decreased dramatically in the 1950s and 1960s (Rosenblatt, 1984). This drop was attributed to improvements in social and economic conditions, and better antenatal care. Technological advances had made surgery and anaesthetics safer, and specialist knowledge in areas of obstetrics and paediatrics had developed (ibid).

Despite this improving trend, the Maternity Services Committee (Board of Health, 1976) remained concerned about the perinatal mortality rates. It was considered that, although dropping steadily, they were not falling at the same rate as those in England and Wales. Nevertheless, New Zealand ranked 5th out of 57 countries at that time (ibid). The perinatal mortality figures were compared for each regional hospital board using the woman's domicile for the years 1963-68. Major variations were found across areas, from a low of 15.7 per 1000 births to a high of 37.7. For the 63,986 confinements (sic), the overall caesarean rate was 4.0% with forceps deliveries 11.3% (ibid). In response risk categories were devised requiring the doctor to take into account any adverse past obstetric history, plus factors such as age, parity, height, weight, smoking, obesity, socioeconomic status and ethnicity (ibid).

On closer inspection the committee found that their current statistics were inconsistent (Board of Health, 1976). For example there were discrepancies in bed numbers, and babies were not counted unless admitted for intensive care. Obstetric records were skimpy. Most of the information was supplied by midwifery and nursing staff who received women in labour with little or no information from the doctor with regard to their pregnancy history, or

laboratory tests (ibid). In response a new obstetric record was drafted and utilised by the majority of the hospitals.

The *Obstetric Regulations* were at this time being updated, and several areas of practice were under scrutiny. It was recommended that rectal, as opposed to vaginal, examinations in labour be abandoned by both midwives and doctors (Board of Health, 1976). It was found that few doctors had attended refresher courses since graduation and required advice on the use of Vitamin K1. In addition, examination of babies was not routine or comprehensive and resuscitation equipment and training was lacking. Also, the lack of consistent antenatal education and postpartum family planning advice was highlighted and training offered for both midwives and doctors (ibid).

The poor design of the maternity hospitals was also of concern. Planning guides were developed for hospitals proposing refurbishment of existing, or the construction of new buildings (Board of Health, 1976). Hospital building plans required approval before work was begun, and this included planning for the purchase and installation of equipment such as anaesthetic machines, incubators and foetal heart monitors (ibid).

Regionalisation and recommended closures

It is difficult to get a clear picture of which maternity homes or annexes closed before the visits by the Health Committee or during the process of their visits. But from the early 1900s as indicated earlier in this chapter, more than 200 maternity homes were in existence (Mein-Smith, 1986). By 1983, Rosenblatt, Reinken and Shoemack (1985) record that there were more than “100 public maternity hospitals, administered by 29 publicly elected hospital boards” (p. 429). This drop was attributed partly to the process of regionalisation, where 33 maternity homes had closed between 1970 and 1984 and “...most of these were the only hospitals in the rural communities that they served” (p. 429).

The changes in the rural areas began even before the report was published as hospital managers and practitioners anticipated the likely changes and began to implement them (Rosenblatt, 1984). Permanent closure of a maternity home

generally followed a period of intermittent closure, often prompted by short term staffing problems (ibid). This had the effect in some areas of reducing utilisation. Thus a domino effect occurred. Units closest to other units were generally the most vulnerable to closure, while remote units with equally small numbers of births were spared (ibid). Those of us working in the rural maternity system at this time witnessed the game playing, where staff were moved from, or discouraged from applying to work in, a unit earmarked for closure.

Closure was also suggested for small maternity hospitals where the regulations were not being observed with regard to separate staffing of maternity and general areas (Board of Health, 1976). The fear was that infections could be carried by staff attending both medical and maternity patients, despite the separation of the ward areas. Further filtering of women was required as GPs were expected to select cases suitable for local birth care as per the risk criteria cited above. These criteria however, could be waived or relaxed if the woman had been seen by a specialist gynaecologist during her pregnancy (ibid).

The report did acknowledge the ‘useful purpose’ of the small GP hospitals; in particular the social and family aspects of freer visiting opportunities, improved breastfeeding rates and the homelier atmosphere (Board of Health, 1976). However they cited problems particularly in the ‘single handed’ hospitals where there was only one doctor and in some cases one midwife. The recommendation was that such hospitals should provide postnatal care only (ibid). Twenty seven small hospitals providing birthing services for 1,263 women per year were identified for this change of use. Remote hospitals were at that time categorised as those more than 50 miles from a base hospital and at this time most of these survived (ibid).

The committee paid tribute to the pivotal role midwives played in the rural hospitals; stating that “[t]he midwife plays a key role in the maternity services of New Zealand; At most hospitals she is the only person providing continuous professional care for the patient throughout labour” (Board of Health, 1976, p. 54). Nevertheless it was also said that the midwife’s close connections with the rural hospital and its community cut her off from ongoing professional

development. To remedy this isolation it was suggested that the rural midwives would benefit from a spell in larger hospitals to update their skills and knowledge (ibid). However there was no suggestion that a similar exchange could benefit the midwives in urban practice.

By this stage midwives are referred to as nurses as the word midwife had disappeared from the title of the Act (Papps & Olssen, 1997). This invisibility was the result of changes in the Act following *The Carpenter Report*, commissioned by the Department of Health in 1971 (ibid). The report recommended that the apprentice-based programme be replaced by a comprehensive educational programme in tertiary institutions. Thus midwifery by 1979 became a post basic certificate added on to the end of undergraduate nurse education. Changes to the Nurses Regulations at this time only allowed nurses to carry out 'obstetric' care under medical supervision (Donley, 1998).

'Bedding- in' a regionalised perinatal system

Health authorities in New Zealand were cautioned about further centralisation. Concern was expressed that the numbers of normal births happening in the referral centres would increase (Rosenblatt, 1984). In addition, continued closures would result in social and economic costs and the loss of community services. Rosenblatt's 1984 report supported the conclusion that for women with uncomplicated pregnancies birth was best planned in "home like settings close to where the patients live" (p.80). Similarly, increasing regionalisation was seen by Donley (1998) as a serious threat to primary birthing options for women. Donley suggested that the 1982 Maternity Services Commission Report, and the stringent code of risk factors, brought well women, unnecessarily, into the level two and three hospitals.

By 1982 a fully regionalised perinatal system was in place. This followed the report from the *Special Care Services for the Newborn in New Zealand* (Board of Health 1982). The focus was now primarily on the neonate, unlike the earlier report which had taken a broader view of maternity care. The 1982 Board of Health report acknowledged at the outset that where neonatal mortality is concerned "the outcome for mothers and newborn babies has never been better"

(Board of Health 1982, p.6), though more could be done for the survival of infants and the reduction of morbidity. Further, that a child should be entitled to an expectation of care equal to that of an adult. Such was the costs of handicap, that this investment was seen as a cost benefit to society (ibid). The committee reviewed outcome statistics, and then surveyed the larger hospitals with regard to comparative outcomes. This was followed by visits to 32 hospitals in 29 towns and cities (ibid).

Future development required by the Board of Health (1982) involved the identification of pregnancies with high risks for the infant. At this stage the referral guidelines were clearly outlined with two categories, 'S' for handing over, and 'C' for consultation (ibid). Four new levels of care were introduced. Level 0 referred to those units largely in rural areas, which did not meet the minimal requirements for emergency care, i.e. those units without surgical services. Primary units with caesarean section capacity but no paediatric specialists were deemed level One. Level two were hospitals with both obstetric and paediatric specialist services (ibid). The five major hospitals in Auckland, Waikato, Wellington, Christchurch and Dunedin were to provide level three services with full intensive care capability. Each of these major hospitals was required to establish emergency transport retrieval teams and assume responsibility for the ongoing education and advice to the staff at the smaller hospitals (ibid).

Questions about safety, viability and cost internationally

Driving aspects of regionalisation was the lurking suspicion that birth in a rural facility was a risky affair. This perception meant that rural maternity services were obliged to prove their safety within a rapidly moving environment of regionalisation and hospital closures (Rosenblatt, 1984). It was suggested that officials saw rural units at the time as "inefficient, over bedded, underutilized, difficult to manage and of questionable quality" (p.31). However there was no evidence for these assertions, prompting the impression that while the first wave of closures was about quality of care, the second was more about economic stringency (ibid).

The question of safety was addressed in a study by Rosenblatt et al., (1985). Data from the *National Health Statistics Centre of New Zealand* and government publications were merged and analysed with regard to the hospital level; i.e. 1, 2 or 3. The results showed that all but the lower birth weight babies fared better in the smaller, level one units (ibid). The authors concluded that these results were related to the level of regionalisation extant at that time, combined with cautious antenatal referral practices of GPs. It was also contended that there was no justification for further closures.

The data do not support the conclusion that there is some minimum threshold below which maternity units become unsafe places in which to practice obstetrics. Rather the evidence implied that the small, decentralised unit can do a good job if it is tied securely into a larger regional network of care (Rosenblatt, 1984).

Similar findings about the safety of birth in small rural hospitals were found in Australia. A study by Lumley (1988) assessed the perinatal outcomes in the state of Victoria between 1982 and 1984. At the time, no “formal policy of regionalised perinatal care and...no established policy of closing small maternity units” (p.386) existed in Victoria. Results appeared to confirm that infants weighing between 2500 to 2999g “fared worse in larger hospitals” (p.390).

Also under question was the minimum number of births necessary for safe practice (Tilyard, Williams, Seddon, Oakley & Campbell, 1988). This was formalised in New Zealand in 1972 when the Department of Health recommended that practitioners should deliver more than 50 babies per year. This was later reduced to greater than 20 per year by the Waikato maternity services development group.

In response Tilyard et al., (1988) looked at the outcomes for general practitioner obstetricians with regard to their workload and locality. The case notes for all deliveries (1,997 births) at Queen Mary Maternity Hospital in Dunedin, between April 1984 and April 1985, were related to the Doctor concerned (ibid). Two

variables were explored. The first compared the results of rural and urban practitioners and the second compared those delivering 20 or more women per year with those who delivered less than 20. Findings showed that rural GPs were more stringent in their selection of women deemed suitable to birth locally, but no difference was found in the transfer patterns for both groups during labour. Rather, rural practitioners delivering more than 20 had the lowest rates of transfer overall (ibid). Thus, “[n]o association was found between the number of deliveries undertaken by general practitioners, both urban and rural and maternal and neonatal morbidity” (Tilyard et al., 1988, p.207). The authors suggested that these results indicated that the rural practitioners used sensitive screening techniques during pregnancy to exclude women with risk factors. Further, that those with higher caseloads may be more competent at managing abnormalities as they arise thus transferring less often.

Debates about safety and the closure of rural maternity beds were of concern elsewhere. Tew (1995) reported that in the United Kingdom, almost half the GP maternity beds closed between 1980 and 1990. These closures were driven by the safety argument based on studies that compared outcomes between consultant units and those managed by GPs and midwives (ibid). One such study compared the outcome results of 14,415 women from a consultant unit with those from isolated and integrated GP units (Sangala, Dunster, Bohin & Osborne, 1990). The results demonstrated that the perinatal death rate was unacceptably high even with high risk pregnancies removed from the data; being 2.8 compared to 4.8 per 1000 births respectively. In addition a significant number of babies, 1.5 per 1000 births, died of antepartum or intrapartum asphyxia due to a range of known and unknown causes in the GP units. The researchers suggested that while “[m]uch has been written about the psychological importance of a normal delivery in friendly surroundings, ...the psychological effects of losing a baby, particularly if the death was preventable, are enormous and long lasting” (420).

However a later analysis of 50,000 births failed to show that women and their babies were at greater risk in the GP units (Campbell & McFarlane, 1994). It was suggested that the closures of GP units were not just in response to claims

of risk and distance from specialist services, but also the lack of economic viability (ibid). There was no assessment of the cost of the proposed changes, thus, expenses were shifted to individuals and communities where they were unable to be tracked and evaluated (ibid). In response maternity services were investigated by the Health Committee of the House of Commons (Tew, 1995). This inquiry took women's concerns seriously and in 1992 the Winterton Report was published. The report found no justification for encouraging hospital birth on the basis of safety, and further, that home birth and small maternity units should be supported (Tew, 1995).

Voluntary regionalisation was also promoted in Nova Scotia, Canada (Peddle, Brown, Buckley, Dixon, Kaye, Muise, et al., 1983). Like New Zealand the move was based on the assumption that the already declining neonatal mortality rate could be lowered further (ibid). Women in remote and isolated areas were offered obstetric and neonatal care relative to their risk. A series of inspections and programmes were offered and a three tier hospital system instituted with level one reserved for low risk women (ibid). When these changes were evaluated, it was difficult to attribute improved perinatal outcomes to the regionalisation programme, as controlled clinical trials were not feasible or ethical (ibid). Thus the improved statistics could only be related 'theoretically' to the programme changes (ibid).

Reduction in maternity services in most Commonwealth countries went hand in hand with cutbacks in other areas of rural health. Not least of these were the surgical and anaesthetic services provided at provincial hospitals. Where these were withdrawn in New Zealand protests were bitter and protracted. Yule (2002) comments, that by the 1980s GP –surgeons had largely disappeared, partly due to the demand for rigorous adherence to standards of practice required by the relevant professional bodies (ibid). For countries where vast distances separated rural maternity hospitals from specialist facilities, the loss of on site, emergency surgical services was seen to be of even greater concern.

The debate about caesarean section capability

In Northern Ontario, Canada, the subject of 'safe care' was questioned in areas where units did not meet the standards required (Black & Fyfe, 1984). Outcomes over a two year period were investigated and the researchers also sought to determine if caesarean birth was safe in units without obstetric or neonatal specialist cover (ibid). The information about outcomes used in the study, was attributed to the woman's place of residence rather than hospital or place of birth. Within the level one category there were four subgroups of increasing speciality cover. Neonatal deaths up to 28 days were reviewed and little difference was found between areas (ibid). Thus these small communities in Northern Ontario were not disadvantaged where local caesarean section was not available (ibid).

In other remote areas, practitioners made an argument for caesarean section in urgent circumstances (McIllwain & Smith, 2000). The dilemma however was how surgical skill levels could be maintained given that there is no clear evidence with regard to the threshold of numbers for safe performance of caesarean section. These concerns were raised at a conference in Vancouver BC in 2000 (*Joint Position Paper on Rural Maternity Care*, 1998). However the rural physicians confirmed their earlier position; that rural hospitals without a caesarean section capability still provided better outcomes for women, than not having a local maternity option. It was acknowledged that women having their first baby experienced transfer for dystocia more often than did women having a second or subsequent baby (ibid), but these women were no more likely to require an urgent caesarean section. Thus, it was recommended that maternity providers continued to support the recommendations on quality and requisite skill sets for practitioners outlined in the earlier document (ibid).

Australia, like Canada, shares the problem of providing maternity services to sparse and very remote communities. In common with Canada there is debate about the need for on-site caesarean section capability (Woollard & Hays, 1993). In response to the changes wrought by regionalization in these areas, researchers and practitioners began to collect and publish statistics. However arriving at a definitive statement about the safety of rural birth was problematic,

as many of the studies reflected a variety of perinatal data collection systems, categories, definitions, and methodological approaches.

In a retrospective study by Woollard and Hays (1993) data for the year 1st July 1990 to 30th June 1991 from 86 rural hospitals was compared with the data collection for the whole of NSW over that period. Most of the hospitals in the study had caesarean section capability. However this was only used for emergency caesarean births as all women with identified high risks were referred or transferred out wherever possible. It was suggested that the smaller community facilities without caesarean capability had poorer outcomes though the small numbers and sensitive transfer rates make comparison difficult (ibid). Woollard and Hays (1993) acknowledge however that women still present in labour at the smaller rural units, which is “testimony to the determination of some rural women to have their baby near home” (p.241). Further it is suggested that the policy of closing these units “may have to be reconsidered” (241).

What is obvious from the available studies is the variety of localities, birthing populations, staffing skills and arrangements. It is not always clear if some of the units included are rurally situated or stand alone units within an urban setting. In New Zealand the current maternity system differs from those in the countries mentioned above. In particular, midwives provide the majority of maternity care in rural areas with few GPs still offering primary maternity care (Janes, Cormack & Dowell, 2005). Surgical and anaesthetic services; particularly the provision of caesarean section, were withdrawn from most of the smaller hospitals during the changes in the late 1980s and 1990s. Thus decisions about transfer in New Zealand are made within a context that means women need to transfer to secondary or tertiary facilities if any assistance with birth is needed.

The issue of safety has also been linked to the size and throughput of maternity hospitals and units. However the same methodological problems also affect the relevance of these studies for the New Zealand scene.

Facility size and the debate about safety

The concerns of the Maternity Services Committee/s (1976 & 1982) in regard to the safety of New Zealand maternity care were to some extent based on size. This was evidenced by the closure of single-handed and other small rural maternity facilities where the number and skills of the incumbent health professionals was limited (ibid). Similarly, the number of births attended over a year by practitioners was also under question (Tilyard et al., 1988). Moreover, given that the mortality rate for low risk births is very low, large numbers are needed to make any reasonable claims about safety (Moster, Lie & Markestad, 1990). Debates about the size and complexity of the rural maternity service continue and these have been addressed in several large studies in other countries.

In Norway, the risk of neonatal death in low risk pregnancies was researched in relation to the size of delivery units (Moster et al., 1990). The sample involved the total live births in Norway from 1972 to 1995. This was a total of 1.2 million singleton births with birth weights over 2500 grams, adjusted for antenatal risk factors (ibid). Home births however, were excluded. The results showed that facilities delivering 2000 to 3000 babies annually had the lowest neonatal deaths compared to those delivering 100 or less. Conversely, facilities delivering over 3000 babies had the worst outcomes (ibid).

Where a woman was transferred, her birth was registered at the receiving hospital (Moster, et al., 1990). Thus a poor outcome is attributed to the larger institution potentially improving the outcomes for the smaller units. Conversely it was also suggested that with prudent and timely transfer a significant number of women would safely deliver at the larger institution which may improve their outcome figures (ibid). It is also acknowledged that a woman with no known risk factors could well be put at risk of unwarranted interventions in a larger facility (ibid).

The safety of smaller units was also questioned in Germany (Heller, Richardson, Schnell, Misselwitz, Künzel, & Schmidt, 2002). The researchers looked at the outcome events of early neonatal deaths during labour and within

the first seven days of life. The sample was taken from the perinatal birth register of Hesse which recorded 582 655 births between 1990 and 1999 (ibid). The findings for low risk births showed that early neonatal deaths were significantly increased in the smallest maternity units of less than 500 births, compared to low-risk births in the larger delivery units of more than 1500 births per year.

In this area of Germany all the smaller units are, or were, staffed with midwives and nurses with access to either on call, or on site obstetric and neonatal services. Each woman deemed low risk has her birth managed by a midwife (Heller et al., 2002). During pregnancy women are offered ten antenatal physician visits and three scans. Even with this intensive scrutiny further centralisation of services is advocated to reduce further the neonatal death rate in low risk pregnancies. It is acknowledged by the authors that women preferred the smaller delivery units for their privacy and personal atmosphere (ibid). This preference has seen the number of women accessing small hospitals increase, leading to a decrease in those accessing larger centres. The authors suggest that this migration needs to be reversed given the results of this study (ibid).

These findings are not consistent however, with those in an Australian study (Tracy, Sullivan, Dahlen, Black, Wang and Tracy, 2006). This population based study looked at the outcomes for 750,491 women who gave birth during 1999-2001. These were linked to the size of the hospital of birth, the objective being to see if the size of the unit was a risk factor (ibid). It was observed that the rate of closure of small maternity hospitals in Australia in both rural and urban areas had accelerated over the previous five years (ibid). The closures were based on the belief that below a certain volume of births, the quality of care suffers and the unit becomes uneconomic. These assumptions were tested as to whether size and the volume of births at a facility mattered in regard to outcomes for low risk women (ibid).

Findings showed “...a statistically significant and consistently lower risk of neonatal death among all infants in hospitals with less than 2000 births per annum, and a clinically significant result for the low risk cohort of women”

(Tracy et al., 2006, p. 93). Outcomes for low risk multiparous women who birthed in the smaller hospitals (100 – 500 births per annum) indicated lower neonatal mortality which reached statistical significance [adjusted odds ratio (AOR) 0.36, 99% confidence interval (CI) 0.14-0.93] (p. 86). This was compared to hospitals with more than 2000 annual births. Women having their first baby in a small facility (100 births per annum) who were considered low risk, had lower rates of epidural anaesthesia, induction, instrumental birth, caesarean section after labour, and their babies were less likely to be admitted to a neonatal unit (ibid). The authors conclude, that “in Australia, lower hospital volume is not associated with adverse outcomes for low risk women” (Tracy et al. 2006, p. 86).

No large scale study of outcomes related to birthplace, have been completed in New Zealand since the Rosenblatt et al., 1985 research. Thus comparison with the studies above is not possible at this time. What is addressed next however, are studies about the contribution of local maternity services to public health and local communities.

The impact of closures for women and their communities

Maternity services in New Zealand are an integral part of rural communities. They form a central component of primary health care and offer a local birth option to women. These public health benefits are not unique to New Zealand. Such services have been demonstrated to contribute to the health and welfare of scattered populations in Australia, Canada, Britain and the United States of America (Canadian Medical Association, 1994; Nesbitt, Larson, Rosenblatt, & Hart, 1997; Tew, 1995. It is suggested by Tracy et al., (2005) that further loss of small maternity units needs evaluation and that the wider needs of women and their communities should be considered.

There are strong economic arguments for the support of local services that provide for women with low risk status (Nesbitt, Connell, Hart & Rosenblatt, 1990). These arguments involve both the cost in terms of increased intervention, often experienced in larger hospitals, as well as costs incurred by the families forced to relocate for primary labour and birth care. These outcomes and costs

were studied in 33 hospitals in Washington State (Nesbitt, Connell, Hart & Rosenblatt, 1990). In the areas where hospital maternity services had been lost there was a high outflow of women who experienced higher rates of complicated deliveries than did the women in the communities where local maternity services were retained.

Similar issues and social costs were found to affect rural and remote communities in Canada. Rogers (2003) writes of the struggle to provide maternity services in these often inhospitable areas. Where local services are not provided, women anticipating a spontaneous vaginal birth have to relocate with their families for up to 4 weeks prior, resulting in emotional, social and financial costs. Likewise, the provision of maternity care in rural and remote areas of Australia remains a challenge (Chamberlain et al., 2001). For Aboriginal and Torres Strait Islander women in isolated areas, few birthing options are available. Instead they are flown in late pregnancy to hospitals in urban areas to await birth. Despite this practice, the aboriginal perinatal death rate increases steeply with the degree of remoteness to 27% in the Northern Territory. This possibly reflects the fact that to avoid relocation many of the women choose not to access health care until well established in labour (ibid).

Women have voiced their concerns about rural maternity closures and service downsizing with mixed success. Brown (2008) recounted how women in rural Australia have lobbied to reinstate local birthing services to avoid having to leave their area and travel long distances to give birth (ibid). The problem of having to relocate was also of concern to women in rural Ontario in Canada (Sutherns, 2004). Significant for them was the anxiety of not knowing where they were going to give birth due to the uncertainty of services in the local area. This was a particular worry when there were concerns about their pregnancy. The women also acknowledged that being in the community had its darker side. Being too well known may mean that their concerns were not taken seriously. They were also careful not to be assertive about aspects of their birth plans to avoid offending their local doctor (ibid).

Similar problems were noted in British Columbia where birth numbers were declining in rural areas despite consensus statements about the need for, and the efficacy of, rural maternity services (Kornelsen & Grzybowski, 2005). Women and maternity care providers were interviewed for their comments on this trend and their perspectives on the maternity service. Four rural communities were involved in the study, with populations of less than 10,000 outside the commuting zone to larger urban areas. Forty five women and 27 care providers were interviewed.

Changes continued during the study, including the closure of some units (Kornelsen & Grzybowski, 2005). This meant that some of the women booked to birth locally had to change their birth plans mid pregnancy (ibid). These unpredictable and disruptive changes revealed the tenuous infrastructure for birth in rural areas of Canada. In some instances, practitioners moved on, or reframed their criteria for local birth options (ibid). Thus some closures were related more to health practitioner fears and preferences for practice rather than being fiscally driven. For example where caesarean section was no longer available or volumes were low, this affected the confidence of the practitioners to undertake birth care (ibid).

Women had in most cases worked out their own risk status deciding what balance of risk they were willing to take. For the Aboriginal and First Nations people there was a strong desire to birth on ancestral land (Kornelsen & Grzybowski, 2005). Thus women who were determined to birth locally sought out midwives from outside the area, or chose to birth unassisted in the community. Others would arrive in advanced labour too late to transfer. Local women had little power to influence the decision making and in some areas were required to sign consent forms if they chose to birth locally (ibid).

In common with women's experiences in other countries, having to leave home for birth was stressful (Kornelsen & Grzybowski, 2005). Where the family accompanied the woman, there were periods of waiting in crowded hotels for labour to begin as well as additional costs for accommodation and meals.

Compared to this scenario, induction and elective procedures looked attractive (ibid).

A strong economic argument is made by Holmes, Slifkin, Randolph and Poley, (2006). Their study showed that in the USA, closure of a sole hospital “reduces per-capita income by 4% and increases the unemployment rate by 1.6%” (p.467). The economic downturns in these communities began when closure was first signalled. According to Klein, Christilaw and Johnston (2002) a cascade of events follows maternity hospital closure. As services are centralised the costs are shifted to the women and their families who then need to travel long distances for routine services. Budgets are squeezed and as staff leave, skills and confidence are lost, including critical emergency expertise and service. Businesses also close and young families make choices around whether or not to stay in the area (ibid).

The relevance for this study

Rural maternity services in New Zealand are also challenged by these social and practice issues. For example, the presence of a local maternity facility provides a base from which women can access primary maternity care that is linked to other perinatal services. The health practitioners associated with rural facilities offer routine and emergency care, and they, together with their families, contribute socially and financially to their local communities. However where the future of the rural service is in doubt, women are unable to plan confidently for a local birth. For women living in remote rural areas without local birth options, having to relocate prior to birth can be stressful and expensive.

The maternity system in New Zealand however, differs from that in countries with similar populations and histories. One significant difference is that midwife LMCs assume care for women in rural areas. This includes providing care for well women planning to birth locally, as well as for women booked elsewhere. Thus decision making about transfer is largely the responsibility of the woman and her midwife with GPs playing a small part, if any, in most areas. These differences plus organisational arrangements and geographical features,

make it difficult to apply the evidence from much of the research on rural safety to the New Zealand situation.

What is relevant for this study however, are the ongoing changes following the regionalisation project which have continued in most of the countries affected. Closures of hospitals and downsizing of local medical and surgical services has resulted in the loss of facilities that previously served as nodal points for secondary care. In some areas this means that the tertiary facility becomes the next step from the primary area, leading to a centralising, rather than regionalising, pattern of service organisation for the rural facilities within the catchment. This was highlighted with recent publicity regarding the maternity services available on the west coast of the South Island.

The loss of obstetric services at the secondary hospital in Greymouth means that local women are expected to relocate to Christchurch before labour begins. This involves several hours of road travel and entails crossing the alpine passes in the winter months. Those women who decline are required to sign a disclaimer stating that they are aware of the risks and accept them, should they choose to remain and birth in the local secondary facility (Otago Daily Times, July 3, 2008, p.30). Thus it is this mix of equivocal evidence about safety and service uncertainty that women and midwives wrestle with when planning birth, or transfer in a rural maternity service. Such a climate can make it difficult for women and their midwives to settle into the business of birth. Where this is complicated with considerable distance, decisions are even more challenging to make.

Summary

Post colonial maternity services in New Zealand have been reviewed in this chapter and the moves to regionalise perinatal care was traced primarily through the pages of the Maternity Services Committee Reports to the Board of Health and the work of Rosenblatt (1984) and Rosenblatt et al., (1985). Changes in New Zealand reflected those happening elsewhere in developed countries which included questions about safety. Research on the safety of birth for low-risk women in rural areas appears equivocal. What is clear is that retention and

support for rural maternity services has been shown to contribute to the social and economic fabric of local communities. More importantly the skills of the rural maternity practitioners in both normal and emergency birth care are a valuable resource. These skills, combined with links to specialist care provide the foundation for appropriate decision-making around transfer in rural maternity practice.

In this chapter the history of regionalisation and the concerns about safety are a backdrop to the decision making around rural maternity transfer. Making these decisions is a complex process that involves not just these historical and contextual components, but also personal, cognitive and situational influences. To appreciate this mix of personal and contextual factors, theoretical models of decision making are explored in the next chapter through the device of a practice scenario involving a decision to transfer in labour.

Chapter Three: Applying decision making theories to rural midwifery practice

Introduction

It is suggested that skilled decision making is the ‘blood supply’ of midwifery practice (Sullivan, 2005, p.169). Midwives do not just have to make decisions; they also need to facilitate women making decisions and assist them to make sense of information (Cooke, 2005). While all decisions are important, what is critical for women and midwives in rural areas is the making of decisions in regard to transfer during labour or post birth. When such a decision is made there are stressful moments for all involved. For the women there is huge anxiety as to whether or not their baby will be alright. Plus there are concerns for their own wellbeing, and uncertainty as to what treatment or interventions will be required once admitted to the hospital. For the midwife there is the worry as to whether the decision was the right one and whether the timing was optimal. Was it too early to decide? Should we have moved earlier? How will the decision look in hindsight and how will this impact on me personally and on the local rural maternity service?

In the previous chapter the historical and current context for rural maternity care in New Zealand was presented as foundational to how birth happens in rural areas, and how transfer decisions are made. In this chapter a personal experience of a decision to transfer is retold. The theory, styles and models of shared decision making are explored and related to the events in the scenario. Reflection is then introduced as one way to unbundle an event and allow an examination of the components and context of the decision. Finally the rural and broader environmental influences are reviewed and related to the practice scenario. The theories examined in this chapter about decision making inform the data chapters and recommendations tendered in the final analysis. To begin I reflect on the events surrounding a decision about transfer which has helped bring both my practice and research worlds together.

A practice focus for this chapter

During this research, I realized that most of the women and the transfer events I have been involved in are etched in my memory. Thus it seems that these memories, like childbirth, are more durable having been overlaid by strong emotions; whether stressful, joyful or both. Below I recall one circumstance in a locum practice setting where transfer was considered. While I was not the LMC for the woman, but present as the second midwife, I still felt the sense of being totally involved with the decisions that were made.

It was getting on for midnight. It was this woman's first baby and she and her partner were locked together swaying in time to the rhythm of her contractions. She was changing position kneeling on the floor, leaning over the bed and climbing in and out of the birth pool. Progress had been steady since her arrival in the small rural facility in the late afternoon and it was expected that birth would occur soon.

A vaginal examination an hour earlier had confirmed that her cervix was now fully dilated. Time ticked on and progress slowed. The couple worked together crouching and pushing but there was as yet no sign of her baby's head. It was time to raise the question of our concern and make plans to transfer to the base hospital an hour and a half away. Reluctantly they agreed that they were prepared to move. The obstetric consultant was phoned and the ambulance contacted. The mood was quiet, more worried and there was a sense of disappointment and urgency.

Preparations began, packing up her things, gathering extra towels and putting her notes together. The phone rang and the local volunteer ambulance told us that they were at least two hours away having already been called out to transfer a local resident to the hospital. The ambulance control located another ambulance team from an adjacent rural area who could be with us in an hour. The woman and her man kept working and hoping, the baby's heart rate was still strong and reactive.

Now the woman was pushing and progress was obvious. Her perineum bulged and the baby's head began to slowly emerge. She birthed her baby just as the ambulance pulled up at the door. Both were well and the relief and joy for all was palpable in the room.

I have unpicked this story during the writing of this thesis and find that many of the events of that night resonate with the stories presented by women and midwives in the subsequent chapters of this thesis. However the anecdote does not on the face of it tease out the complex moves and thinking that was going on in the room. In the exploration below, I endeavour to expose some of the theoretical, behavioural and contextual components thought to influence how decisions are made and relate them where applicable to the scenario above.

Theories of decision making

Normative/ prescriptive decision theory and calculations of probability

Decisions need to be made when there is a perceived uncertainty about an outcome (Bell, Raiffa & Tversky, 1988). That is, it is not known for certain what the outcome would be should a particular choice be made. Normative models of decision making represent a linear logical process. It is the pathway of rationality, or how it is thought that rational people would behave when making a decision. The process diverges only when it becomes apparent that another decision needs to be made (ibid).

The probability of an event can in some instances be predicted by the use of Bayes' theory (Price, 1763). When applying Bayes' rule the probability of an event occurring is dependent on the probabilities of each potential outcome being realised (ibid). For example as each decision point is reached a fresh set of probabilities are revealed. Thus the decision is made afresh at each nodal point in the process. To explain this Bell, Raiffa and Tversky, (1988) give the example of the two urns. Each urn contains both red and white balls in different ratios. As one ball is drawn, mathematical calculations for future draws will change in response to the colour of the ball drawn.

Over time the 'Bayesian' rule of probability has been applied to phenomena other than games of chance. Such normative decisions become prescriptive when they are formally presented in writing or conversation (Bell, Raiffa & Tversky, 1988). Examples would include referral guidelines, or a neonatal resuscitation protocol that sets out the logical steps in the process; with options for further interventions should the first action not resolve the problem. However prescription rather than probability is how potential outcomes are more commonly presented (McNeil, Pauker & Tversky, 1988). An example can be found in the research concerning Shorten's (2005) decision-aid booklet for women considering birth options after a previous caesarean. The decision-aid provides evidence based information on the probability of benefits and risks of either a repeat caesarean or a vaginal birth attempt for women who have had a

previous caesarean birth. The researchers found that the information in the booklet improved the knowledge of the women in the intervention sample but that the choice made by the women was influenced to a greater extent by the institutional practices and preferences of the health professionals involved (ibid).

The notion of probability has been extended into social areas where outcomes are even more uncertain and the decision makers prone to emotional, cognitive and contextual influences. Decision making which takes into account these complexities is considered next under the heading of descriptive decision theory.

Descriptive theories of decision making

Normative processes remove the cognitive issues of values, anxiety and previous disappointments, and do not have a tolerance for risk (Bell, Raiffa & Tversky, 1988). Thus in most human situations normative models are not well adapted to predict behaviour. Hillel, Einhorn and Hogarth, (1988) muse that when “atoms and molecules fail to follow the laws supposed to describe their behaviour, few would call such behaviour irrational” (p.113). This acceptance of variance is not similarly accepted for human action which is often assumed and expected to be “purposive and goal directed” (p.113).

Behavioural decision theory is therefore concerned with the processes that are engaged in when judgements and choices are made (Hillel, Einhorn & Hogarth, 1988). When faced with having to make a decision it depends on how well individuals can attend to all the particulars of the situation. For example what details they can keep in their memory and how these are cognitively represented. Thus there is a discrepancy between optimal models of decision making and how humans actually make decisions (ibid).

Heuristic devices and biases for decision making

Beliefs about outcomes are frequently expressed as the chances or odds of a particular event occurring often described as a percentage statistic. However, decisions made are more frequently based on a few heuristic principles (Tversky & Kahneman, 1974, p. 1124) which, while often useful, can lead to

systematic errors. Heuristics are the ‘rule of thumb’ or trial and error processes engaged in by people faced with a decision. What motivates these decision making behaviours, are the biases to which we are all subject and the intuitive judgements we make about the probability of a particular outcome. These cognitive variables are broadly outlined as representativeness, availability and adjustment or anchoring (ibid).

Representativeness and availability

Representativeness biases occur when we decide that something is representative of a particular class or stereotype we have met before (Tversky & Kahneman, 1974). Thus, when using our representative bias, the calculations of how rare or common, an event might be, would be put in the background, rather than the foreground of our thinking (ibid). For example if this behaviour is related to sample size in a research project then the representativeness bias may have us over interpret the findings.

The notion of availability also contributes to our decisions in everyday practice (Tversky & Kahneman, 1974). This heuristic suggests that where we have recently encountered an event, this memory would be more rapidly available to us when a similar event occurs. Not only is our ability to respond affected by recent events, but so is our imagination. This could lead us to overstate what might be a consequence of a particular decision without subjecting it to a probability test. This misperception can also extend to judgements about how two events might co-occur. For example in the scenario at the beginning of this chapter, if the midwife involved had recently transferred a woman having her first baby for slowed labour, who subsequently required an urgent caesarean section, then, she may well be prompted to suggest transfer earlier for other primiparous women in the future. This experience may also ‘anchor’ a belief that is resistant to change.

Anchoring

Gilchrist and Bonato (1995) working in the field of experimental psychology, proposed the anchoring rule in terms of perception. This means that we tend to perceive what we expect to find. This concept arose from earlier experiments with light and luminance perception. In these experiments the degree of

luminance of black and white patterns was found to be determined by the background and lighting conditions available to the viewer (ibid). Thus, where we start from in regard to our position or background about a problem, determines whether we would be more or less inclined to change our perception in the light of new information. If we do, it is usually in small increments (ibid).

Thus it would seem that we are anchored to a value position that is hard to move from even when the pieces do not fit (Tversky & Kahneman, 1974). This is not to say that we are unable or unwilling to change our decision or view of the problem, but just that this is done more slowly and cautiously. In the scenario (on page 35) our view of the situation was ‘anchored’ to the perception that all was progressing well. This was what we wanted to see and this is what we perceived to be happening. The delay at second stage gave us cause for concern, and while still hopeful of a normal birth, we began to entertain the possibility that intervention may be needed. We could not predict the outcome; only react to what we saw as the evolving situation.

Our decisions according to Simon (1990) therefore cannot be totally rational; the reason being that there are finite resources available to the decision maker. This suggests that we usually use heuristics to make decisions given that it is not possible to conceive of, or compute the outcome of the actions open to us. However different individuals may not be as vulnerable to their heuristic biases. For example, those with a repertoire of different skills and strategies may well approach decision making with more openness to other interpretations of the situation (ibid). Nonetheless, not knowing what the outcome will be, and our very humanness, means that we have ‘bounded rationality’ on which to draw when determining a course of action (ibid).

Cognitive ideas about how we make decisions are further explored below with the notion of intuition or implicit knowledge. These decision making strategies are frequently associated with those experienced in a particular field of activity or work (Morris, 1972). However in everyday life, intuition is a term frequently used to describe how we go about decision making.

Intuition and implicit decision making in practice

Intuitive or implicit decision making is suggested as the mainstay of the experienced decision-maker (Morris, 1972). Intuitive methods have been relied on by decision-makers, and have largely served them well (ibid). Such strategies provide an immediate response often in the situation where there is little information to go on.

Kruger and Dunning (1999) describe the phenomena as conscious or unconscious competence. The perceived degree of competence is commonly inflated by those with limited experience in a particular field, or by those whose meta-cognition, or self-knowledge is deficient (ibid). It is suggested by Morris (1972) that psychological needs may be fulfilled with intuitive decisions. There is the comfort of habit and the view as we prefer to see it. For example we decide what to foreground and what to background in the situation (ibid). Of course this can offer a distorted view of events which may be further complicated by social and organisational processes. These may include situations where views are socially shared, or the need to perform to organisational expectations (ibid).

Such a position allows errors in decision making to slip into individual and group practice. The erroneous action or decision may be one that is made habitually or one that is a departure from normal practice (Reason, 1994). When something doesn't fit an individual will attempt to reconstruct it to slot into a familiar pattern or schema. Reason (1994) suggests that this behaviour is Freudian in that the person has an unconscious wish to see order. Behaviour in groups is similar. When working together, there is often a 'collective thinking' in response to a problem. For instance when an outcome or event does not conform to the regular pattern expected, trial and error and sometimes experimental responses may be tried by the group (ibid).

In the rural scenario at the start of the chapter, the decision making was a mix of these elements. There was a belief that birth was going to happen given the progress and approach of the couple. It could be said that the group were anchored to this view of what was happening. Only when progress slowed was

it considered that earlier predictions might have been wrong or at least ambitious. The social cohesion of the group with the common purpose might have left little space to consider that progress was not occurring. Thus implicit and intuitive decision making had the potential to mislead us. Similarly the social energy with a common purpose or expectation was a significant influence in the situation. Conversely, it is possible that the happy outcome was in some respects related to this sense of common purpose replete with the bias for the anticipation of a normal birth. This idea will be explored later in this thesis in relation to the role that birth place and belief in the possibility of normal birth, play in regard to outcomes (Foureur, 2008; Lepori, Foureur & Hastie, 2008).

As in the example above, decisions are almost always made in a social political context. So not only are decisions affected by our previous learning and cognitive frames of reference but they are also affected by memories of past conflicts and experiences with others (Hillel, Einhorn & Hogarth, 1988). In the next section the discussion moves to the influences on decision making as a result of group processes.

Decision making and group process

Environmental conditions involved in decision making include not just the physical space but also political and technical components. Decisions about transfer in rural maternity situations involve having to negotiate with others, both in the rural area and at the secondary care hospital. Invariably this includes the politics inherent in groups.

Over time, groups which interact together become more similar in terms of their preferred responses to decisions (Leiberman, 1972). Nevertheless, within these groups power relationships exist which may or may not be overtly obvious to the group members (Tversky & Kahneman, 1974). Thus the dominant behaviour by those with charisma can influence decisions that are then attributed to the group as a whole (ibid). In response, small group coalitions may form giving rise to 'game playing' in order to achieve personal goals or have their preferred position adopted by the group.

Bargaining is also a component of decision making. March, (1988) suggests that the 'cognitive frames' of how individuals make choices when making a decision alone are not always helpful when trying to predict how they would respond within a group (March, 1988). Thus for decisions made within groups, normative and cognitive theories are not necessarily predictive of how individuals will respond. Rather these theories contribute to a dialectic influencing how others interpret and view the decision making (ibid).

In our rural scenario we were acutely aware of the wider social and political ramifications of our decisions. The environment was significant on several levels. Firstly there was the small group process within the room. The decision to transfer and when to begin this process needed to be worked out between us. This decision however was not confined to the room but rather incorporated the response and proximity of those that would need to assist in the transportation of the woman and her partner. There were also preparations to be made for the journey. We were also unsure of how we would be received at the hospital. In other words, would we have the opportunity to participate equally in their group process? How much these factors influenced our decision to transfer was difficult to tell, given that circumstances changed and the baby was born in the rural facility.

The challenge remains as to how best to facilitate a shared decision when transfer needs to be considered. This can be approached with time and deliberation in other pregnancy situations but in advanced labour with the prospect of having to move, this decision can be difficult for the woman to make. How the midwife conveys concern without causing unnecessary alarm or using coercion, is a skilled task. In the next section the topic of involving women in decision making is addressed. While many of the examples relate to less critical situations, it would seem that the building of a trusting and ethical relationship with the woman during pregnancy provides the best foundation for critical decisions in the future,

Engaging women in decision making

Styles and models of decision making

For healthy women, decisions about their pregnancy and birth should, like the everyday decisions of life, be theirs to make (Harding, 2000). In all but acute emergency situations, decision making is expected to be an enterprise shared with the woman. However this may not be straightforward. Exactly how and to what extent the woman feels able to participate fully in decisions about her care varies. Below, three models or styles of decision making approaches are outlined. These include the paternalistic, informed and shared models and also an intermediate or hybrid pathway.

Paternalistic model

Paternalistic approaches to decision making relate to the notion of prescriptive theory discussed earlier in this chapter. Charles, Whelan and Gafni (1999), suggest that paternalism has for doctors been the “dominant approach to making decisions about treatment...” (p.780). It involves the woman taking a passive role and acquiescing to the advice of the doctor. However midwifery interactions with women can also be paternalistic. Harding (2000) suggests in such a relationship a carer may listen to the woman’s questions and answer them, but the professional believes that she or he is responsible for making the decision. The objective of the communication is to guide the woman to the point of agreeing with the decision that has been made: this asymmetrical relationship is controlled in part by information gate keeping (ibid). Where the woman does not agree with the plan she may be seen as being difficult, or non compliant, and thus open to blackmail with regard to the wellbeing of her baby (ibid).

Informed model

The informed model is one where a partnership is formed on the basis of a division of labour (Charles et al., 1999). Information is offered on all treatment options with the accompanying risks and benefits (ibid). The individual then makes ‘an informed decision’. This choice is not disputed by the health professional and the person is not persuaded to change their mind (ibid).

Leap and Edwards (2006) suggests that the way in which informed choice is engaged in, can reduce the woman's autonomy. This occurs when information is filtered by the practitioner. In some instances this is to reduce the amount of information that is given, but it also can mean that options are not offered that the woman may well wish to consider (ibid). There are also power issues involved and women may be reluctant to "antagonise their carers" (p.100). These power issues are particularly relevant in organisational contexts, thus how free women are to engage in such a model of decision making depends on the circumstances (Harding, 2000). For example, in a hospital setting policies about routine procedures may already be in place, organised primarily for the comfort of the practitioners and the accommodation of technology (ibid). Moreover, often what passes as information giving may well be that which supports technology with the potential harms of that technology withheld (ibid).

Shared models

The shared model requires that both the practitioner and the client interact in all aspects or stages of the decision making process together (Charles et al., 1999). This requires honesty from both parties on their preferences with the aim of reaching a consensus (ibid). Cooke (2005) suggests that the midwife explore the woman's values and beliefs and determine her preferred style of accessing information and solving problems. Thus the way information is packaged and the pace at which it is offered can be individually tailored allowing a woman time to consult with friends and family and evaluate the pros and cons before making her decision.

The midwifery partnership model (Guilliland & Pairman, 1995) incorporates the sentiments of both the informed model and the shared model. Its principles include individual negotiation, equality, shared responsibility, empowerment and informed choice and consent (p.44). These elements are considered central to maintaining the woman's autonomous status in the relationship. It is anticipated that during the ongoing process of negotiation each partner will acknowledge the expertise of the other. The woman and her midwife are equal within the partnership and responsibility is shared, though it is acknowledged

that “there may be episodes which necessitate the midwife acting on behalf [of], or speaking for the women” (p.45).

In some situations the woman may appear unprepared to take responsibility for her contribution to the decision making role (Cooke, 2005). Such a position may reflect the social positioning of a woman and how relationships and other aspects of their lives are managed (ibid). There is evidence that involvement of women in decision making around childbirth helps to achieve positive outcomes (ibid). However, if a woman’s desires for her birth experience differ from those espoused by the midwife she may be reluctant to say so (ibid). It is of equal concern when a woman is expected to assume full responsibility for all decisions to which the midwife merely acquiesces. These situations represent a breakdown in the relationship and are most likely to be related to the quality of the communication (Hunter, et al., 2008); part of which might be the different tolerance for risk of each party, which have not been fully explored.

Hybrid models of decision making

The shared model of decision making (Murray, Charles & Gafni, 2006) has been tailored to fit with the various relationship qualities in primary general practice. In other words the existing relationship between a patient and their GP, provides a context in which a shared model of decision making is appropriate at particular times and with particular health issues (ibid). For such a flexible model to work, a relationship of mutual trust and respect is needed (Thompson, 2007). For some individuals this would include recognition that fully shared decisions would be an option, contingent of the context (ibid). Building on this idea for nursing, Harbison (2001) offers a pragmatic approach using an adapted cognitive continuum model. This provides a response tailored by the degree of structure within the task, balanced by the time available to make the decision. Thus the level of acuity and complexity would dictate the decision making style.

To engage women in decision making Leap and Edwards (2006) believe that a sense of trust and safety needs to be established that is effective for both parties. And while this can be established after a short acquaintance, it is more likely

within an established relationship (ibid). It is probable that midwives and women include aspects of each style at different times, when making decisions; potentially producing the hybrid model suggested by Charles et al., (1999). This would mean that the midwife would move between the styles depending on the situation and the time available to engage in discussion and sharing information. It may be argued that such an approach is grounded in the relationship and understanding that preceded the event for which a decision was required (ibid).

In the rural scenario, a pre-existing relationship of trust and respect existed between the woman and the midwife. Plus, contingency plans regarding the possibility of transfer had been discussed during antenatal visits. It was difficult to define discrete models of decision making during labour as within this relationship decisions up to the point of transfer were a mix of styles, both shared and prescriptive. The major decision about transfer was put first as a suggestion which the midwife based on her professional judgement of the circumstances at the time. This was accepted without question. Whether this was because of the woman's trust in the midwife or, if she felt unable to decline or argue is unknown.

I return to the rural context and the scenario in the final section. Next however I focus on processes for unravelling components of decisions. Ideas and strategies are presented for reflection both during and after events. The work of the authors canvassed above, suggest that developing a habit of reflection enables practitioners to improve their understanding of the cognitive and environmental influences on their decisions. The aim is to make sense of what has occurred and improve the quality of decisions in the future.

Strategies for improving decision making

According to Mok and Stevens, (2005) midwives use different decision making styles and systems when approaching a problem. These include a range from hypothetico-deductive models based on systems theory and probability, to spontaneous decisions regarded as intuitive (ibid). Some emergency situations in rural practice are amenable to the normative and or, prescriptive processes; for example, active resuscitation of a baby or control of postpartum

haemorrhage. For these rare but critical events flow diagrams based on probability are valuable. However decisions such as that described in the practice scenario involving a decision about transfer, appear more complex. It is this complicated mix of styles in practice decisions that Schön (1991 & 1983) addresses with ideas about reflection, and reflection in action.

Reflection in action

The ‘messiness’ of practice is the focus of Schön’s (1983) work. As considered earlier in the chapter, there is a human desire to find rational and orderly processes to avoid the discomfort of uncertainty. In this quest there is the danger that phenomena which don’t fit get ignored. However it is this lack of fit that Schön suggests we need to attend to, and that rather than seeking to reduce the discomfort it is important to accept confusion (ibid). This is not to say that we should paralyse ourselves with reflection during the everyday tasks but rather remain open to the possibility that a change of plan may be needed.

A false perception of a situation can blind us to an error of judgement made early in an assessment (Reason, 1994). Such a situation would then be confounded by subsequent actions. Schön (1983) suggests a habit of reflection; not just retrospectively but also in the midst of practice can alert the practitioner to the potential for biased interpretations of events as they unfold. This fluidity and responsiveness is described as a habit of “double vision”. The practitioner does not stop what they are doing but endeavours to “keep alive in the midst of action, [bringing] a multiplicity of views of the situation” (p.281).

A habit of reflection to take stock after an event is also recommended (Schön, 1983). This provides the opportunity to consider other perspectives and to incorporate new knowledge (ibid). Retrospective reflection requires an act of review and description, not just of events leading up to a decision but also of the accompanying emotions, fears, reactions and feelings (ibid). This approach interrupts fixed practice patterns to enable the individual to embrace other aspects of the situation which may include “complexity, uncertainty, instability, uniqueness, and value conflict” (Schön, 1983, p.18). Any or all of which may be features of the decisions made by women and midwives in the rural setting.

The contribution of reflection for future decision making

If decisions are retrospectively untangled, there is the opportunity to highlight the degree of implicit versus analytic components within the decision process (Morris, 1972). Such scrutiny can also highlight the person's tolerance for ambiguity and uncertainty or reveal how reasonable the decision was in hindsight and what has been learned from the experience (ibid).

Further analysis could be done around the role of stress or desire that influenced the decision and how these emotions were played out during the event (Morris, 1972). There is the opportunity to view perceptions at the time and decide if these were distorted by any of the personal or situational factors. For example, the degree to which the 'rule of thumb' was relied on for a solution (ibid). Questions might include: What were the figure/ground issues? How did we decide which aspects to attend to and in which order? Was what we saw as the priority appropriate for the situation (ibid)?

Midwifery decisions are assumed to be a mix of theoretical understandings from the physical and social sciences as well as the arts (Siddiqui, 2005). Intuition is also commonly included as a component. However intuitive actions by experienced practitioners are often difficult to capture in order to chart the cognitive processes involved (Nakielski, 2005). Such intuitive knowing in a clinical setting is thought to be associated with a mix of practice experience, pattern recognition and a blended knowledge of the sciences (Siddiqui, 2005). The combination of these elements is thought to provide a gestalt, or sense of the overall issues, which leads to a response which on the surface, appears to be an intuitive.

To guard against over reliance on intuition Siddiqui (2005) suggests that the separate elements be teased out and exposed to scrutiny in the light of new knowledge. Such a dynamic process could result in a praxis and arrival at a new level of knowledge which can be incorporated into future decisions (ibid). For this to occur, the midwife needs to be aware of her own views and beliefs and understand how these influence these discussions (Jones, 2005). This awareness

needs to be combined with reflective skills and the ability to recognise and deal with novelty within a situation (ibid).

However, there may be dissonance between theories espoused by the practitioners and the theories used in their everyday practice (Nakielski, 2005). In other words they don't necessarily practice what they preach. Such unreflective practitioners according to Nakielski (2005) are reassured and comfortable with habitual practice and often make decisions on outdated information. Thus not asking the question – what if anything would I change next time? (ibid). One problem is that when midwives change their practice to incorporate reflection they enter a period of lower competence. This can be uncomfortable to maintain particularly if the practitioner is not encouraged and supported. This will usually result in a return to earlier practice habits in a search for comfort and familiarity (ibid).

Story telling is commonly engaged in by midwives and used as a way to introduce and make sense of practice decisions (Skinner, 2005). However, these moments of reflection may not be as unproblematic as they seem (Mattingly, 1991). While story telling can be a tool for gaining an understanding of events following a practice event the strategy also has limitations (ibid). Such accounts are usually more dramatic, with bits filled in for flow (ibid). Thus they are difficult to contest or challenge for accuracy as the desire for order and the maintenance of self esteem can influence the telling (Mattingly, 1991). Kirkham (1997) agrees, and suggests that much reflective story telling has a “hindsight bias” (P. 259) to protect the self image. For example, there is generally a moral to the story, which usually sheds a favourable light on the teller. Therefore the interpreter of stories needs to understand these limitations, be aware of the assumptions and assume that there are multiple interpretations possible of the same set of events (Mattingly, 1991).

Leap and Edwards (2006) describe different versions of storytelling as ‘real talk’ or ‘chat’ (p. 115) that women engage in, particularly around birth stories. Such stories can provide a vehicle for reflection on events during pregnancy or around birth and allow future decisions to be arrived at in an informal way

(ibid). In the context of a respectful and trusting relationship such communication can provide a way to exchange complex information and understand the needs and aspirations of each other.

In the rural situation reflection on the events, and the decision, needs to be seen not just in the context of the relationship, or the model of decision making, but also lodged within the rural environment. This is addressed next in the context of the rural scenario.

Decision making theory; adding the rural context

Taking a decision according to Fishburn (1972) is simply making up our minds and is a “deliberate act of selection” (p.19). Decisions commit us to a set of actions or inactions, though these are not irreversible and can change in response to altered circumstances or desires (ibid). Changing ones mind about the direction being taken may be prompted by dissatisfaction with the way things are going within the constant flux of our environment. These changes can thus be seen as normative in that they seek to maximise utility and satisfy desire (ibid); in other words looking for the best outcome in the birth, while preserving the woman’s hope of birthing her baby normally. Thus, while we may be anchored to a particular position, environmental, political and social influences rather than cognitive calculations about outcome, may well be the catalyst for change (ibid). Consideration of these external factors can add to the urgency to make a decision; in this case to transfer.

In the rural scenario we were aware that we were outside accepted guidelines for duration of the second stage of labour, and the question of transfer needed to be raised (Ministry of Health, 2007). Prolonged labour in second stage with a first birth is deemed to be a level two referral; this means that the LMC in accordance with *Section 88 of the Maternity Services Notice, (2007)* must recommend consultation with a specialist. There is scope for the midwife to vary these responses taking into account their experience and skills and the particular clinical and personal preferences of the woman. Thus a midwife in a rural area may elect to transfer care at the lower end of the guideline in some situations, or conversely make a professional judgement in consultation with the

woman as to when it is appropriate to consult or transfer (Ministry of Health, 2007).

When reflecting on this event, it seemed that the decision was primarily made in relation to the clinical situation and in line with practice guidelines. The decision to transfer in this scenario was the end point of a decision process that potentially began as time ticked on and progress did not appear to be happening. It seemed in hindsight, given that the woman eventually birthed without assistance, that we were premature in our assessment of the situation. It is possible that the slowing of labour progress was related in part to a growing anxiety in us (the midwives) or in the couple. Was there a frown, or a change in our demeanour that sent a signal of increased watchfulness or concern? Was the woman or her partner feeling that this was not how it should be? If so, did a doubt set in train an interruption to the flow of oxytocin (Foureur, 2008); or was this labour pattern unique to this woman; consistent with her physiology and hormonal rhythms?

Our next move was to locate the ambulance and arrange transfer. This meant that transfer of care was not a simple hand over, but entailed a journey of 1-2 hours depending on how soon an ambulance could be provided. In this scenario we had to wait at the rural facility, thus the possibility of intervention was delayed. In this situation the weather was not an issue, however in winter this area is subject to snow and icy conditions. On another night these factors would have needed to be added to the mix.

It is possible that coming to a decision to transfer provided the sense of purpose that allowed the woman to relax and birth her baby. The delay in transfer may have provided the woman with the opportunity to birth in the place she had chosen. An earlier transfer may have resulted in the baby being born in the ambulance in less comfort and safety. Equally the wait may have increased the risks to the baby if progress had not occurred in labour. What the scenario does exemplify is the importance of timing for some decisions and how distance and delays can occur in the course of rural practice. Given these particular rural issues, when decisions are made about transfer the environmental context

requires the balancing of the desire for a local birth experience with a safety margin for a baby who might not be able to sustain a prolonged labour.

Summary

Decisions need to be made in any setting when the outcome is perceived as uncertain. Probabilistic calculations can be made using mathematical computations of probability. These linear projections are based on a logical and rational expectation of what will happen next and may be used as a means of providing prescriptive advice as to the most logical decision to make. Such decision making trees while helpful in some decision making contexts, do not account for the cognitive, social and emotional components of a situation. Similarly they do not account for how groups make decisions or how the particular contextual features influence those making the decision. Thus descriptive theories are offered to explain how individuals use a range of heuristic devices and biased reasoning to manage complex decisions; these include biases of representativeness, availability and anchoring.

Styles and models of decision making were canvassed. These included intuition used by midwives and others as a way of dealing with ill defined situations. This idea is examined for its contribution to decision making but also its limitations as an uncritical strategy. Models and styles of shared decision making were also discussed. These included paternalistic, informed and shared styles. A hybrid mix of these styles is an option for practitioners to draw on in different situations; though it is suggested that the quality of the relationship of trust and respect is foundational for this to be appropriate and successful.

Reflection is proposed as a tactic to examine the decision making and to tease out biases, emotions and distractions, with the aim of learning from the situation and improving how we make decisions. Such reflection can also be incorporated into the activity to avoid the possibility of compounding an error of judgement at an earlier stage. It is assumed that any reflection on an action, whether in the midst of the activity or after the event will be partial; a reconstruction of fragments with the luxury of hindsight. Despite these reservations, retrospection can bring clarity not obvious at the time.

How rural women and midwives make decisions around transfer is the aim of this study. Of interest in view of the literature canvassed above is to what degree the strategies and styles of decision making are similar or different for each group. Also of interest is the part, if any, reflection plays both in the process of deciding about transfer, and when looking back on events with the benefit of hindsight, what contextual factors are identified as influential. To research this complex process a mix of methods has been chosen. In the following chapter the mixed method research (MMR) approach to the study is presented. Typologies, or options for the design are discussed, and the rationale for choosing a concurrent mixed model design for this project justified.

Chapter Four: The philosophical approach to the research design

Introduction

In this chapter a rationale is provided for the theoretical and conceptual approach to the research process. Assumptions which have arisen from theory presented in the previous chapters are linked to the study aims. A mix of methods was chosen to provide alternate perspectives on the subject of rural maternity transfer decisions. Ways of combining methods and analysing the data is examined with reference to Tashakori and Teddlie's (2003, a) handbook of Mixed Methods Research (MMR). Mixing methods has traditional links to pragmatist theory and these ideas inform the data gathering processes undertaken in this research.

Methods can be combined in numerous ways and data collected in a parallel, sequential or iterative manner. To structure this research a modified concurrent mixed model design was chosen as the best fit. The model accommodates the relatively independent quantitative and qualitative strands of the study, where each strand is analysed separately. The inferences are then drawn together to provide a meta-inference, or thesis on which the validity and worth of the research rests.

The assumptions and aims of the study

The aim of this research is to explore how women and midwives arrive at the decision to either stay, or transfer from a primary/rural maternity facility to a secondary or tertiary facility in labour or post birth. For the purposes of the study it is assumed that rural maternity facilities in New Zealand form a small but important part of a regionalised perinatal system of primary, secondary and tertiary facilities; these being linked with established processes and protocols for advice, referral and transfer (Board of Health Reports, 1976 & 1982). This arrangement assumes that birth can happen safely for well women, near term, in rural areas (Ministry of Health, 2004, 2006; & 2007; Rosenblatt, 1984; Rosenblatt et al., 1985).

Skilled practitioners working in rural maternity services comprise a primary health care resource (Canadian Medical Association, 1994; Hart, 1997; Nesbitt et al., 1997; Nolan, 2002; Tew, 1995), and midwives embedded in their rural communities alongside the women, for whom they provide care (Baird, 2005; Patterson, 2002). In addition rural practitioners and their families contribute to the social and economic viability of the rural area (Holmes et al., 2006; Klein et al., 2002).

Decisions about transfer from a rural facility are rarely simple. They are often made within a temporal space where events evolve quickly; thus decisions are taken in action within a 'murky' context (Schön, 1983) with uncertainty as to outcome. This is also the point when care moves from primary to secondary or tertiary care, which is at the heart of this study. These decisions can have a lasting impact on women, their families and the practitioners involved (Creasy, 1997; Walker, 2000). In addition decisions about transfer impact variously on the long term viability of the local maternity service (Green et al, 1990; Griew, 2003; Kornelsen & Grzybowski, 2005; Nolan, 2002; Tracy et al, 2003).

These assumptions relating to a regionalised maternity system; the contribution of skilled rural practitioners to the community; the complexity of many transfer decisions and the impact of these on the viability of the maternity service, underpin the primary aims and objectives for this study. Further, given that much of the research examined previously was undertaken outside New Zealand, the assumptions could apply equally, to rural maternity services internationally.

The search for a research design

To marry up the assumptions and aims for this project, a flexible conceptual framework was sought. A further consideration was that this thesis would represent the ideas of the participants and contributors for whom the work needed to be both recognisable and accessible. In this search, the work of other midwife researchers in New Zealand was read. The work of both Hendry (2003) and Skinner (2005) consider the study of rural maternity organisation and

decision making. In addition both researchers used a mix of methods to collect their data.

Rural maternity service provision was explored by Hendry, (2003) who approached her study informed by complexity theory. A modified environmental scan developed by Boeham and Litwin in 1999, was used to provide an overview of South Island rural maternity services. This adapted framework included the following factors, demographic, geographic, socio-cultural, economic, political, technological, health services development, and midwifery professional development nationally. The intention was not just to provide a snapshot of the extant service arrangements but also, to capture the complexity of these services within their respective contexts. Complexity theory “recognises that organisations are living systems, which have been created by, and in turn, have influence on, those living systems within them; human beings” (Hendry, 2003, p. 81). Thus the history, people and geographic location affect how guidelines and service specifications are interpreted and the service delivered. The results of the scan produced some benchmarking material but also demonstrated that the midwives found ways to navigate the complexity of the maternity system in order to provide care for women in rural areas.

The abstract concept of risk was examined by Skinner (2005). Of interest was how it was interpreted by midwives, and how they acted in response to the perception of risk in practice. A mix of survey and focus group methods was used to explore the topic. The philosophical approach taken by Skinner was informed by Baskar’s (1986) work of critical realism. This theory suggests that the exploration of phenomena should be done with different lenses to provide more information about the research topic. The premise of the theory suggests that knowledge is fallible particularly when applied to the social world. Nevertheless such knowledge despite its contingencies can prove to be emancipatory as the research exposes opportunities for change that individuals can consider, and possibly act on. The researcher working from the position of critical realism needs to be aware of the illusions of commonly accepted truth and knowledge and as part of the fabric of the social world they are exploring, understand and be critical of their own role.

The work of Hendry and Skinner provided some ideas of how a mix of methods and a critical reflexive lens can offer different ways of viewing the data. Their study designs also provide the opportunity to tease out an explanation of what appears to be the current beliefs and arrangements, and with this exposure, the possibility for change.

In common with Hendry and Skinner, I too am a midwife who has been immersed in the area of interest for my study. According to Rallis and Rossman (2003) a researcher must have some theory about the problem in order to conduct a meaningful study. Further that "...the views and the positioning of the enquirer are tangled with the enquirer's philosophical understandings and beliefs" (p. 103). Thus my motivations and assumptions have invariably influenced how the study was conducted and the data analysed. However it was also about practicality. The aim was to provide a descriptive work that would resonate with rural women and midwives. Moreover, that the inferences from the data might highlight personal and environmental aspects of rural practice that impact on how transfer decisions are made. Thus these could indicate areas where change was desirable.

A pragmatic approach for a complex study design

The aim of this study is about a practical practice issue; that of decision making around the need to transfer. In particular my interest was in the transfer decisions made in regard to well women near term who could reasonably plan to birth in their rural area. Therefore it was important for both midwives and women to be included. In addition to their voices, a survey was designed to capture a snapshot of transfer patterns and reasons for transfer. As noted in chapter one, this information was not available at the beginning of this study. A survey also offered the opportunity to capture extant, local, logistical and service arrangements, plus provide an environmental context for the transfer statistics and interview data. The complexity of this descriptive study required a flexible and responsive approach. Thus the ideas of pragmatism, which fit well with a mix of methods was used to inform the data gathering processes.

Mixed Method Research study designs have roots in the pragmatic research tradition (Teddlie & Tashakkori, 2003). These ideas emerged in the latter part of the 19th century to challenge the dominance and methodological constraints of the traditional, positivist and post positivist research conventions (ibid). To provide an overview of the pragmatic tradition and theorists I have drawn on Maxcy's (2003) work. The theorists included are Peirce, James, Dewey, Mead, Bentley and Rorty (ibid).

It is suggested that these founders of pragmatism were all influenced by their rural American experience and belief in the ability of humans to improve their lives (Maxcy, 2003). Ideas were seen as merely instruments that ought to be tested in the turmoil of real life. In other words the researcher, as all others, should be judged on their deeds rather than ancestry, class or theorising. Therefore thought needed to be linked with action, and theory to practice, within a dynamic environment (ibid).

While each of these scholars brought their own take on pragmatism and pragmatic research methods, they were united in rejecting any notion of a fundamental truth; in particular the assumption that the post positivist research method was the only way to inquire into social phenomena (Maxcy, 2003). Their challenge came at a time in history when there was a move to find more creative ways of exploring subjective experience and social behaviour (ibid).

Peirce, a scientist, is considered the father of pragmatism (Maxcy, 2003). His belief was that in order to survive; habits are developed that then become beliefs. Thus in response to a problem there is the option to flee or explore it. For this, a mix of methods and strategies could be deployed using both inductive and deductive experimentation (ibid). William James' twist on pragmatist inquiry was the use of mixed methods to explore psychology and religion. He divided the sciences into two groups, 'natural' which involved observation and 'pure' which involved classification, logic and maths. Thus the former was hands on whereas the latter was very much a theoretical exercise (ibid).

Mead advanced James' work into social psychology much influenced by Darwin (Maxcy, 2003). James was interested in the relationships between mind, self, arts, language and society, plus the relationships between these concepts. His belief was that all reality was in process and did not favour any one perspective (ibid). The construction of thoughts and perceptions he believed, were born of action rather than theorising. Thus positioned he did not accept the simplicity of cause and effect but rather “a theory of probabilities” (p.69). Science was viewed as a continuous adjustment to the new or novel, consistent with human behaviour.

A pragmatic theory of inquiry was pursued by Dewey. This began with a problem which was reflected on, reasoned about, and then tested out (Maxcy, 2003). This pragmatic inquiry method Dewey also applied to values. He did not accept objectivity or impartiality, nor relative subjective meaning for individuals or groups (ibid). In place of these extremes Dewey settled on ‘naturalistic’ and fluid inquiry; a common sense approach informed by ethics (ibid).

Building on Dewey’s pragmatic traditions, Bentley focussed on the process of government, suggesting that behaviours were governed by lobbyists and officials (Maxcy, 2003). His transactional idea was that action prompted behaviour which then developed relationships. Thus knowledge was seen as the outcome of behaviours (ibid). For example the researcher cannot sit outside of the behaviour in the field, but rather engages as an integral part of that field (ibid). So, with a pragmatic approach, multiple methods and tools were considered “subservient to the tasks” of the inquiry (p.75).

In the latter part of the 20th century the focus for science knowledge was on logical and empirical methods seeking the origin of the problem (Crotty, 1998). However this time in history also saw the re-emergence of hermeneutics and critical theory. Rorty (1999) included aesthetic elements of poetry, language and context into the research inquiry. He saw the structures of the science vocabulary as ‘language games’ which were not necessarily congruent with the context and changing nature of the needs of the inquiry (ibid). Postmodernism

was not seen by Rorty as just social relativism but rather a “philosophical pluralism” (p. 276). This was not to suggest that every culture or position had intrinsic worth, but rather that all findings are considered equally valid. Nonetheless, all are subject to a level of critical evaluation as to their utility.

This notion of utility means that pragmatism has been associated with ideas of the most convenient or tidy outcome, which ignores conflict and power relationships between people (Crotty, 1998). In defence of the pragmatism founders, Crotty (1998) suggests that “[t]hese charges against pragmatism are harsh and, insofar as they are levelled against the founders of pragmatism, betray a simplistic and distorted reading of pragmatism” (p.62). And further that “...pragmatism has more than enough in common with both phenomenology and critical theory for fruitful dialogue to take place” (p.63). Thus the potential for such a dialogue provides a bridge across paradigm boundaries, even if only through a mixing of methods.

While no particular pragmatic theory or theorist is followed exclusively in this research, the processes used in the data collection are informed by pragmatic ideas. The criterion for pragmatists is effectiveness or what will get the job done with validity resting on the usefulness of the method. The utility goal however still requires transparent and ethical conduct on behalf of the researcher with each step in the process clearly communicated and justified. These elements include acknowledgement of the underlying assumptions of the researcher as outlined at the start of this chapter, plus the adoption of reflective and flexible procedures when research occurs within dynamic, evolving environments; thus naturalistic and fluid inquiry, informed by ethics (Maxcy, 2003).

A mix of methods for the research

In recent years there has been a challenge to paradigm rigidities, where these are seen to unreasonably constrain research inquiry (Teddlie & Tashakkori, 2003). These departures from traditional research methodological purity, have contributed to the growing phenomena of mixed method research. According to Teddlie and Tashakkori (2003) MMR is in its adolescent period. Scholars agree to disagree on many aspects at this point in time, and major areas of definition,

nomenclature, design and how inference can be drawn, remain controversial. This would suggest that the use of mixed methods research is a comparatively new phenomenon but this is far from the case as various combinations of methods have been used by researchers over time; not least of which, have been the pragmatists (ibid).

In the 1950's there was a movement away from the notion of objectivity in positivist research (Teddlie & Tashakkori, 2003). Studies began to incorporate qualitative methods to help explain quantitative results. Researchers also began to question the nature of reality leading to the development of qualitative methods including constructionism; popular with researchers looking at social phenomena. What followed was a period of "paradigm purity" (P.7). The combination of methods was thought to lead to a blurring of paradigms; such a mix potentially invalidating the findings. It was suggested that only a coherence of method and philosophical positioning could be both rigorous and ethical (ibid).

A pragmatic response to these so called 'paradigm wars' was the incorporation of triangulation described by Denzin and Lincoln (2003). This was to provide the opportunity to view the subject under study in different ways, each making a complementary contribution which could potentially cover the weaknesses in the individual methods and contribute to the validity of the findings (ibid). Thus the simplicity of the triangle is replaced with the complexity of the crystal or a montage where differing perspectives provide illumination, though not necessarily elucidation or explanation (ibid).

Triangulation has historically been associated with navigation and surveying where two or more perspectives are used to measure a variable. Berg (2001) explains that triangulation involves three sightings directed towards an unknown point or object; the intersection of which, form a small triangle or "triangle of error" (p.5). Thus the location is deemed to be the centre of this triangle. For success, each triangulation method must be of equal error. Erzberger and Kelle, (2003) suggest that as a consequence, triangulation loses some of its precision when moved from its original use.

Choosing a combination of methods for data gathering however, very much depends on the question being asked (Rees, 2000). For example in some clinical situations observation may be more appropriate than an interview particularly where behaviour and actions are automatic and we are unable to describe accurately, what we do. Thus it is tempting for a researcher to cover their bases by employing a range of strategies to attack the research question (ibid). The danger is that the derivative roots of the method or methodology may be overlooked and expectations overly optimistic for what a mix of methods can achieve (ibid). Caution is also advised by Denzin and Lincoln (2003). They warn that those paradigms with particular historical and philosophical world view positioning cannot be mingled or synthesised. Thus methods need to be teased out to provide transparency of the intent and the philosophical positioning of the researcher regarding the analysis of the data.

Crotty (1998) agrees but resists the simplicity of dividing research approaches into quantitative and qualitative categories. Rather he suggests that the divide is further up the chain at the epistemological position (ibid). Epistemology or “how we know what we know” (p.8) is concerned with what we believe is the nature of knowledge. This is grounded in a philosophical position, with regard to what it is possible to know. Further, that this is objective/positivist or constructionist/subjectivist. From this starting point the researcher threads through their theoretical perspective before choosing their methodology and methods for the research project.

There is however, no magic to mixing methods according to Patton (1990). Thus no tidy integrated result can be anticipated. Rather conflicts should be anticipated as the analysis may not lead to a tidy convergence. A certain acceptance of variable results is thus warranted and care needs to be taken in how these are presented (ibid).

Tashakkori and Teddlie (2003, a) acknowledge that mixing methods presents challenges in regard to nomenclature, utility, paradigm foundations, design issues, how inference can be drawn and the logistics of actually doing the

research. However paradigms can be acknowledged in MMR by keeping the methods and paradigms independent of each other. To assist researchers the authors identify 40 research designs to match the aims of intended research. Thus decisions need to be made about the number of strands, the methods and how these will be mixed (ibid).

Meeting the research imperatives: Typologies and study designs using MMR

In applied fields, as in this current study, the goal is to meet the information needs of the stakeholders; thus a study may be an “evaluation exercise” (Rallis & Rossman, 2003, p.492), rather than one with a pure theoretical purpose. If evaluation is the purpose then this calls for “description, comparison and prediction” (p.493). This can occur where methods are mixed, often with one phase informing another in an iterative fashion (ibid). Side by side designs include components of triangulation such as corroboration, complementarity, plus those that enhance, elaborate or expand. Integration between the strands of the model types may also be iterative or linked dynamically (ibid). Alternatively they could be ‘nested’ or embedded with one method providing a “creative tension” (p.496).

Holistic designs by contrast provide for a simultaneous building, resulting in an integrated result. Where different values and results emerge, transformative designs can create a dialogue across the differences (ibid). Options suggested by Currall and Towler, (2003) include integrated designs which are largely based on a single method. These may be two phase sequential designs or methods that are mixed in all the steps of the study (ibid). Thus the pragmatic traditions are reflected in designs which build around the needs of the inquiry. This freedom to align the conceptual framework with the study aims is addressed later in this chapter in relation to the adaptation of a mixed model design for this research.

The importance of inference in MMR

The drawing of a meta-inference is the most important phase of the research and on which its validity rests (Tashakori & Teddlie, 2003). Such an inference should have a ‘gestalt’ or sense that the separate inferences from each strand belong to the whole. And as with any research project the quality of the data and

the analysis are both critical, if the final conclusions are to be meaningful and useful (ibid).

To achieve a synthesis or meta-inference with a mix of methods presents challenges (Erzberger & Kelle, 2003). Inferences may be made following an inductive process. However it would be naive to suggest that such results are arrived at without some prior expectations of the researcher (ibid). In other words, the assumptions preceding the research project set in place expectations as to how the data will emerge and which aspects will be attended to and which backgrounded; similarly, what theoretical perspectives will be applied, deductively (ibid).

Inferences are more likely to be arrived at with a logical reasoning process (Erzberger & Kelle, 2003). While this is so for qualitative studies, even quantitative results are based on probabilistic calculations and subject to influence from assumptions and research conventions (ibid). There is therefore a risk that given the human desire and expectation for a degree of tidiness and logical synthesis that the ethical behaviour of the researcher could be challenged in some instances (ibid).

How much confidence the reader can have in the inference arrived at, will depend on how well the researcher has stepped out their reasoning and rationale for the study design (Miller, 2003). This will include the mix of methods used and how helpful the typology or model proved to be (ibid). Thus a first step is a reasonable explanation of what has been done and why. Part of this explanation should include some determination of the complexity of the study area which will allow the researcher to “sensibly critique the issues at stake” (Miller, 2003, p. 448).

In mixed methods research there may be the opportunity to provide a further synthesis depending on the study sequences (Miller, 2003). For example one strand either quantitative or qualitative is selected to provide the shape of the final analysis thus the results from one method are dominant in the research conclusions. This is described as the process of supervenience (ibid).

Whatever method is foregrounded tidy solutions should not always be expected, as a combination of qualitative and quantitative methods may converge, be complementary or supplement findings. Equally they may diverge and even be contradictory (Erzberger & Kelle, 2003). Such studies may produce a third proposition or syllogism (ibid). Such inference could emerge either inductively or deductively and would be the best explanation given the twists and turns of the study (ibid).

So it seems that 'inference' in MMR terms is both process and product; its validity resting on the logical and reasonable combination of methods applied appropriately to a particular area of inquiry. As in all research endeavours the process of making sense of findings involves a deliberate act of reduction and synthesis that affords the best explanation for the study results. What also needs to be transparent, are the biases and assumptions of the researcher/s. These strategies however, might not be enough to satisfy the reader with strong paradigmatic allegiances or those that seek justice for the oppressed. These challenges for researchers working in MMR are considered next.

Engaging the reader: The importance of appeal

Most readers of research have a preference for and expertise in, particular research methods and paradigmatic positions. Sandelowski (2003) suggests that the challenge for the researcher working with a mix of methods is to be able to engage their readers from both sides of the paradigm divide. The writer therefore needs to present the findings in an appealing way if they are to persuade the reader of their merit. This includes the provision of convincing conclusions that honour the traditions and particular epistemological foundations for the methods used (ibid).

Sandelowski (2003) rejects the claim that mixed method research is a way of tackling weaknesses in a single method. Rather it is suggested that "[i]t is not a weakness or a limitation of any quantitative study that case-bound generalizations cannot be drawn or that samples are not information rich" (p. 329). Such a position may be used to avoid adherence to the standards expected

for each research paradigm. For example the conventions around writing up a piece of post positivist research requires a linear process, written in the third person, whereas in qualitative research “the write up is conceived less as an end product of inquiry than as inquiry in the making” (p.330).

Sandelowski’s (2003) comments in regard to bridging the paradigm expectations of readers unfamiliar with or not persuaded of, the merits of MMR research designs provide an added incentive in this study to provide a transparent and ethical process. However challenge also comes from those who work within a critical social science framework. While there is optimism for what a mix of methods and a pragmatic approach can achieve, these theorists remind us that issues of social oppression can be overlooked in the drive to arrive at convenient or popular solutions.

Accounting for marginal groups in a mixed method study

The use of a pragmatic mix of methods according to Mertens (2003) can potentially mask issues of oppression for those in the study. This is of particular concern when vulnerable groups are involved. Critical theory assumes that there is no neutral knowledge, that knowledge is power, and that the study of marginal groups should enable their voices to be heard (ibid). The contribution of critical theory is the understanding of and exposure of discrimination and oppression in all fields of human endeavour. These analyses primarily centre on structural notions of socioeconomic status and class (ibid).

According to Mertens (2003) part of the researcher’s role is to analyse power interests and how these can be challenged. A critical analysis also assumes that researchers have a responsibility to act on their findings in concert with the group towards a transformative or emancipatory goal. This outcome entails grappling with the complex historical events and the organisational and economic factors within the wider situation. For this to occur, the researcher needs to avoid leaning too far towards objectivity, or too far towards complete immersion in the researched group. Either position could cause the researcher to lose perspective and leave little option for a realistic way forward (ibid).

A conceptual frame for the study

Multiple paradigms are being used by researchers working with a mix of methods (Tashakkori & Teddlie, 2003, a). Such a stance could well justify the use of both pragmatic and transformative-emancipatory worldview orientations in a research project (ibid). However their combination depends on the values espoused in the research and the nature of the research questions. The challenge from Mertens (2003) about the possibility of slipping into a relativist trap if a total pragmatic line is followed is acknowledged. In this current study it is possible to view the participants as a marginalised group vulnerable to exploitation. Thus a research approach from a critical theory could apply. However, the desire to describe the influences on decision making and the contextual factors involved appear to sit more readily within a pragmatic naturalist inquiry paradigm. This positioning does not preclude reflexive interpretation of the data. Further it allows for critical comment should underlying behaviours and ideological structures be exposed which impact on how transfer decisions are made in rural maternity care.

To structure this study a concurrent mixed model design (Tashakkori & Teddlie, 2003, b) was selected as the best fit. In this model there are two distinct strands, one from a quantitative and one qualitative tradition; each with a different set of research questions. The design is parallel with each research procedure relatively independent of the other. Therefore, the data may be collected at the same time or, in different time periods. While each strand might be informed by data emerging in the other strand this does not influence or change the process during the data collection or analysis phases. The separate research processes are conducted, written and analysed consistent with their respective quantitative or qualitative conventions. The inferences arrived at for both strands are then drawn together to reach a meta-inference (ibid).

However in this study there are two sets of interview data within the qualitative strand. These both address the same research question so the concurrent mixed model design has been modified to accommodate this difference in this project (figure 1). In this research no strand ‘supervenes’ another (Miller, 2003).

Rather, each strand provides a particular perspective on the research question/s and contributes equally to the meta-inference arrived at in chapter nine.

A modified concurrent mixed model design

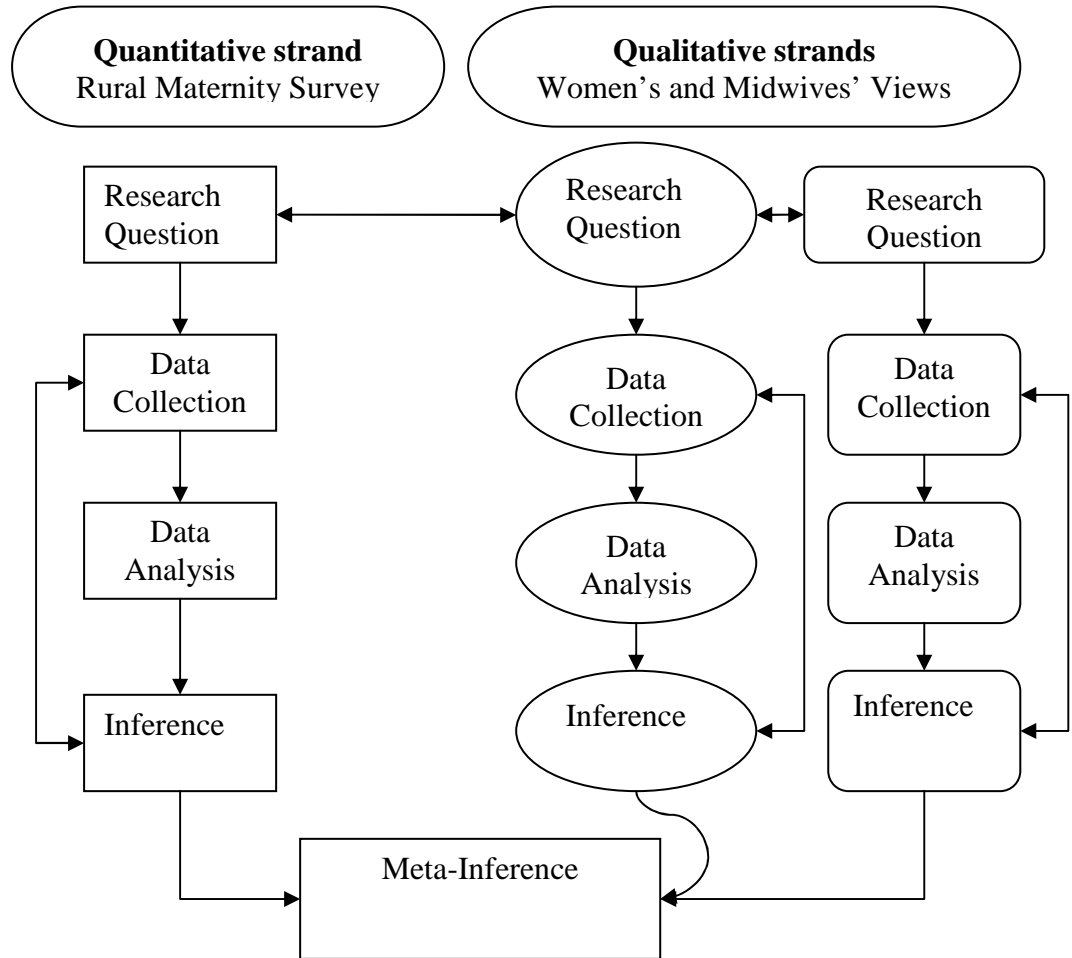


Figure 1: Modified concurrent mixed model design

Summary

In this chapter the aims for this thesis were revisited and linked to the underlying assumptions developed in the previous chapters. The search for a theoretical framework and conceptual design involved exploring how these decisions were arrived at by other midwife researchers with an interest in rural maternity care and decision making. The evolution of the theoretical underpinnings and study design were explained in relation to the study aims and the researcher's ontological positioning. A mix of methods within an adapted mixed model design was described and presented as a framework for the study. Mixed method research offers strategies for incorporating both quantitative and qualitative methods within the one research project while honouring the

derivative paradigmatic roots of both. Such an approach sits historically within the pragmatic tradition. While no particular pragmatic theory is proposed, the data collection and processes involved in the study will be informed by pragmatic ideas within a transparent and ethical process. This positioning allows for critical reflection in regard to the findings, further theorising and recommendations for change.

In the next chapter the procedures and steps taken to conduct the research are detailed. This includes the design and process for the survey as well as the interviews with both women and midwives. Addressed also are the ethical processes that were undertaken both before and during the research process.

Chapter Five: Study design and methods

Introduction

In this chapter the methods and research processes used in this study are described. Research texts were consulted for guidance and selected, salient recommendations interspersed throughout. This inquiry sought to untangle how women and midwives make decisions about transfer in labour or early postpartum from rural facilities to secondary care. The focus of the research was not just the personal aspects of decision making, but also the context in which it takes place.

A mix of methods was used for this study which included a survey of rural facilities and interviews with both women and midwives. The survey design and the interview processes for both the women and the midwives are presented and their respective analysis processes explained. Under-girding the research was a consciousness about the need to balance the ethical issues with the desire to probe into the area of interest. These tensions, compromises and accommodations were managed with a pragmatic approach during the data gathering processes. In the final section the cultural context of ethical research in New Zealand in the spirit of the Treaty of Waitangi is discussed.

The survey design and process

In preparation for this research project the New Zealand Health Information Systems (NZHIS) data base was scrutinised for the rates of transfer in labour and the reasons for these transfers. This information is required on the forms maternity practitioners submit in order to claim payment for the second and third trimester care of women. However at this time, the transfers in labour for women at or near term, and the reasons for these transfers, were not able to be extrapolated from the collated data in the Report on Maternity. The reason given was that these fields were poorly populated on the claim forms. Even had they been available the data at that time was dated in terms of this research, being statistics for 2003 only. Current information about transfers in labour and the reasons for them could have been extracted from the New Zealand College

of Midwives, Midwifery and Maternity Practitioners Organisation (MMPO) data base. However on inquiry this data set was not available for this project.

This lack of readily accessible information prompted the inclusion of a survey as part of this research project. Surveys, according to Hicks (1998) may be prospective or retrospective and have the advantage of providing a lot of data from a widespread population or group. They can be used to see what is going on, and identify existing or potential problems and trends (Rees, 2000). The decision to conduct a retrospective survey was determined by the scope of this research project and the time constraints of this thesis.

Surveys are quantitative and non experimental as variables are not manipulated and only relationships between variables can be determined (Wagstaff, 2000). Therefore they should only be used when it is possible to identify the population who will understand the questions asked. Thus the survey was sent to the midwives or maternity managers in the rural facilities who were best placed to provide the transfer numbers, the primary reason for the transfers, and to comment on the local context.

The aim of the survey

The aim was to prepare a survey that would collect descriptive statistics about transfer rates and the reasons for transfer of both women and neonates from rural facilities. Given the fact that government agencies do not differentiate between primary and rural in relation to maternity facilities, for this study a rural maternity facility was considered to be one that was not situated in what was clearly an urban area. However, as described later in this chapter, even this simple categorisation was difficult to achieve.

The intention was to include women more than 36 weeks gestation and less than seven days postpartum, over a two year period. This period was originally to be from January 2004 to January 2006. However as the ethics process took longer than anticipated the dates were moved forward six months. Thus, for currency the survey data spans the two years from July 1st 2004 to June 30th 2006.

Contextual information about staffing, service arrangements, transport, climatic and geographical features of the areas was also sought.

The challenge was to design a survey that would attract the interest of management in the rural maternity services and be easy to complete. In addition to these features Hicks, (1998) advises thinking ahead to how the survey data will be analysed and how the anticipated and sometimes unanticipated responses can be accommodated in the planned analysis process.

The iterative process of the survey design and the seeking of ethics approval for the research project went hand in hand. Ethics approval was granted by the Multi- regional Ethics Committee in October 2006 (Appendix A). Contingent on this approval was the requirement to obtain signed,³*Locality Assessments* for each site approached to complete the survey. This process involved initially contacting the District Health Boards (DHBs). In addition, privately owned or Trust managed facilities needed to be identified as they required separate approval processes within the respective DHB areas. This process is presented next.

The survey population

New Zealand has 21 DHBs, three of which do not have rural facilities within their catchment areas. There are 64 primary facilities listed in the 2004 Maternity Report (Ministry of Health, 2007). Some of these are situated within urban areas with ready access to secondary services and do not fit the description of a rural facility. Other facilities listed in the Maternity Report, recorded few local births. Eighteen DHBs were approached for permission to access the rural facilities within their jurisdiction. *Locality Assessment* was obtained from 13 of these organisations. Facilities identified as privately owned or managed by a Trust within a DHB area, were approached directly. *Locality Assessment* for these facilities was sought from the manager or Chief Executive Officer. From the contacts in the DHBs it was also necessary to ascertain the

³ Locality Assessment of research projects is required by the Multi-regional Ethics Committee at each site where human research is planned and conducted. Local organisations need to be satisfied that the researcher has attended to the appropriate local study arrangements required for the area.

suitability of facilities in each area for inclusion in the study. Thus facilities which were clearly urban, or, facilities not offering a local birth option were not included.

The aim was to work through the locality assessment process in order to offer each rural maternity facility providing the option of local birth, the opportunity to participate. Thus it could be anticipated that the sample size and range would be representative of the desired population (Hicks, 1998).

The survey design

An advantage of surveys according to Rees (2000) is that they can be user friendly and less intimidating for the respondents than a personal interview. However this advantage may be lost, if the survey is unduly long, complex, or requires detailed information (ibid). Several factors were considered in the survey design for this research project. These included the aim of the study in relation to which data would be useful; the ease of access to the source of this data, the appeal of the survey to those approached to complete it, and how easy it would be to categorise and analyse the survey data.

Advice from Bartley (2003) and Hicks (1998) suggests that the structure and sequence of the questions is important. The questionnaire should begin with general questions and move to those which are more specific. Where there are open questions the space provided can dictate how much detail is written. Important also is the wording which needs to avoid the use of leading questions or double negatives (ibid).

Birth Record Books or *Registers* are traditionally kept in rural facilities. The survey form was designed specifically with this data source in mind. Therefore, there was no expectation that access to women's notes or aggregated data bases would be required; except perhaps for clarification of an entry. The birth book or register is usually updated soon after a birth or transfer event. This makes it a contemporaneous record that provides a reason for the transfer consistent with the decision making at the time.

The survey form was professionally designed and printed to improve its visual appeal (Appendix B). It was divided into three sections. The first section contained questions about the total number of births and the number of transfers of both women and neonates from each rural facility over a two year time period from the 1st July 2004 to the 30th June 2006. The entries were to include women more than 36 weeks gestation, who began labour at the rural facility; thus well women who had chosen to birth locally and were deemed safe to do so. The postnatal transfers would include women or neonates less than 7 days postpartum. While women generally stay only a few hours or days in the rural facility, the 7 days was for the rare instance where a postnatal stay was extended for some reason.

The second section contained questions related to the primary reason for the transfer. This was divided into four segments with the headings, non clinical; medical problem; problems during labour or birth, and postnatal. For the labour and birth section there were 14 options available. There were nine options in the postnatal segment. In both segments there was the opportunity to cite 'other' reason/s for transfer, plus space for comments (Appendix B). The list of transfer reasons was compiled with reference to the conditions cited in the ⁴Referral Guidelines (Ministry of Health, 2002) and also those listed by Fullerton et al., (1997) and Skinner, (2005).

The focus of Section Three was the characteristics and service arrangements in the area and within the facility. This section contained questions about the travelling times and distances from secondary care facilities, the options for transport at times of transfer, the geographic and climatic features of the area, the regular staffing situation, plus the logistical arrangements available to the midwife when transfer occurred.

In each segment, and at the end of the survey form, there was the opportunity for the respondent to add comments, or, to clarify an entry. In addition the

⁴ The Referral Guidelines are appended to the Maternity Services, Notice pursuant to section 88 of the New Zealand Public Health and Disability Act 2000, and provide guidance for primary maternity practitioners on agreed levels of consultation and referral to specialist care.

respondents were assured that the data would be analysed and collated in such a way that no individual or facility could be identified (Appendix B).

Considering a pilot

Before beginning the distribution process, accessing a rural facility to pilot the survey was considered. A pilot study can identify problems with the wording, instructions and the practical aspects of completing the survey (Hicks, 1996; Wagstaff, 2000). The concern in terms of this study was that a pilot would render one facility ineligible for inclusion in the survey. As an alternative process two midwives with rural experience were approached informally to review the survey. They were asked to comment on the layout and wording as well as how easy they believed it would be to complete from the birth book or register. This resulted in only minor wording changes. Of greatest help was the offer from a busy and short staffed facility managed by a Trust, to come and 'mine' the information. I was given free access to the birth registers and the ability to interview the midwives to complete the qualitative aspects of the survey. While this experience did not prompt any changes to the form it was a useful experience. In particular it emphasised how important it was to be clear and concise in the covering letter.

Locality assessment and the distribution of the survey

Each DHB was approached with regard to the distribution of the survey in the rural facilities for which they had oversight. The first approach was to the Chief Executive Officer (CEO) and where the response was favourable, the relevant documents were sent for their perusal. In some instances the CEO signed on behalf of the DHB. However, this was generally after a sometimes lengthy, consultation period with the person or committee designated by the DHB responsible for assessing the ethical and risk issues of research projects within their jurisdiction. On five occasions this process involved completing an additional ethics process particular to the DHB.

Locality Assessment (LA) approval was only given for the rural facilities over which the DHB had some managerial responsibility. Where the rural facility was privately owned or run as a community trust, the locality assessment needed to be completed by the owner, CEO or by the person to whom it was

delegated. In some instances this was the midwife manager or nurse coordinator. Once Locality Assessment had been obtained, the rural facilities were contacted by phone or email and sent the survey package with a covering letter.

The six South Island DHBs were approached first (Appendix G). To facilitate the process I offered to do a day of facility or midwifery cover to compensate for the time required to complete the survey by the facility staff or midwife. One facility took up my offer of work in lieu and one that was experiencing a staff shortage, offered me the opportunity to talk with the staff about the local arrangements and process of transfer. I was then offered the opportunity to access the birth and transfer books to obtain the data myself. As noted above this provided a good opportunity to 'test drive' the survey and experience how long it took to complete. My location in and knowledge of the South Island, plus perhaps the timing of the survey, i.e. early in the year, was key in achieving a return from all 19 of the primary rural maternity facilities in the South.

The CEOs in each of the 15 North Island DHBs were contacted next to ascertain which rural maternity services fell within their area of responsibility (Appendix F). The same process was followed as described above in relation to the South Island. The process was much more complicated in the North Island and considerable delays were experienced between first contact with the organisation and the signing of the Locality Assessment form. Contributing to the delay were pressures on the DHBs with restructuring programmes and competition with surveys from the Ministry of Health. Throughout the year the health sector also had to manage several episodes of industrial action from both health and ancillary staff. However with the goodwill of managers and midwives, plus frequent reminders, a total of eleven surveys were returned from a possible total of 26 eligible rural or rural remote facilities.

Of the 21 DHBs, three indicated that they did not have oversight of rural maternity facilities. From the remainder, 13 returned signed Locality Assessments for their DHB area. On receipt of these locality assessment forms, 49 rural facilities were contacted and sent a survey package. Four facilities subsequently made contact or sent the survey back. This was to say they were

no longer providing birthing services or, that they considered their facility to be urban rather than rural (figure 2).

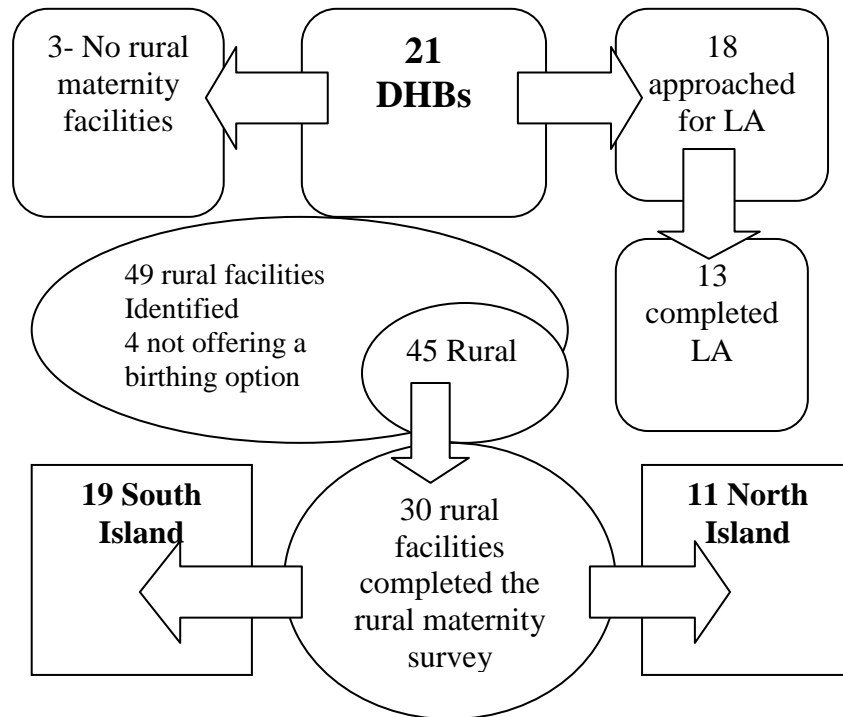


Figure 2: Process for the distribution of the survey

To improve the response Wagstaff (2000) recommends making personal contact with those completing the survey. Contact such as follow up letters, phone calls or email gives the researcher an opportunity to explain their study more fully and offers the potential respondent the opportunity to ask questions of the researcher (ibid). These activities were pursued and in several instances resulted in the return of the completed survey. In a few instances there was the need to strike a balance between what constituted a gentle reminder or offer to clarify, with what felt like nagging, or worse, coercion.

The data from the returned survey forms were entered into an Excel spreadsheet. This included entering the numbers from each section as well as the added comments. The results and interpretation of the survey are presented and discussed in chapter six. In the next section the interview method and processes with the women and midwives are described.

The interviews with women

A purposive and convenient sample

Women choosing to birth in rural facilities may be faced with the decision of whether or not to transfer to secondary care, in labour or soon after birth. In this study the voices of women were sought in regard to their decision making and experiences of transfer, either in labour or post birth.

Purposive, non probability sampling focuses on characteristics in the population best suited to the elements and aims of the proposed study (Cluett & Bluff, 2000). According to Patton, (1990) the logic of purposive sampling is to uncover rich information which can give an in depth look at the phenomena under study. The plan for this study was to invite six women who fitted the study criteria, to participate in a recorded interview (Appendix D). As the focus is on the transfer from rural facilities to secondary care, women who chose to birth at home in their rural area would not be eligible for inclusion in the study.

The sample was also a convenience one, as only women in the South Island were approached. Convenience sampling according to Berg (2001) relies on easily available participants that are appropriate for the study. It is however less reliable in that it is vulnerable to local or population bias. This is a reality of this study that may influence how applicable the findings are to the New Zealand population of rural women. This potential for bias is revisited in the final chapter of this thesis.

Recruiting the women

The number of participants is generally small in qualitative research. The aim is to gain an in depth understanding of the phenomena under study, often from various perspectives (Burns & Grove, 2001). The sample size in such studies is also dependent on practicalities of time and resources as well as the desire to reach saturation of information. In seeking saturation it may be necessary to conduct more interviews, or, if no new information is forthcoming then the sample size could be reduced. Thus the design with regard to numbers should remain flexible and emergent (Patton, 1990). Saturation was not the ultimate

aim for this study. However there was a desire to obtain a variety of transfer experiences across rural areas.

To access the women for this study, an advertisement was placed in Kiwi Parent magazine in March 2007. Further advertisements were also run in four rural newspapers in the South Island between January and March 2007. In response to these advertisements I was contacted and interviewed by two reporters who composed an article about the study to accompany the repeat advertisements in their respective newspapers. This advertising strategy was chosen in preference to approaching midwifery or general practice rooms, in order to avoid women being influenced, either way in terms of their participation in the study.

An encouraging response

Women began responding to the advertisements soon after publication. Several women who had not begun labour at their rural facility expressed interest in the study. They acknowledged that their experience did not fit with the inclusion criteria and the study focus, but they had a story to tell about their decision making process around whether or not to give birth locally. Similarly some of the reasons that impacted finally on their decision not to birth locally were attributed to local service particulars, which they were keen to share with me. As the aspects of local service particulars form part of the background to the study context, I agreed to meet with them and record their comments in relation to those aspects of the study.

Recruitment in three areas was enhanced by the enthusiasm and interest of the local women who circulated the wording from the newspaper advertisement to other women on their email contact lists. These contacts were invaluable, opening up contact with new mother's groups including those which provided swimming and music activities for toddlers. One woman organised a pot luck lunch for me to meet women who were interested in hearing about the study.

A snowballing effect occurred in these areas. Networking or snowballing techniques may be used in order to seek out participants with the particular experience or attributes which fit with the study aims (Davidson & Tolich,

2003). Snowballing according to Berg, (2001) is a non probability sampling strategy not unlike convenience sampling that can locate participants with the particular attributes or characteristics for a particular study. Patton, (1990) suggests that this method involves asking key informants or well-situated people who you should talk to.

The woman participants

The response resulted in a larger sample than was intended. Thirteen women agreed to be interviewed. Eight had been transferred in labour or birthed locally, having at some point in the labour considered transfer. Five wished to contribute comments in relation to what influenced their decisions to birth elsewhere and what personal and local arrangements they believed contributed to their decision.

Women were contacted by phone, email and letter. These initial contacts were followed up and further information offered about the study. If the women were keen to participate, an information sheet, which included the generic starter questions, consent form, and reply paid envelope, were posted out. (Appendix, D) Funding assistance for any travel or babysitting/crèche needs was offered but was not required by the women. Only three women who met the study criteria did not return their consent forms. On receipt of the consent forms further contact was made to thank the women. This was also an opportunity to address any further questions they had about the study, and to set up a mutually suitable time and place for the interview. Most of the women were happy to be interviewed in their homes. One was interviewed at her parent's home where she was holidaying, and three got together for pot luck lunch and shared their stories in the house of one of the group.

Preparing for the interview process: A review of the literature

In anticipation of the interviews I needed to consider how my midwifery habits of conversation might invade these conversations with the women. I was also mindful of the potential for power issues attendant on my midwifery knowledge and researcher role which could affect the women's confidence to be candid about their experiences and opinions. Most of these realities I could not change. However what I could do was take the advice of several writers about interview

techniques for qualitative studies. Thus a summary of the advice I found most helpful precedes the detail of the process for this study.

An interview can be viewed as simply “a conversation with a purpose” (Berg (2001, p. 66). The questions asked therefore, need to be focused on the aim of the research and are best kept simple, short, open and unambiguous (Patton, 1990; Tolich & Davidson, 2003). Thus the interviewer should aim for open ended questions that leave space for the respondent to choose their response. These can then be followed up with probes to seek more detail on aspects of the comments (Patton, 1990). Researchers are advised to avoid leading questions that hint at what would be a desirable response; equally, ‘why’ questions need to be omitted, as they suggest that the interviewee is able to attribute cause.

The quality of the data and the success of the interview, while dependent on the skill and approach of the researcher, is also affected by the social situation, venue and power issues (Tolich & Davidson, 2003). The latter potentially can cause the participant to give responses which they believe the interviewer wants to hear, or, that they believe put them in a good light (ibid). Tolich and Davidson (2003), suggest that we should be aware that people will try to please the interviewers with the right answer, or, one they believe is socially desirable. Answers may be constructed to appeal to a logical response, whereas many actions may well be founded on emotional or illogical bases (Rees 2000). Alternatively the interviewee may have a preconceived idea of what the interview should be like, which may not match that of the researcher.

To address some of these problems, Berg (2001) suggests the researcher take the opportunity to try on different roles or use different strategies to achieve the interview performance. Options include role play or scenario questions where a situation is posited and the interviewee invited to explain it to the researcher. Berg (2001) comments, that while interviews may seem like everyday interchanges, their purpose is different. For example, where an interaction in the course of normal everyday conversation may be abandoned when a degree of discomfort arises, in the interview this point may be where a skilled interviewer would use a probe to explore further (ibid). Similarly during the interview when

the researcher wishes to make a transition to another topic area, this can be done with a brief summary of the conversation so far and an indication of what the interviewer is interested in discussing now. This is best managed by giving the respondent the opportunity to add any final thoughts before the conversation moves on (Patton, 1990).

In the course of an interview emotional or stressful events may be recalled (Rees, 2000). Should the person be upset by these it may mean that the interview is stopped, postponed and in some instances, abandoned. However such opportunities can be therapeutic giving the woman a voice and opportunity to work through some personal issues (ibid). Problems arise where the respondent indicates that they are about to share something confidential that may put the midwife interviewer in an invidious position should this disclosure reveal unethical or criminal conduct (ibid). In such a circumstance the interviewer needs to make the participant aware of their ethical responsibilities.

Talking to the women

The women in the study welcomed me warmly into their homes and offered refreshments. They were aware of the core questions that I would ask as these had been included in the information letter. This made the start of the interview easy as they had already considered some responses to the questions. Several had their notes available or had recently reviewed them to revise the times and sequences of events and each agreed to have their interviews digitally recorded.

Young toddlers or babies were present throughout the interviews and their gurgles and play sounds are part of the voice files. The recordings are also punctuated by the sound of telephones, pets and visitors. However these minor interruptions provided a normalising focus to the visits and did not appear to distract the women from the purpose of the meeting. Thus a flexible and pragmatic approach was taken to fit around the domestic activities and the inevitable distractions from the family. The conversations roamed haphazardly at times but eventually covered the areas of interest in the study. There were several interruptions, during which the recorder was turned off; for example

where a woman needed to attend to her child or converse with a caller. The interviews lasted between 45 to 90 minutes, each reaching a natural close.

Following the interview, the women had the opportunity to contact me should they wish to clarify, or elaborate on, their comments in the interview. Similarly, if they later regretted sharing an anecdote or making a comment this could be removed from the voice-file before transcription. This opportunity existed up until analysis began in October 2007. None asked for any comments to be added or removed. Finally, a thank you card was sent to each participant.

Data analysis

The voice files and transcripts of the women's interviews were analysed using a mix of processes. These included searching the hard copies of the text as well as coding the voice files using the NVivo 7 software. Below, an overview is presented of the ways in which the content of texts can be analysed for different research projects. Finally the process of analysis for this study is detailed.

Content analysis according to Krippendorff, (2004) provides the opportunity to identify specific characteristics within a text in a systematic and objective way. This may be approached in one of two ways. The researcher can devise a system for recording the frequency, or intensity of words, phrases and sentences (Cluett & Bluff, 2000) which meet the aims of the research study. In other words the rules for analysis are developed by the researcher in advance. This may be done in anticipation of quantifying the data (ibid).

Template analysis or 'a priori' (King, 2008) is a pragmatic tool for thematic coding in qualitative studies. The researcher with experience in the field may set the codes in place prior to doing the research. These do not necessarily remain fixed and themes may be dropped from the template if not identified in the transcripts; others not previously considered may be added. Thus categories may be pre-planned and related to the research question and aims, rather than emerging from the data (Bazely, 2003). Alternatively categories may be pre-set to correspond with the constructs of an extant theory. Where there is an underpinning theoretical framework for the study, particular words, ideas or

phrases are privileged in the analysis process rather than those naturally emerging (ibid).

In qualitative studies there is the opportunity to make inferences from the texts, observation or interview transcripts (Krippendorff, 2004). This latent content analysis categorises words and phrases under a label that best fits the concepts as they emerge (Bazely, 2003). The relationships between ideas, words, or themes are distinguished and assigned relevant categories. This inductive process usually goes beyond the surface to look for meaning in the text (Burns & Grove, 2001).

Aronson (1994) describes a pragmatic approach to thematic analysis. This involves listing the patterns of experiences from the transcribed conversations. The patterns are then expanded with the addition of talk that fits under the specific pattern identified (ibid). These are then combined into broader patterns with sub themes which allow the fragments and ideas to come together in a related whole. A valid argument needs to be built which incorporates the related literature thus allowing the researcher to make inferences from the collated themes (ibid).

My experience in the area of rural midwifery practice means that some personal theories precede the data collection and analysis. To minimise the effect of this knowledge, my process was not to begin with categories, but spend time working with the data to see what known or novel themes arose. Thus I have followed as near as possible Aronson's (1994) process as outlined above for both strands of interview data.

The women's interviews were undertaken at an earlier stage than were those of the midwives. Between interviews themes and words were beginning to emerge before the more formal process of analysis was begun. These thoughts were captured at the time in diary form and consulted as part of the later analysis.

In this study, the voice files were downloaded to a laptop for transcription and analysis. Hand written field and diary notes were also added into the file. Each

voice file was transcribed by the researcher and during this process words and phrases jotted down as they struck a chord with the research questions. The transcripts were printed off and a detailed hand search made of each. Words, ideas and themes which touched on any of the areas of decision making, personal experience of transfer, or any other references to the rural maternity experience were highlighted, circled and colour coded. At the end of this process 94 words and themes had been identified across the transcripts.

Next, this process was repeated using NVivo7 software. While this produced a repetition of several of the previously identified text features, it also produced new clusters. No attempt was made at these early stages to weight the comments or to count their occurrences. The aim at this stage was to look for common and uncommon statements related to decision making, as well as logistical and contextual aspects of the women's experiences. Thus, a comprehensive nest of words, ideas and comments was accumulated.

Some similar words and phrases were able to be collapsed into one node, while others linked into several nodal areas of thought and reflection. This meant that some portions of text were allocated to several nodes where there was some crossover in the nature of the comment. For much of the text it was difficult to extricate some phrases from the bulk, given that it was in response to the question. For example the person would begin by responding to the question. They would then be prompted to reflect back to an earlier comment or, project their train of thought forward, before returning at intervals to answer a part of the question. The aim was to preserve the context and integrity of the response to the question. To do this entailed loading large sections of the transcript to a group of nodes. This process resulted in groupings around 46 nodes from the original 96 identified in the hand search. These nodes were then grouped into nine nodal trees, each with between six and ten sub themes.

At this stage I returned to the written transcripts and the voice files. These were listened to, and read alongside the nodal sections from NVivo 7. The point of this exercise was to get a better feel for priority areas as indicated by the women but also to identify the outliers, or less common comments within each analysis

process. What seemed to be emerging were four broad themed areas of interest, under which each sub theme could be accommodated. These were, planning birth while considering the possibility of transfer, the experience of transfer, looking back on the birth or transfer decision, and ideas for improving the rural maternity service. I have used this framework to structure the interpretation and discussion in chapter seven.

The interviews with midwives

Midwives were also interviewed and provide a third data source for this research. The process for the sampling and recruitment differs from that of the women and is explained in the next section. The literature cited above, which was of assistance with the women's interviews, also informed the interview process with the midwives. Therefore, the research literature already presented is not revisited in the next section.

Midwives who provide LMC care in rural areas regularly make judgements and decisions about women's care. Many of these decisions are based on habits and traditional practice models that underpin the everyday work of the midwife. The interest in this study was on the decision making that occurs during labour or post birth when transfer to secondary care is considered. The primary interest is when these decisions involve well women, near term for whom a local birth is a reasonable and safe choice. Such situations may be urgent, or, those that emerge over time. Either way this decision has an impact on the woman and the midwife when such a change of plan is needed. The comments of rural midwives were sought to tease out how these decisions are arrived at. The application to the Multi-region Ethics Committee included the intention to interview midwives in the study. As previously noted, this was approved in October 2006.

Contacting the midwives

Midwives providing LMC care to women in rural areas were invited to participate in an interview. The aim was to find a purposive sample of midwifery practitioners, who were able to identify with the research question, and contribute their ideas and reflections. Contact was made in two ways. Firstly, an advertisement was placed in the New Zealand College of Midwives

Journal. This generated one respondent from the North Island. Flyers were mailed to all the facilities and rural practices in the South Island of New Zealand. The intention was to extend this to the North Island if the initial response was poor.

Fifteen midwives who met the inclusion criteria responded by phone, email or letter. As the response exceeded expectations, further advertising did not occur. The project was explained and a letter sent attached to the information sheet, consent form and reply paid envelope (Appendix, E). All the midwives who responded to the advertisement signed a consent form and agreed to a digitally recorded interview.

Characteristics of midwife participants

One midwife was working in the upper North Island and 14 midwives were currently working in the South Island. While the majority of the midwives interviewed were in the south, seven had in recent years worked in the North Island in a variety of midwifery settings including rural or homebirth practices. Three had come from overseas to work in New Zealand. Five midwives were South Islanders with considerable experience in, or a strong commitment to, work in rural areas. The experience of the midwives in rural practice ranged from less than 12 months to forty plus years. Though the opportunity to act as a Lead Maternity Carer had only been available since 1990.

The experience of travelling to the rural areas to meet and interview the midwives, offered me the opportunity to experience first-hand, the environment/s in which they worked. I was also shown around the rural facilities which provided an insight into their layout and design and also what equipment was available.

A flexible interview process

To enable maximum participation from the midwives, a pragmatic approach was taken in terms of how the interviews were conducted. This flexibility included offering the midwives the opportunity to meet face to face for the interview or to record it by speaker phone. Two midwives chose to record their interview by telephone and the remainder chose to be interviewed at their place

of work. This was either their practice rooms, or a room or office in their rural facility. In addition each midwife had the opportunity to be interviewed individually, or as a small group. Three practice groups chose to be interviewed together. The remainder were interviewed individually.

The interviews were conducted during 2007 between March and August. Some interviews were postponed due to the midwife's work commitments or weather conditions; the latter included heavy snow and severe freezing conditions over winter that resulted in dangerously icy roads. As with the interviews for the women, the aim was to fit around the work reality of the midwives. In each of the small groups, some were on call and needed to respond to their cell phone or pager. This however did not disrupt the interview to any extent. Where appropriate the recorder was turned off and then restarted when the midwife had dealt with the call.

The questions were provided in the information sheet in advance of our meeting. Five open questions were asked of each participant. These were designed to start the conversation and allow a deeper exploration of the topic or related areas of interest that arose within the context of the interview (Appendix E). Talking with the midwives was a familiar and comfortable experience. There was enthusiasm expressed about the rewards of rural practice particularly the practical approach of many of the rural women towards birth. They were also candid about the anxieties and frustrations that were a part of rural practice. Light refreshments were provided at each interview and reimbursements were offered for any extra travel, or child care costs.

Following the interview each midwife had the opportunity to add or withdraw any comments from the voice files. This opportunity was available up until October 2007 when analysis began. There was one addition but no one requested the retraction of any comment made in the course of their interview. Each group or participant was formally thanked for their participation and contribution to the study.

Data analysis

The women's interviews had been recorded ahead of those of the midwives. This meant that many of the themes that were emerging from the midwives resonated with those from the women. Similarly the women's voice files and field notes were analysed first in isolation from those of the midwives. Therefore again certain themes had already been voiced and explored within this earlier analysis process.

A similar pattern was followed for the analysis of the midwives voice files as that for the women's files. These were downloaded on to a laptop computer and any diary or field notes added in. The voice files were listened to and then transcribed by the researcher. As with the women's transcripts the first process was to print out the texts and examine them by hand, highlighting elements in the wording. Following this process, 215 recurring words or phrases were identified. At this stage I did not try to further reduce these deciding instead to attempt this process using the Nvivo7 software package.

The paper copies were set aside and the scripts scrolled through for words and categories. This process netted 62 nodes. However several large pieces of text were loaded to several different nodes where the density of the text precluded easy separation into separate nodal areas. At this point it was difficult to progress this further without aligning these nodes with the highlighted areas in the paper search. When compared, it was clear that some categories could be combined and others eliminated entirely given that they did not relate directly to the focus of the research. These were further reduced to nine tree nodes with between six and twenty nodes each. Later these were accommodated under the four broad theme areas identified in the women's study but with different sub themes in each area as detailed in chapter eight.

To complete this chapter the ethical, cultural and Treaty of Waitangi issues are visited in terms of the whole project, and my role and responsibilities as the researcher.

Ethical aspects of the research process

For research to be considered ethical, each aspect needs to be carefully thought through. This scrutiny applies to the design, the sampling and how the data is managed. Thus ethical behaviour can be defined as behaviour which is considered correct (Cluett & Bluff, 2000; Rees, 2000).

Freedom to choose whether or not to participate in research is a basic principle and consent must be full and informed. Full information according to Lather (1991) includes sharing not just the aims and objectives of the research but also the positioning of the researcher. As a rural midwife I entered the field with a history, assumptions, and goals in terms of the research project. These attributes are acknowledged to have the potential to benefit or detract from the success and usefulness of the project. To address this, in addition to formal ethical approval and consent processes, participants were informed both by letter and in person of my practice history, current roles and motivation for undertaking the study.

Balancing the aims of the research project with those of the participants

There was an awareness of the need to balance the aims of the project the wellbeing of the participants throughout the research process. This related firstly to the emotional aspects that participation in the study might evoke. The decision to transfer in labour either as a woman experiencing it, or a midwife needing to make a difficult decision, might result in some distress for a participant recalling the events. Questions asked in interviews can be intrusive and surface feelings of grief or guilt when decisions are recollected. This was a risk, and in anticipation, strategies to manage such a circumstance were thought through before the interviews. Should someone become upset during the course of the interview there was the option to take a break, agree to postpone, or, even abandon the interview. Depending on the circumstances, and the wishes of the participant, there was also the option to facilitate professional counselling.

A second concern in regard to the participants was the management of the data. There is the possibility that the aspirations of the participants may not be met,

or, that cherished ideas would be subject to critical examination. Lather (1991) suggests that for a research praxis there should be a reciprocal weaving of ideas that builds a theory dialectically rather than theory being imposed. For this to happen, the researcher needs to be open to what emerges in the context of the project rather than striving to confirm predetermined theoretical ideas.

It is acknowledged that where a reciprocal negotiation over the meaning of text is used, difficulties can arise when interpretations are misread or false consciousness is unearthed in the 'taken for granted' responses. In similar vein, Mertens (2003) contends that the value of the research project is how credible the findings are to the population being studied. Where a transformative outcome is envisaged then it is critical that this is not imposed but is inclusive of the groups involved.

This project was not reciprocal in the full sense as proposed by Lather, nor was there a determination that a shared transformation process would ensue. Thus it would seem that the responsibility is greater on the researcher to take particular care with the data and its interpretation where the research conclusions are not a shared enterprise. Even more important possibly, anxiety might occur when the researcher is looking for the unseen and slippery cultural structures that may seem immutable to change by the participants. Attempting to "disrupt and challenge the status quo can cause discomfort to the reader and the writer of the research" (Kincheloe & McLaren, 2003, p. 433). So while it is critical that those who agree to participate are not coerced, exploited or disadvantaged in any way during the research process, discomfort could occur should the thesis catalyse changes that would negatively affect participants retrospectively.

Information collected in rural areas has the potential to reveal the identity of the individuals. This is most likely to occur when events recorded are linked to a particular rural facility or geographical area. The potential for exposure can be reduced somewhat with the offer of confidentiality and or, anonymity. These options were offered to the participants in this research project. Details of the facilities and the names of those who participated have not been included in the published data. The raw data has been kept password protected and remains

confidential to the researcher and all future publications will only contain anonymised data.

Cultural issues and the Treaty of Waitangi

Cultural harm can also occur, particularly where the researcher and the research process come from another cultural tradition (Merton, 2003). Processes that can ameliorate this effect include a comprehensive literature search which needs to include the range of information available on the area under study using primary sources wherever possible. Similarly care needs to be taken about the selection of participants for the study.

Spoonley (2003) suggests that researchers in New Zealand need to deal with cultural differences when undertaking research. This includes an awareness of the differing historical focus and symbols, as well as the differences between the researcher and the researched (ibid). There is the responsibility to remain accountable to the community and responsible for your own actions and the outcomes of the research, which includes the purposes to which it will be put (ibid).

Relevant for this study is that more Māori women give birth in primary and rural facilities in New Zealand than any other ethnic group (Report on Maternity 2004, 2007). Thus they are intimately involved in any decisions with regard to transfer should this be indicated. Therefore for this research, their perspective on how transfer is negotiated is important as these decisions can impact on their birth outcomes and the future viability of local rural services.

Both ethical and ⁵ Treaty of Waitangi obligations require that careful consultation with the ⁶Tangata Whenua is sought in regard to how research is conducted and how findings are disseminated (ibid). This is particularly

⁵ The Treaty of Waitangi is the founding document of New Zealand. It was signed in 1840 by indigenous Māori and the British Crown. The Treaty consists of three articles which relate to governance, protection of property and equal rights and citizenship for both Māori and pakeha. In 1998 in response to breaches of the Treaty, the Principles of partnership, participation and protection were established by the Royal Commission on Social Policy. (<http://www.waitangitribunal.govt.nz/treaty>)

⁶ Tangata Whenua refers to the local Māori or people of the area.

important where the research recommendations result in changes to service delivery of critical interest to Māori. The experience of colonisation with the resultant imposition of European health care organisation and practises has impacted adversely on many Māori; this lack of understanding and consultation having eroded and displaced traditional health practices and knowledge (ibid). Tupara (2001) comments, that Māori woman today have diverse social realities and childbirth experiences. However, while their lifestyles may vary, the one experience in common “is that of colonisation” (p.7).

There was no requirement for respondents in this study to identify their ethnicity. However where required for distribution of the survey, Māori input was required in each facility before locality assessment was approved. Therefore I am very mindful in undertaking this research project that Māori women and midwives could be involved in the survey and the interviews and will be assumed to be represented in the collective statistics. Nonetheless, a higher percentage of Māori live in the North Island than do in the South (Statistics New Zealand 2006). In this study, there was greater representation from the South Island in terms of both participation in the interviews, and survey returns. Therefore it would not be appropriate to assume that the findings of this thesis will resonate equally, with both cultural populations.

Summary

Trustworthiness in a research project begins with the cohesion and relationships between the aims and objectives of the research and its design features. These also include how the research is carried out; the recruitment of participants is undertaken, and the cultural and ethical issues addressed. It is also dependent on the careful analysis of the data and faithful presentation of the results. In this chapter these areas have been considered and addressed in regard to the three data strands of this mixed methods research project. References are interspersed where they have provided guidance for the research activity. The approach to the data analysis and interpretation has been revisited within an ethical context. Further the role and positioning of the researcher plus any potential for bias has been acknowledged. In addition the research has been positioned in relation to

the different cultural heritages of New Zealand and the valuing of these within the principles and spirit of the Treaty of Waitangi.

In the next three chapters the results and interpretation of the data from each strand of the study are presented and related to the earlier background chapters. The survey results and discussion are presented first. The survey makes an important contribution to this study insofar as the statistics provide new knowledge about the number and reasons for transfer in this niche area of rural maternity practice. In addition the survey provides an overview of the contextual elements that contribute to, and influence decision making.

Chapter Six: A New Zealand rural maternity unit survey: results and discussion

Introduction

Details of the design, process of distribution, ethical considerations and the plan for analysis of the survey were explored in chapter five. In this chapter the results of the survey are presented in the order they appeared on the survey form (Appendix B). At the end of the survey spontaneous comments were added by the respondents. These are incorporated in the discussion at the end of this chapter.

This survey contributes descriptive statistics about referral decisions, and contextual information about the rural maternity services. In addition the qualitative comments added by the respondents provide further detail about the environment in which women and midwives make the critical decisions around the need for transfer from rural maternity facilities.

The survey results

A survey was sent to 49 rural/primary maternity facilities in New Zealand. Four facilities indicated that they did not consider their unit to be rural and did not return a survey. Completed surveys were received from 30 rural maternity facilities constituting a 66.66% return from the 45 eligible facilities. According to Wagstaff, (2000) a response rate of 50% is considered typical while response rates of 75 – 85% are considered very good. Surveys were returned from a mix of ⁷rural and rural remote areas across New Zealand. The survey form was designed to capture the number of births, plus the number and reasons for, transfers in labour, birth and postpartum, of women and neonates over a two year period from, 1st July 2004 to 30th June 2006. Contextual information was also sought. This included the characteristics of the local maternity service organisation, staffing and locum arrangements, plus the time and distance to the referral centre. In addition, respondents were invited to comment on any

⁷ Rural areas in New Zealand are categorised as semi rural, rural or remote rural. These categories are based on census area boundaries and are set by Statistics New Zealand and can change from time to time. The classifications are used as a reference for additional funding, particularly in relation to travel by maternity practitioners to provide services to women.

climatic, geographical or other particulars which might impact on transfer decisions (Appendix B).

All the returned survey forms had been completed, with information entered in each section. In addition most had taken the opportunity to write clarifying comments in some, or in all areas of the form. This was an opportunity for the respondent to add comments or amend an entry. Discussions occurred with several of those completing the survey at different intervals during the process. This contact was largely to clarify aspects of the survey questions, and frequently to discuss some of their ideas and thoughts about the issues for them in rural practice when transfer occurs.

Section One

In this section respondents were asked to total the number of births and the number of transfers from the 1st July 2004 to the 30th June 2006. The two year period was chosen to manage the fluctuations in numbers that can occur in rural areas over the course of a year. The entries were to include women more than 36 weeks gestation, who had begun labour at the rural facility and were transferred during labour, or within six hours of birth, and postnatal transfers of neonates less than 7 days postpartum, or women more than six hours post birth. Thus the aim was to capture well women who had chosen to birth locally and were deemed safe to do so.

Total births

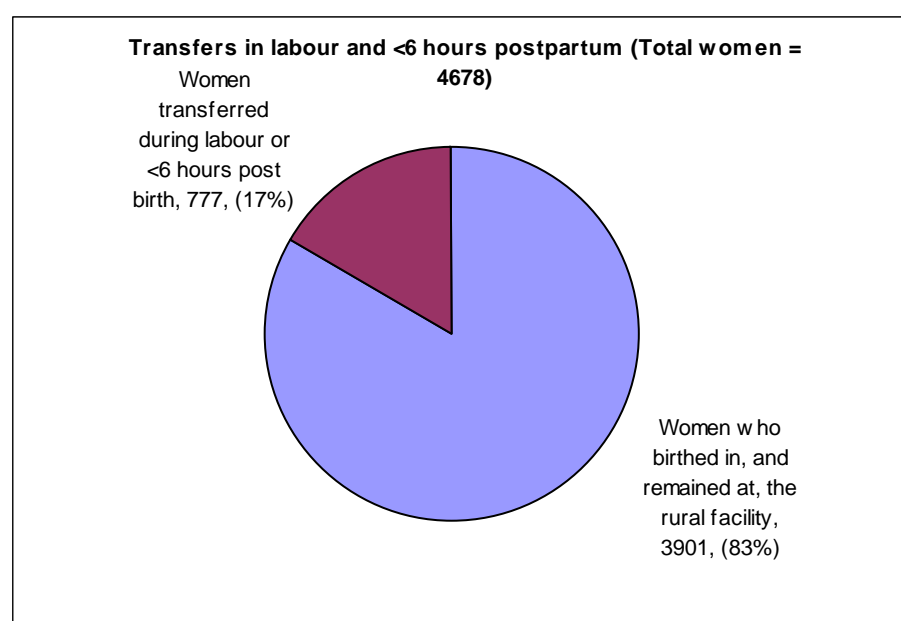
A total of 4678 women began labour in the 30 rural facilities and 777 (16.6%) women were transferred in labour or within six hours of birth. This resulted in total births in the rural facilities of 3901 women over the two year period. The totals for each facility ranged from a low of 3 to a high of 423; the latter being a facility within 30 minutes driving time of their referral centre. Of the 30 facilities who returned a survey, four facilities recorded birth numbers over this period of less than 10 deliveries and were being used largely as postnatal facilities (see Table 1).

Table 1: Distribution of births across rural facilities

Birth numbers over 2 year period (1 st July 2004 to 30 th June 2006)	Number of facilities
<10	4
10 - 50	5
51-100	7
101-200	8
201-300	2
301-400	2
> 400	2
	30

Total number of transfers in labour and less than six hours post birth

A total of 777 (16.6%) women transferred in labour or within six hours following birth. These figures represent well, low risk women who had been admitted to the rural facility in labour >36 weeks gestation and who subsequently transferred to secondary care. The figure below shows the percentage of transfers in labour or <6 hours post birth compared to the total of births in the local facilities.

**Figure 3: Transfers in labour and < 6 hours post partum**

Home birth is also an option for women in rural areas. However this survey focused on transfers from rural facilities and was not designed to include home births. Nonetheless it is acknowledged that some women captured in the data may have begun their labour at home and subsequently moved to the facility. In some instances these women may have been admitted briefly for assessment prior to transfer, and are potentially included in the data.

Total neonatal transfers and postnatal transfers

The total number of neonatal transfers was 123 (3% of 3901 babies born). These were babies transferred after birth, and up to seven days postpartum. This total was arrived at following consultation with some respondents when it was clear that the numbers given did not correspond with the breakdown of reasons for transfer in the following section.

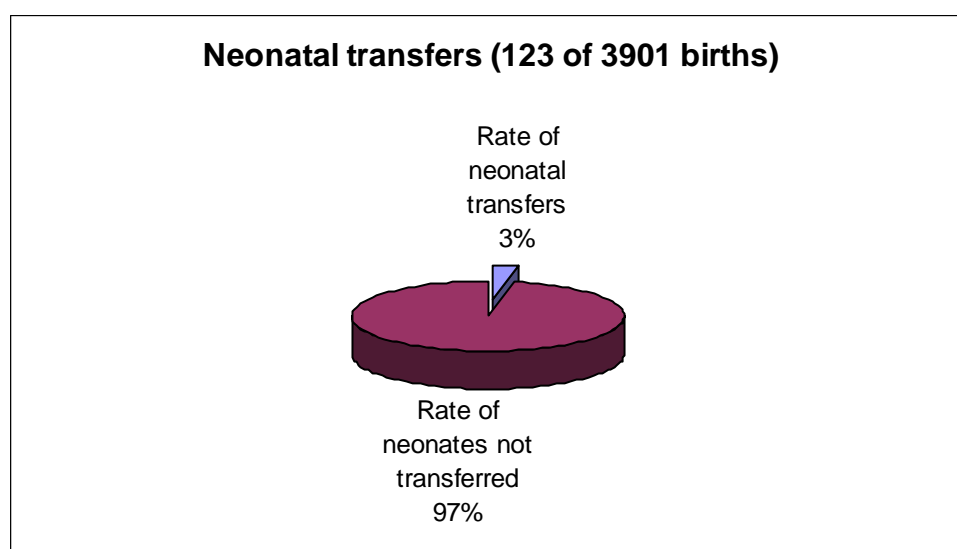


Figure 4: Neonatal transfer rate

Women transferred postnatally

A total of 15 women transferred between six hours and seven days post birth. The extended postnatal reporting time was designed to capture women who transferred to secondary care within the first week following birth. It is rare however, for a woman to stay more than a few days in a rural facility following the birth of her baby. It is also possible that some of these women travelled with their baby to hospital and were counted as a transfer; particularly where no reason was given for the transfer. Where this was indicated the figure has been

adjusted. Where it was ambiguous, or unable to be confirmed, the data has been taken at face value.

Section two

In this section the primary reason for transfers during labour, birth or post birth were recorded. These were divided further into four sub sections (Appendix B): Women who chose to transfer to secondary care for personal or social reasons; those with pre-existing medical conditions exacerbated during labour and birth and women and infants transferred in the postnatal period.

In each of the last two sub sections a list was offered of possible reasons for transfer. This list was not considered exhaustive, and there was the option to add 'other' reasons or offer an explanation in a written comment (Appendix B).

Primary reasons for transfers during labour and within six hours of birth

Some revision of the figures supplied was required to this section. Data was moved where it was clear from the comments that the entry belonged in another section. For example, in a few forms transfers entered in the postnatal area fitted best with the transfers in labour and birth options. Some women obviously less than 36 weeks gestation and in premature labour were deducted. Several entries in the 'other' column, included categories, such as 'slow labour', 'failure to progress' and 'high head' which had been added by the respondents. These were transferred to the 'obstructed labour' category. Following these adjustments it was calculated as noted above, that 777 women transferred in labour or up to six hours post birth from a total of 4678 women who had begun labour in a rural facility.

Data obtained in this section revealed that 4 (0.51%) women transferred for medical reasons and 12 (1.54%) for non clinical, social reasons (see Figure 5). Transfer numbers for maternal fever were 5 (0.64%), pre-eclampsia 10 (1.28%), multiple pregnancy 6 (0.77%), hypertension 16 (2.05%) ante partum haemorrhage 18 (2.31%), malpresentation 27 (3.47%), meconium liquor 34 (4.37%), premature rupture of membranes 36 (4.63%), foetal distress 40 (5.14%), and pain 47 (6.04%). Transfers for complications up to 6 hours post

birth included 29 (4.37%) women with postpartum haemorrhage (PPH), 35 (3.73%) with retained placenta, and 38 (4.89%) with perineal trauma.

In the ‘other’ category 34 (4.37%) women transferred for reasons other than those offered in the survey. These included 15 women who had a previous caesarean section, one with chest pain and 12 who were booked elsewhere. No reason was given for the remaining 6 women.

Prolonged labour: The most common transfer experience

The highest number of transfers was for variations of obstructed and slow labour. These totalled 386 (49.67%) of all the reasons for transfer (see Figure 5). This number was arrived at following adjustments to the ‘other’ category where similar terms relating to slow or prolonged labour were used to explain the entries. The terms used included ‘slow labour’, ‘failure to progress’, ‘high head’, ‘for augmentation’, and ‘questionable progress’. This finding suggests that the heading offered in the survey form of ‘obstructed labour’ did not represent the most common explanation used by the midwives for delays in labour. This topic is returned to in the discussion section later in this chapter.

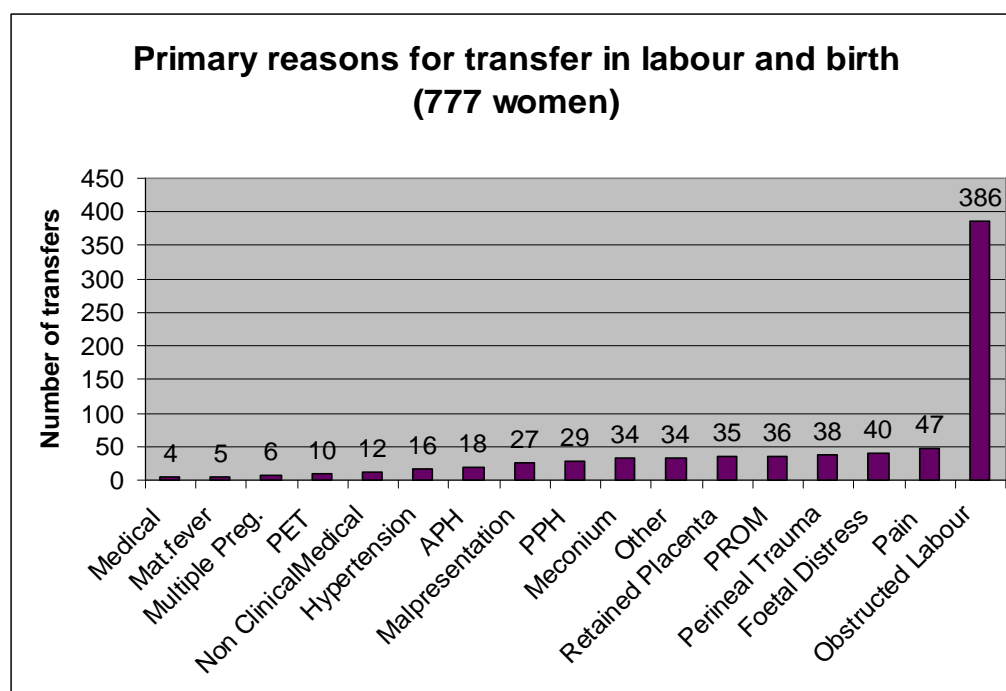


Figure 5: Primary reasons for maternal transfer in labour and birth

Reasons for neonatal transfers

The total number of neonatal transfers was 123 from 3901 births. However in this section, reasons were only given for 92 of the transfers. It is probable that the neonates transferred with their mothers where no reason was given. However, this was not able to be ascertained with any certainty. Hence the figure of 123 was used for the purposes of calculating the neonatal transfer rate.

A diagnosis of respiratory distress syndrome accounted for the majority of neonatal transfers at 53 (43.0%), abnormalities accounted for 17 (13.82%), neonatal jaundice 13, (10.56%), neonatal infection 10 (8.13%), elevated temperature 4 (3.25%), feeding problems 3 (2.43%), and 'other' 23 (18.69%) (see Figure 6).

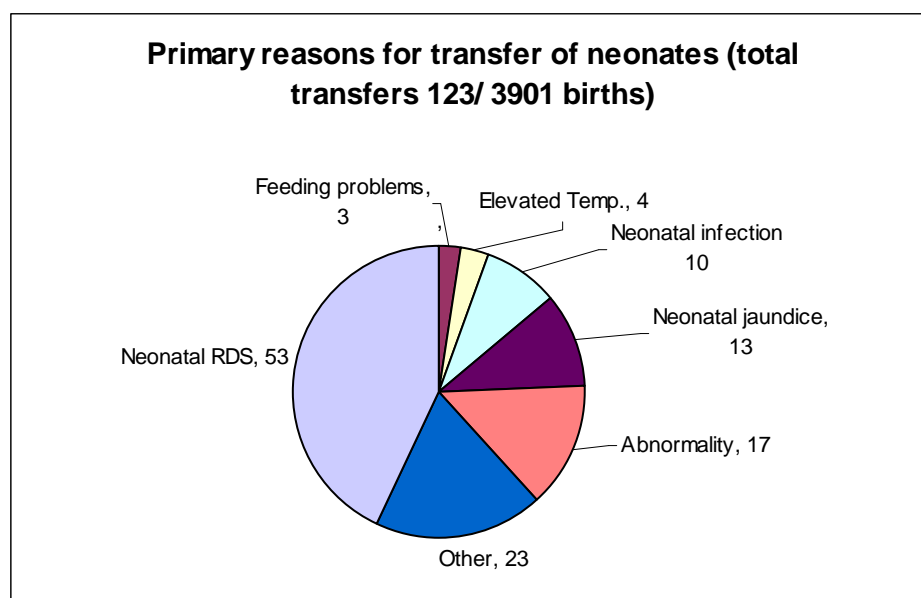


Figure 6: Primary reasons for transfer of neonates

Respiratory problems were the most common reason for neonatal transfer. The comments in the 'other' option explain that one infant was transferred for vomiting and diarrhoea and two with severe intrauterine growth restriction (IUGR). One was transferred because of a cleft palate. Two were hypoglycaemic; one transfer was attributed to shoulder dystocia in labour. A baby was transferred with bradycardia and one was 'flat'.

One facility noted that eight infants were referred with low Apgar scores. Automatic referral was required by their DHB for all babies where a low Apgar score was recorded, irrespective of subsequent improvement in the baby's condition. There were also three women on methadone programmes who booked to birth at the local facility. All three birthed at home and their babies were admitted and transferred for narcotic support. It is not known if these babies were included in the total births recorded at that facility.

No explanation was given for the remaining 14 transfers. As previously noted, some respondents may have counted both the woman and infant, given that when postnatal transfers occur every effort is made to keep mother and baby together.

Maternal postnatal transfers

The total number of women transferred postnatally more than six hours postpartum was small at just 15. One woman was transferred with a deep vein thrombosis (DVT). No women were transferred for puerperal psychosis. The remaining 14 women were accounted for in the 'other' column. The comments indicate that individual women were transferred for, a post epidural headache, a blood transfusion, a pilonidal cyst and a breast abscess. Two were transferred with wound infections. No reason is given for the remaining seven women. As intimated above, it is possible that these women were transferred with their infants and were otherwise well.

The finding in regard to infection and other problems following caesarean section appear to relate to women who have either been transferred from the facility in labour, or who had chosen to birth in a secondary or tertiary facility and returned for postnatal care. This finding is not resolvable with the current data so earlier statements in regard to the number of postnatal transfers as a subset of the total birth numbers is indicative only.

In the following section the focus moves to the environmental context in which the transfers occurred.

Section three

The characteristics of the rural facilities and their service arrangements were asked for in section three. The questions were designed to elicit travelling times and distances to secondary care facilities, the options for transport at times of transfer, the topographical and climatic features of the area; the regular staffing situation, plus the logistical arrangements available to the midwife when transfer occurs. The 'comment' column offered the option for respondents to mention any or all of these contextual factors, particularly where these were seen to impact on decision making around the time of transfer.

Ambulance transfer

Respondents were asked about the options for emergency transport in their areas. Choices offered were road ambulance, air ambulance, boat or 'other'. The road ambulance was the most common form of transport. Evacuation by air, either helicopter or fixed wing aircraft was rarely used, being reserved for the most urgent situations. Even then it was not always possible to get airborne at night or in bad weather. Only one area used watercraft, in this case a car ferry. In some instances it was considered safe for women to travel by car. The examples given include, following premature rupture of membranes, early labour, where there was meconium stained liquor or, a malpresentation was diagnosed.

Delays were mentioned in regard to the road ambulance service. In one area the midwives allowed three hours for what was a one hour trip. This was in anticipation of a delay in securing an ambulance, and assembling the crew. Where the local ambulance was not available, another needed to be sourced from a neighbouring area. As most of these ambulances were crewed by local volunteers on call at their home or place of work, this could extend the waiting time at the rural facility.

Air transport was not always easy to arrange. For example even when air transport was agreed to be the most appropriate response and the weather favourable, the service may not be available. One comment was: "Limited use of air transport in winter. Often delay of up to 3 hours with ambulance staff, if

staff are busy retrieving up the ski fields”. In the case of helicopter transfer, another comment refers to their need for ideal flying conditions - “Chopper often unable to get in because of low cloud and rain. Night flights only two days either side of the full moon”.

Travelling time and distance to nearest secondary or tertiary facility

A range of travelling times and distances from the nearest secondary referral centre were reported. These ranged from 30 – 150 minutes with a mean of 78 minutes; the median being 60 minutes. The range of distances by road was 12 – 194 kilometres with a mean distance of 87 kilometers, and a median of 82 kilometres. These times and distances are illustrated in the figure below.

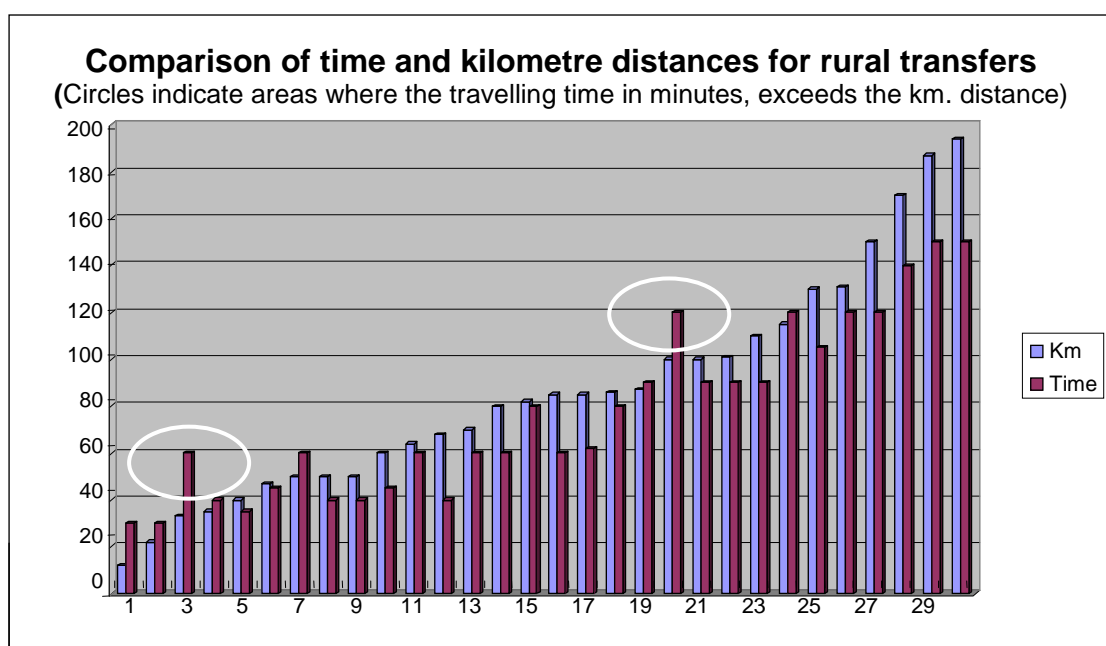


Figure 7: Distance and time from secondary care facilities

The average driving time between the rural facility and the secondary facility, did not include the time required to organise the transfer at both ends of the journey. Comments both in the survey and later in the interview accounts of the women and midwives show that delays can occur. These are most common at the rural facility. The delays include the time to organise the ambulance, the preparation of the woman and her family for transfer, as well as the details that the midwife needs to attend to before leaving.

In Figure 7, it is interesting to note that in some of the areas the time required to traverse the distance between the rural and urban centre is significantly more than would be expected for the kilometres indicated. These differences were explained by the comments on the survey form. For example, two of the rural areas were separated from the secondary facility by a mountain range which entailed a slow, winding trip. While another area closer to the secondary facility needed to cross the city at the end of the trip, thereby getting caught up in slow traffic, this being a problem particularly in peak hours.

Rural facilities at the greatest distance from the referral centre estimated times shorter than the distance. This reflected the long stretches of open roads in these areas. Nevertheless, many of these are popular with tourists which can cause delays during peak holiday times of the year.

Weather and road conditions for ambulance transfer

In this segment of the survey respondents indicated that in most rural areas weather and road conditions affected travelling times. These included topographical features such as mountain ranges, climatic conditions such as snow, ice and flooding, and in some areas unpredictable land slips and subsidence. The comments indicated that decisions about timing and how best to effect transfer, were often influenced by these environmental factors (Table 2).

Table 2: Local features and climate

Topographical features and weather effects (total >30 as respondents could choose more than one category)	Areas affected
Mountains	11
Landslips and subsidence	25
Snow and ice	17
Flooding	16
	69

The above table collates the number of rural areas, indicating particular local problems with weather and road conditions. The nature of the road connecting

the rural area with the secondary/ tertiary facility was commented on, particularly when combined with adverse weather conditions. For example, “steep, windy, bendy roads, may be slow due to heavy trucks and landslips”. In addition, wind, torrential rain, storms and flooding could result in unpredictable road closures. In one intensive dairy farming area, roads traversed by stock crossing for milking resulting in slippery road conditions. However with the increase in underpasses this is becoming less of a problem.

For several areas snow and ice became a problem over the late autumn, winter and early spring. While this was more common in the South Island, the central areas of the North Island also experienced snow and icy, road conditions, which could close side roads and even main highways. Innovative solutions included approaching members of the local four wheel drive club and in one case the army, where a Unimog (Army all terrain vehicle) was used to transfer a woman in labour.

Assistance with emergency care prior to transfer

A wide range of staffing arrangements, were in place across the rural facilities. Of interest for this research was the logistical support available when transfer occurred. This included assistance in preparing the woman for transfer, and organising transport and cover for the midwife.

Support in some areas was available from other midwives, nurses and local GPs. In other areas the rural facility was part of, or, within the grounds of, a medical centre or level 1 hospital. In these facilities no specialist services are provided but emergency care may be provided by Medical Officers of Special Scale (MOSS). Other stand alone facilities needed to call staff on to assist during labour and birth, and provide cover when the midwife left.

Access to midwife support at times of transfer was variable. In most areas there were midwives either on site or living in the area. However one facility did not have a second midwife available. LMCs usually called their back up where this was an option, though in some areas this midwife lived up to an hour away. Others utilised the midwives employed in the facility. In one area the midwife

from the core team travelled with the ambulance so that the LMC midwife could remain to cover in the locality. In another area two midwives were involved in a transfer. This is explained as, “the second midwife follows the ambulance with the first midwife’s car and comes back in the ambulance so first midwife has transport home after her case (sic) has birthed”.

Nursing staff were employed in several areas and could be accessed in an emergency. It was not clear from the comments if these were all registered nurses. However many obviously were, given the other roles they played in the rural areas. For example some were summoned from the accident and emergency area on site. Their help was appreciated as they had cannulation skills. Some nurses were also employed in the rural maternity facility while others came from the “ward” or “aged care” area. In other areas the nurses were on call and did not live close to the facility.

General practitioners had practice rooms in almost all the areas surveyed. It was noted that in some areas the “GP was available if required”. In one area GPs provided back up in addition to the other midwife. However in most cases the GP was not involved when transfer occurred. This was true even when their practice rooms were on the same site. Comments indicated that accessing the local doctor could be difficult. For example “...was only available between nine and five, “often away on weekends” or “the GP doesn’t live in town”. However in one facility, emergency assistance is offered by a GP who still does LMC work.

Paramedic services were available in only two areas. In some circumstances a paramedic would arrive with the ambulance from the city area. Otherwise, the skill of the local ambulance personnel was the main source of assistance for the midwives. One midwife commented that;

Occasionally a neonatal retrieval team is dispatched from the secondary or tertiary facility to stabilize and transport a sick baby born in a rural area. We are fortunate to have a neonatal retrieval team and direct access to the neonatal coordinator. If a baby is unwell we call

the team and they send a paediatrician and a neonatal nurse out by ambulance to retrieve the baby. This takes between 40 - 60 minutes.

In these circumstances the midwife is not required to accompany the baby. However the midwife may need to travel with the mother in a separate ambulance; particularly if the mother is not considered safe to ride in a car. For the more remote areas, the time taken to assemble and dispatch a neonatal retrieval team can be longer than that estimated in the above quote. In these circumstances, midwives at the site need to maintain the infant as best they can until help arrives.

The final question on the survey presented the opportunity for the person completing the form to make further comments about factors that they believed had an influence on maternity and neonatal transfers in their area. Most of the respondents took this opportunity to expand on an earlier comment or to describe some aspect of their rural practice. These comments are interwoven in the discussion section below as they relate to the data already presented.

Discussion

As I began to write this section the presenter on the National News was questioning the Chief Executive of the West Coast DHB. This was about a woman in labour at 34 weeks gestation, who was expected to travel by private car across the mountain passes. This was a journey of approximately 3 hours as neonatal care services were no longer available on the West Coast (Morning Report, Radio New Zealand, 6th August, 2008). Recent snow and ice conditions, heavy rain and winds in the area added to the concern. While all the information about the situation was not available, on the face of it this situation was potentially risky and presented a real dilemma not just for the woman and her family, but also for midwives, and DHB management.

This news item illustrated the decisions midwives make in concert with women in rural areas. While this chapter has been concerned with collating and explaining the survey data, behind each of the numbers a decision has been made; either to stay and birth locally or to transfer for additional care.

In this section the results of the survey are discussed in relation to relevant studies and commentary. Included also are further spontaneous comments added to the survey forms by the midwife respondents in the rural facilities. These comments and the survey data, provide some illumination of the particular characteristics of the rural maternity services. They also highlight the environmental context in relation to transfer decisions.

Rates and patterns of transfer

The rate of transfer for the low risk group of women included in this study was 16.6%. This is similar to transfer rates between 14.6% – 22% from free-standing and midwife-led birth centres reported in a systematic review by Walsh and Downe (2004). Slow progress in labour was the most common reason cited for transfer. While most of the women were accounted for in the category for obstructed labour, comments in the ‘other’ category included references to ‘prolonged labour’ and ‘failure to progress’. These various descriptions of dystocia have been cited as reasons for transfer in labour for low-risk women, in other studies. Fullerton, Jackson, Besser, Dickinson and Garite (1997) also cited ‘failure to progress’ as the most common reason for transfer. This was for both primiparous and multiparous women, though transfer numbers were higher for primipara. Dystocia was also found to be more common with primiparous women by Baird, Jewell and Walker (1996); a finding that is also consistent with the report of the National Birth Center Study (Rooks, Weatherby & Ernst, 1992).

A question on parity was not included in this current survey. Therefore the ratio of transfer for primipara compared to multipara, cannot be calculated. Of interest though was the consensus findings by the Obstetrical Services in Rural and Remote Communities in Vancouver, which states that “...the nulliparous woman is no more likely to require urgent C section than the multiparous woman” (Torr, 2000, p.2). Thus it is reasonable to conclude that this prevalence of referral for variants of slow labour, while worrying, can be put into perspective whatever the parity of the woman.

In this study, 83% of the rural women realised their goal of birthing in their rural area. Given the comments above, this percentage is likely to be even higher for multiparous women. Also not included overtly in this study, are those births that occurred at home in rural areas. While the number would not be high, they contribute to both the transfer and rural birth rates. As noted earlier it is possible that some planned home births may have been included in the survey data, given that the midwives in these areas frequently offer care in one or more rural facility, as well as in the community. For instance, the rural facility may be used as a 'halfway house' for assessment when considering whether or not to transfer a woman who began labour at home.

The most common reason for neonatal transfer in this study was respiratory distress syndrome. A total of 53 (43%) of the 123 babies transferred required support for respiratory distress. This represented just 3% of the total 3901 births in this study. It is also possible that some of these infants were born in the local facility because of timing. In other words, there may have been concerns during the latter stages of labour about the wellbeing of the baby, but the logistics of transfer at a late stage may have contributed to a decision to stay, rather than risk an ambulance birth on the way. This can be reasonably surmised in the light of the comments below about accessing ambulance transport at short notice and the distances involved.

In terms of the reasons for intrapartum transfers, it was not always clear if the decision to transfer was made during labour, or post birth. In some instances clear distinctions could not be made, given that some problems can cross both second and third stages of labour. For example some respondents had difficulty deciding in which section women who had experienced a postpartum haemorrhage should be entered. Once these decisions about the data were resolved it is apparent that postpartum transfer was a reasonably rare event. Rather it appears to be associated increasingly with complications for women returning from secondary/ tertiary facilities following caesarean section.

Thinking and planning ahead

To avoid unnecessary transfers the respondents commented on ways used to screen women for local birth. The quotes below are taken directly from the survey forms. Minor wording changes have been made for clarity and readability and identifying details replaced with generic terms.

The rural practitioners commented on how they set boundaries in order to provide safe choices for women. These included encouragement for women to birth locally unless there was a contraindication – “We encourage all women to birth at our facility unless they have obstetric or medical problems that dictate travelling to base hospitals”. And, we have “skilled midwives who mostly gently guide ‘at risk’ clients antenatally to begin their births and labour in the secondary or tertiary unit”. This was believed to keep “transfer levels to a minimum”. These women were also expected to “take responsibility and notify the midwife early” should labour begin. Further that “all women are screened carefully antenatally and must be over 37 weeks to birth here with a vertex presentation”. Part of this screening involved links and collaboration with specialist services. “The midwifery team works closely with the visiting obstetrician in the antenatal period”.

This caution is also reflected in transfer decisions in labour where the local context was considered in addition to the clinical circumstances. Part of this forward planning included locating ambulances, managing delays, and dealing with midwife availability and fatigue. For one midwife it was important to work within her scope of practice and “ask if the woman and baby will be safe in 2 hours time”, and to always “err on the side of caution”. The written comments made by respondents revealed elements of “thinking ahead” and this was often illustrated with clinical scenarios.

When transferring [we] need to be mindful always that there will be more than an hour of preparation plus travel time. Therefore, some transfers are unnecessary in retrospect but were done to be timely. For example timely transfer on suspicion of trouble ahead, slower

progress than expected in labour and increased respiratory rate in babies with no other signs of infection.

Distance and transfer times mean that sometimes transfers in labour occur sooner rather than later and [are] at times precautionary i.e. slight meconium liquor at 4 cm. and no other symptoms would in most cases be transferred. ...Slow progress in labour, especially second stage can pre-empt a transfer as the LMC is concerned a delay may cause unnecessary questions from secondary tertiary care staff and specialists.

[The midwife] makes sure that the backup midwives (independent) are still available locally. Sometimes transfers are made with secondary care not needed once they arrive in [the city], but the decision is made to transfer because of 'signs' of problems happening. Always trying to foresee happenings over the next hour as GP skills in obstetrics [are] very rusty so for backup in emergency [we are] more likely to go to [the hospital].

From these written comments it seems that the rate of transfer is not the issue; at least not at the time. What is emphasized by the respondents is appropriate assessment at all stages of pregnancy and in labour, so that good timely decisions can be made.

The above comments reflect how the rural midwives, and others that work with them, manage maternity care decisions at distance from secondary care. In the first section they indicated ways in which women are screened or steered in terms of their suitability either to birth locally, or in secondary care. In compensating for distance the midwives and others involved, appear to work and think ahead knowing the time it takes to effect a timely transfer.

Local logistical and funding issues affecting transfer decisions

The loss of funding to rural facilities when transfer occurred was raised as an issue. This particularly affected facilities where the midwives were employed

by a Trust. There was also reference to the⁸ 12 hour restriction for women returning to the rural facility in order to claim for the postnatal care.

The [local DHB Board] since 01/07/05 has placed a 12 hours time frame on transfers from [the secondary facility]. The time frame is unreasonable and unsafe for women wishing to return to their rural facility for postnatal care. The time frame has a significant impact on the viability of the rural facilities.

The fragility of some of the smaller and more remote facilities is reflected in the birth numbers (Table 1). These ranged from less than 10 to more than 400 over the two year study period. This variation in birth numbers is consistent with the range of primary birth numbers in the Reports on Maternity for the years, 2002, 2003 and 2004. Given the passage of time since the collection of the data, it is reasonable to assume that some of these rural facilities are no longer able to offer a local birth option. Potentially many of the facilities are being used primarily for postnatal stays. With the rise in caesarean section rates (Ministry of Health, 2007), transfer for epidural after affects and latent infection following surgery, postnatal transfer may become more common.

Several comments made reference to funding issues that were of concern. These referred to difficulties in affording staff to cover the rural area, particularly when the midwife accompanies a woman on transfer. This was of particular concern when there was only one LMC midwife in the area. There was concern about “midwife burnout” and “staying safe to practice with no back up”.

In section three of the survey, respondents were asked to circle the service arrangements in their areas, and where relevant, add comments. These revealed a wide range of local practices, each particular to the history and availability of skill within the areas. Thus decision making in many areas was not confined to just the woman and the midwife, but included negotiation and often

⁸ The 12 hour restriction refers to the period within which the woman needs to return to the rural facility following birth in order that the local facility can claim the full postnatal facility fee.

consultation, with other health professionals in the area. This group included registered nurses, experienced nurse aids, local GPs and ambulance personnel.

The system for managing transfers was unique for each area and delays were common. Local knowledge was vital, as was being able to access other logistical assistance when transfer occurred. These findings were similar to those of Hendry (2003) in her South Island study. In rural Scotland Lambert (2008) cited midwifery initiatives which included seeking out and developing expertise within the community to assist with emergency situations, rather than relying on help being available from outside the area (*ibid*). This pragmatic approach coupled with local knowledge also appeared to be the way that transfer services were developed and managed on a day to day basis in the rural areas in New Zealand.

Equally variable were the distances and topographical challenges for the areas represented in the survey returns. In Figure 7 it was clear that distance could not be considered alone. Rather, the time required to traverse the distance was also a consideration in the decision about transfer. Adding to the distance was the potential for the journey to be hazardous when roads were affected by snow and ice, flooding or subsidence. All of which not only add to the time needed to make the trip, but also to the safety and comfort of drivers and their passengers.

Small numbers and sparse populations clearly make equitable access to services problematic, as was demonstrated by the news scenario quoted at the beginning of this section. Of concern for most areas, was ready access to ambulance services given the unpredictability of a problem arising. It also seemed that some arrangements at crisis times were serendipitous and reliant on local circumstances. Thus in some instances they may not always meet the safety demands of some transfer situations. This understanding appears to have led to a sensitive threshold for referral as the “thinking ahead” and “erring on the side of caution” comments indicate.

Summary

The survey results and comments show that the midwives think ahead and make cautious decisions about transfer in the rural areas. A transfer rate of 16.60% was recorded with variations of prolonged labour accounting for almost half the transfers in labour and up to six hours following birth. It was also noted that transfer for prolonged labour, while stressful, was rarely an emergency. From a total of 3901 births 123 babies were transferred, with the most common problem being respiratory related problems.

The time and distance involved to access secondary or specialist care was frequently compounded by climatic and topographical characteristics particular to each rural area. Further delay was experienced when ambulances were not readily available. These factors combined to affect the timing and sensitivity of transfer decisions. The staffing and logistical support, prior to and during transfer, was idiosyncratic to each facility. The respondents acknowledged the constraints inherent in living and practising in a rural area but viewed some aspects of regional organisation and funding unreasonable. This was related largely to the provision of readily accessible help and logistical assistance at the local facility when needing to make decisions about transfer of women and babies.

This rural facilities survey fills a gap found in the national statistics. By limiting the survey to well women near term, who begin labour in the rural facility, a much more realistic transfer statistic is revealed than one which includes women transferred in early pregnancy for obstetric or medical conditions. Similarly the primary reasons for transfer reveal the profile of women who are transferred. Of note is that the majority do not require urgent assistance, but rather are transferred for slow progress in labour. This information potentially provides both women and midwives with some clarity as to the likelihood of transfer in labour and would assist in decision making for the future in terms of place of birth.

In the following chapter the data from the women's interviews is presented, interpreted and discussed. Of particular interest was how they perceived their

contribution to the decisions about where to begin labour, and when to consider transfer. Aspects of some of their stories relate to the findings in the survey. They also resonate with those made by the midwives in their interviews thus providing an important contribution to this research.

Chapter Seven: Views of rural women on birthing locally

Introduction

In this chapter the data from the interviews with rural women is presented, interpreted and discussed. The focus is the contribution women make to decisions about possible or actual transfer from a rural maternity facility to secondary care, either in labour or post birth. For this research a purposive sample of women were invited to participate in an interview (Chapter 5). This included both women who had planned to birth in a rural facility and had transferred to secondary care, and those who had discussed the possibility of transfer but remained and birthed in the rural facility. Thirteen women contributed their stories about how they planned where to begin labour, and if transfer occurred, how this was decided. Four major themes with sub themes are derived from the interview data and relate to the decisions made in advance of labour, during labour and birth and the women's thoughts about their experiences following the birth of their child.

Overview of the themes

The reality of distance and time from secondary care was a recurrent theme which permeated each aspect of decision making. Distance from secondary care facilities meant that if additional care was needed then it would take longer to access. For women confident in their ability to birth locally this was a risk they were prepared to take. For others however, having to travel in labour was not something they could contemplate.

Four major theme ideas have been used to structure the data with sub themes included under these headings (Table 3). The first theme, *deciding about the safest place to give birth*, positions the women in regard to their personal belief about where they felt safest and the potential risk of transfer in labour. For some their birth plan was still fluid with the hope that they could birth locally despite reservations.

The second theme, *deciding on transfer in labour*, focuses on the central interest of this thesis which is the point at which decisions about transfer are made. Included are experiences of delays, the ambulance transfer, and the disruption that accompanies a change of plan in labour.

The third theme, *looking back on the birth event*, captures the women's reflections on their various birth experiences. For the two women in the study, who birthed locally, their belief in their choice to birth in their local area was affirmed. For those who transferred there was the opportunity to review their decision about their chosen birthplace, and the timing of transfer. Included also are their plans for birth in the future and how these have been influenced by their experiences.

The women also commented on the local maternity service in their respective areas. The final theme, *the influence of local maternity services on women's birthing decisions*, focuses on aspects of the rural maternity services that had the potential to influence their decisions. These comments include the costs associated with transfer and concerns with the long term viability of local maternity services,

Table 3: Themes from the women's interviews

<i>Major themes</i>	<i>Sub themes</i>
Deciding about the safest place to give birth	Confidence about local birth Considering distance and time Niggles of fear Keeping all options open It is up to you: Advice from midwives and other health professionals Hearing about transfer
Deciding on transfer in labour	Midwives making the call The uncertainty of a long labour The ambulance experience

	Concern about the wellbeing of their partner
	support team during transfer
	Arriving at the hospital
Looking back on the birth event	Local birth; an everyday experience
	Coming to terms with the transfer
	Thinking about a future birth
The influence of rural maternity arrangements on women's decisions	The costs of transfer
	Uncertainty about rural maternity services

The presentation of the text

In this chapter selected quotes from the transcripts are interspersed with the text. The source of each quotation is represented by the transcript number and relevant page. This is represented thus; (w/x/x). The small group interview is presented as a whole and no attempt has been made to differentiate between the three women. Minor grammatical and syntactical changes have been made to the quoted passages to assist the reader where the meaning was unclear. To maintain anonymity the identity of individuals, the names of facilities, and their locations are replaced with generic terms. These are located in square brackets. Three full stops (...) are inserted where words have been removed from a comment. This is reserved for passages that contain several topics, are overly long or tautological.

Deciding about the safest place to give birth

The opening question in the woman's interviews was about their early decision making in regard to place of birth. While this was intended as a starter question, it revealed much about each woman's approach to birthing at the local facility and how committed they were to defending their choice.

Early considerations about birth place were influenced by a variety of personal and contextual factors. Some of the women expressed confidence in their ability to birth locally while others were tentative or fearful of such a commitment. Their decision was primarily motivated by how far they were from secondary

care and how long it would take to transfer if this was required. The decision was also influenced by these same concerns expressed by family members. In addition they were aware of the birth stories of other women in the area who had birthed at the local facility or experienced transfer in labour. A woman's confidence to birth in the rural area was also influenced by their discussions with midwives and other health professionals consulted during pregnancy.

Confidence about local birth

Two of the women who had given birth to their first child expressed total confidence in their ability to labour and give birth in the local facility. This confidence persisted despite misgivings by their partners and family. In addition they were confident that should they need additional care or referral during their labours, this could be readily accessed.

There was a lot of pressure from my mother (to try to put me off) as I was 39 years of age, just turned forty, so that was part of it, My husband wanted me in hospital. Which was interesting yeah I think his thinking was that everything was going to be there if there were some complications. Whereas I kept saying to him there is not going to be complications they would get me to town anyway and I talked to my midwife about that and she said exactly the same thing. But come hell or high water my baby wasn't going to be born in hospital it was just what I wanted. (w/1/2)

Connections with friends and family in the area, was the reason another woman chose to birth at the local rural facility. She expressed confidence in her body to birth and was supported by her midwife.

Well we chose to give birth at the [local facility]. Part of the reason for choosing it was that we are based here and our family and friends are based here so that if the labour went well and the midwife was quite confident that I wanted to birth here just from the support point of view and also I felt I was pregnant I wasn't sick so I didn't need a hospital. (w/1/10)

The environment and assistance on hand at the local facility was also considered when making the choice of where to birth.

I think the clinical [atmosphere] of being in hospital and I think I heard that you didn't have a separate room and you were in these rooms with four beds and I thought I really didn't want that for me. For what the local facility offered is it is a really nice environment and it's not much different from having your baby at home. Except you have this professional person that will pop out of your wardrobe if you needed them. (w/1/3)

...and the other thing I guess that put me off going to the city hospital was that I had visited a girlfriend down there and four women were crammed into one ward and friends and family coming and going and to me it seemed very chaotic and busy and stressful and it just didn't appeal to me so I thought if things went well I wanted to give birth here. (w/10/1)

Considering distance and time

Distance from secondary care is an ever present consideration in almost all the women's comments about birth in the local area. For one woman the thought of traveling to the hospital in the city in labour, would interfere with her plan for an active birth. Thus she chose to begin her labour in secondary care.

And that was one of my decisions ... I genuinely believed it would all go fine. I didn't fancy the idea of traveling in labour. I don't like traveling at the best of times and I didn't think it would be a good position to be in the car as I was trying very much for the active birth so that was one of my reasons to choose to labour here. (w/9/3)

Another woman had a similar reason for avoiding the possibility of a trip in the ambulance. Her choice was to leave home at the first sign of labour and travel to the city hospital.

I didn't like the thought of transferring during labour because I was quite scared of labour and I could think of nothing worse than sitting in a car or ambulance and being in a considerable amount of pain. (w/5/7)

Distance and the time it would take to transfer if this was necessary also came into the calculation when women had a choice of rural facilities.

Well for me the plan was I had a choice [of two rural facilities]. So but thinking if something went wrong, one was geographically closer to town. It was only 30 minutes. (w/8/1)

However the distance from secondary care was also seen as some protection against unnecessary intervention. This was highlighted for the women following the media release of the Maternity Report for 2007 which signaled the rising intervention rates in labour and birth. The desire to avoid any unnecessary intervention influenced some of the women to consider local birth.

I guess the other thing though that put me off going to the hospital was just the fact that I had heard reports and statistics that once you had to go there to be induced you often finished up having an epidural and once you have medical intervention like that it can just snowball into ending up with cesareans which I didn't want. I don't know whether it is just the cases you hear of but you tend to hear of more that end up having a cesarean than end up having a natural birth. (w/10/3)

In one area the future security of the local maternity service was in doubt. This affected how women saw the issue of distance. If their local facility was closed then to travel out of their area to birth at another rural facility was seen as a less favourable option that would add to the time it would take to transfer. For some of the women home birth was considered rather than booking out of their home area.

...so it was like what do we do if this happens? I think there were a few options anyway but a long way from home. I think the other option was to have home birth and I was leaning more towards that.
(w/1/3)

These early decisions reveal how much thought and consideration the women in the rural areas needed to put into the decision of where to birth. For others however it was not a clear cut decision.

Niggles of fear

Making the first decision about where to give birth was a struggle for some of the women in this study. While they wanted to feel confident about beginning labour in the local facility they had reservations about such a commitment. For these women there was no intermediate primary birth option close to secondary care. One explains her dilemma.

And even though I have excellent midwives I think I probably take the role to go to hospital even though I loathe being in the hospital.
(w/4/2)

... I think I make the decision to go to the hospital because I am nervous. If anything should happen to my child, I mean for my own sake I probably couldn't just live with myself. I crave to have a home birth. I crave to have a birth at home that goes naturally with my midwife and I am left to my own devices or helped through it in a very natural way, you know because I think birth is a very unique experience but I also have an alarm bell that goes off in the back of my head that says but what if something happens? (w/4/2)

Well towards the later part of pregnancy when I was making the decision about [where to have my baby], because I wanted to support the local hospital and [my partner] and I were both born here and I would have loved dearly, for them to be born here. But there was just a nagging doubt – just my own intuition was saying I just don't know.
(w/4/7)

For these women it was important that they find a midwife locally that could understand and accept their reservations. Preferably they wanted a midwife who would provide continuity of care from the rural to the urban setting. For one woman it was important that there was alignment between her philosophy and that of her midwife. This was particularly important in regard to where and how she planned to give birth.

And through the process of choosing a midwife I interviewed several midwives and that was part of the discussion process, what is your philosophy, what do you think, where do you think the baby should be born blah de blah. So that was part of the thought process, and I think I had decided that we would have the baby in a hospital because I guess I wanted to prepare for the worst case scenario. I wanted to know that if something went wrong that all guns could come a blazing. (w/3/1)

In some instances the local midwife was prepared to care for the woman during labour at whichever facility she chose.

Our original birthing plan was that we would have it up here with our midwife but if I wanted to have it in hospital, my midwife was going to come down. [But] she insisted that I would be fine at the local facility. (w/6/3)

Keeping all options open

Most of the women appeared to be committed to a birth place at an earlier stage in pregnancy. However for some this decision appeared to be a tentative one. Of interest in this study was that three of the women who were concerned about distance and planned to birth in the secondary or tertiary hospital, harboured a secret wish to be overtaken by their labour and birth locally. One woman expresses this desire.

Well basically I made an early decision early on to go to hospital to give birth. And with my most recent birth during the time that I was

pregnant I had thought about delivering here. That was always a possibility at the back of my mind because... I consider my midwife to be extremely experienced and I always felt really comfortable with her and I knew in my heart that she would never take any chances of anything going wrong that she would have me in the ambulance down to hospital. And I did talk through that with her and say that possibly I might decide not to go to the hospital if everything started very quickly and it was continuing quickly and everything was going well then I thought I could possibly stay here. Yes and I wanted that to happen and for the decision to be taken away from me. But I wish that we could give birth in this area. I really do. (w/4/1)

Researcher. Do you think the not feeling quite safe gets in the way for you?

That's what my midwife thinks too, if you don't have it in your head that this is where you are going to birth then it is going to get in the way of the labour taking place, you actually need to be in the place where you are going to birth and then it will just all happen.

If it happened quickly it may have been different but if you have time to think about it... (w/4/5)

This hope about inadvertently birthing locally was shared by women who had been advised to birth in the hospital because of their obstetric history or events during their pregnancies.

And um right up we had that gestational diabetes thing and that came back on borderline and they said well you are going to have to have it in hospital now. And I kept saying oh no no no I will be fine... (w/7/1)

I thought well there was a part of me because I am fit and healthy that I was pretty confident that I could deliver vaginally. And I was getting good support from my midwives that [labour] was a good thing to do... because even if it did end up being another emergency caesarean that it helps [the baby] going through the labour. (w/5/3)

One woman with a history of a previous cesarean section was dissuaded from attempting to birth locally. However she still hoped that if she stayed home long enough that it would be too late to transfer to the hospital.

Researcher: What were you planning at that stage?

My next child was a ⁹VBAC so I didn't have any choice about where I was going to give birth. But I was intending to have it here [indicated local facility] ...I had it all organized that we would have it here. We had had a look through town just in case. And that was our plan that we would have it here unless for some reason..... (w/11/1)

Despite some indecision during pregnancy all of the women in the study began labour in the facility noted on their birth plan. This was also the case for the group who hoped inadvertently to birth locally.

It is up to you: advice from other health professionals

Midwives and health professionals advised the women about where it was safest for them to birth. This advice was sometimes sought out by the women or was given by doctors or obstetricians within the context of a recommended consultation. For some women these discussions were helpful, while for others they were even more confused.

One young woman expecting to birth locally was surprised when dissuaded from her choice by her midwife.

I was hoping to have him in the local facility but my midwife [said] she preferred our first child to be born in hospital but also because she had other clients due at the hospital at the same time. So she would have preferred me to be at the hospital. And I hate hospitals so I didn't want to, but then I came round and said OK fine, I really couldn't be bothered arguing about it, (w/8/5)

Other stories included the comments of doctors and specialists.

⁹ VBAC is a common abbreviation of vaginal birth after caesarean section.

When I first found out I was pregnant I went to see the doctor I didn't know what the process was and there was a doctor standing in and she was wonderful however she probably painted for me a picture of a lot of doom and gloom because of my age and the possibility of abnormalities and she was seriously pushing me towards going to see a professional rather than having a midwife up here which I thought was really interesting. Which I mean was good it was good that she gave me those options. And painted the whole picture she was realistic. But I just decided you know that I was in good health and everything else and I didn't feel that I needed it. But it was good to know that the option was there. (w/1/2)

So at about 38 weeks I was down to the city hospital for another scan and I talked to an obstetrician down there to try and help give us some clarity on perhaps what would be best to do in terms of the delivery. And they just said look, because they don't really push the way [to give birth], it is totally up to you. I never felt under pressure to choose. But they did say it is winter and it is your first baby. I was thirty one, I wasn't old but I was getting older, and it may be that you will feel safer just choosing to deliver at the hospital. (w/5/1)

Equally, it was expected by some women that the decision about where it would be safest for them to birth, would be made by those they consulted. Where this didn't happen the women felt burdened by having the responsibility of this decision.

Before my [baby] was born and she said you know people in your situation we would give then a sixty forty chance, you know sixty percent chance of having a successful vaginal delivery after a cesarean based on your history but reading your notes I would make it more fifty-fifty. Which was kind of a bit OK then it felt like it was really up to you and I did feel a bit that the weight of that decision making was on my shoulders. (w/5/1)

I think the first time with your first pregnancy you just want to know and I am that sort of person I just want to know stuff. I like to be planned and organized. And for me I was a bit frustrated towards the end no one could tell me what to do. I quite wanted people to tell me what to do- I felt a little bit inundated with information and sometimes I would have just preferred the medical experts to...(hesitates) maybe not firmer maybe a bit more definite in their own opinions because it was always left open to me but that kinda did my head in towards the end too. (w/5/7)

Regardless of what women were advised during such consultations, they could not help but hear about the births that other women in their experienced in their local area.

Hearing about transfer in labour

Many local networks were accessed by the women in the study. Thus other women's birth stories both positive and negative were exchanged. Some stories of traumatic transfer experiences were recounted and had the effect of shaking the women's confidence about birthing in the local area. For first time mothers the talk was difficult to put into perspective.

Being a first time mum [it was hard] having to filter what you've read and your common sense as to what you thought was the right process for you (w/1/1)

So I hadn't really put a lot of thought into it, luckily I had read a bit, but of course when you are reading these things its all sort of surreal anyway it is someone else' experience. (w/6/4)

Each woman was asked if they had discussed the possibility of transfer with their midwife during pregnancy. All agreed that the subject had been raised. The women anticipated this discussion and valued open and honest discussion about the possibility of transfer or any other issue that arose during pregnancy.

They always discuss transfer with us here. It is certainly mentioned, I think most people are aware that there is a possibility that you might have to transfer because the midwives will say that if A, B or C or D happens then you will need to go to hospital. They are very upfront about that here. They are known to err on the side of caution as well. Because they don't have back up so you can't take chances and that is the way they operate. And it was certainly well explained to me. (w/5/10)

So one of the risks of that was a difficult labour or something needing a cesarean so I said to one of the midwives at the first hint of anything we would transfer we were happy to get down there. We had prepared ourselves so that we might have to transfer if that happened. (w/12/6)

Yes she would be quite honest and say I have never come across this before I will go and look it up and let you know or she would ask the other midwife something about a result which is better than just winging it. But she would be open and say instead of bullshitting. (w/8/13)

For two women the 'relaxed' attitude of their midwife and her reluctance to be clear and open about the possibility of transfer and a back up plan had an impact on their birth experience; this was even more of a problem when the midwife was working on her own without colleague support.

Looking back I guess the midwife was very relaxed about it and had said [there would be] no need to transfer, your baby will go well...She didn't actually give clear information, um and then when we got closer to the time and I was asking for the back-up midwife's name, she said no first babies never come before their due date. You won't have your baby before your due date and I am going to be around so that's fine. So I was listening to her with my head but my instincts were telling

me no it's not going to happen and in hindsight I wish that I had pushed her a bit more and had a better discussion about that. (w/9/2)

For most of the women there had been open and honest discussion about the possibility of transfer. Where this hadn't occurred there was uncertainty as to who would be present and what events would precipitate the need for transfer.

Deciding on transfer in labour

Once the women arrived in established labour at the rural facility there was the expectation that they would labour and birth their baby. Their progress was keenly monitored by those who stayed to support them. This included their midwife, their partner in most cases, and frequently, family or friends. Distance and the time to access secondary care, only become a factor when there was any cause for concern or labour became slow or irregular. While women were included in discussions and informed about progress, it appeared that in most cases the decision to transfer was made by the midwife. For the women this change of plan involved the discomfort and disruption of having to travel by ambulance to hospital. These upheavals also affected family and friends supporting her.

The uncertainty of a long labour

Slow progress in labour proved to be the most difficult area for decision making about the need for transfer. The women were aware that their labour was long and hard but relied on the midwife as to whether their perceptions of progress was right. Transfer was only suggested after every effort had been made to assist the woman to progress in labour. In the texts women frequently referred to 'we' 'our' and 'us' when referring to pregnancy and birth events. This generally referred to the woman's partner but sometimes the midwife was also included; thus demonstrating the woman's belief that all those present had an investment in the process and outcome.

...cause that was about two and a half hours after we started pushing...and I was like I am not going to [the hospital] urrrgh (simulates strong pushing sounds) um but [my baby] still wasn't here. But my midwife was fantastic she kept telling me all the time that you

are doing great the baby is fine baby is happy lovely heart beat I was getting frustrated that I couldn't get this baby out you know I wasn't worried about it or anything. (w/12/1)

My labour was progressing nicely my contractions were got to over a minute and then it sort of quieted down and then it hotted up again, they were two to three minutes but never longer than a minute we tried breaking my waters but that didn't do anything we tried stretching my cervix which was quite horrible and I think unnecessary in hindsight it didn't do anything in and out of the shower heaps of times and yeah I started vomiting and I had a bit of a convulsion as well. I was a bit frightened by then. It was five o'clock things definitely weren't right and I got my husband to take the clock off the wall. I thought baby would be delivered by then. Seven o'clock the ambulance [was called] and the midwife said you are going to have to go to hospital and by that stage I was beyond thinking because I was vomiting all the time and I was having contractions I just thought fine. (w/9/1)

At times the midwife struggled with the decision to transfer when labour was slow. However when the midwife finally recommended that they transfer for additional care, the women agreed, despite disappointment and sometimes reluctance.

I went into the local maternity facility and went right through the night and the midwife came to me about eight o'clock she is lovely and said oh look I am going to have to send you to hospital. I said well you can't. I so didn't want to go. (w/7/1)

My midwife didn't want me to go down there and it was obviously the last resort when she came up to me and said that I had to go down [to the hospital]. All my midwife said was that you are not progressing and things were starting to swell she said it would be best to go. I don't think – I can't fault them at all. I said I would be back and to keep my bed. (w/7/2)

In this situation there was discussion between the midwives as to the timing of a transfer decision.

...she was a bit more experienced than my midwife and she said its all right everything is going all right so to me it felt like my midwife was trying to get us down to hospital but the other midwife was saying oh no she will be alright because you could see the crown coming but it turns out that wasn't exactly what was happening so it felt like to me that things were delayed a bit but when I look through the notes it wasn't as bad as it was a bit hard. (w/12/1)

This discussion highlights how difficult this decision is when the baby's head can be seen. Go too early and the baby is likely to be born in the ambulance. Leave it too late and the lengthy trip would expose the baby and the woman to greater risks as well as a very uncomfortable trip.

Midwives making the call

The comments made about the decision to transfer show that in most instances the midwife made 'the call'. Obvious in some comments was that an understanding had been arrived at during pregnancy as to what circumstances in labour would prompt a discussion about, or decision to, transfer.

Yes and it was definitely discussed if there was anything which she thought jeopardized my health or the baby's health that I was pretty much leaving the decision with her because I didn't know what I would be on gas, drugs or whatever and I was leaving it to her as the professional and I was going to go with her decision. (w/8/2)

I think that is what it boils down to you just have a huge amount of faith in your midwife. I think it boils down to that relationship you have with your midwife and they are the professional and you are leaving it in their hands to make the right decision. We are not the professional how in the hell are we supposed to know. What's going on down there we are busy concentrating... (w/8/9)

This belief in the midwife's judgement was also held even when the woman felt some reluctance.

I had confidence that the midwife would make the right decisions and if she felt that I needed to go to hospital then by all means I would go. But it wasn't my first choice. (w/10/1)

When a situation was considered by the midwife to be 'risky' the decision appeared to be made without consultation. In the situation below a woman in well established labour was discovered to have an unexpected breech presentation.

I was in full labour and wasn't going anywhere so they did a check and there was a bit of that what do you call it? meconium? So they popped out of the room and said I will be right back and I said what do you mean? She came back said I have called the ambulance, he is breech and you are off to hospital. I thought- oh nice. (w/8/3)

Yes well we were going to be in the local facility but my baby decided not to. So it was ten days late and I was ready to push and try and get him out but he was breech and I was whisked away to town for an emergency C section. Fun and games labour in the ambulance. (w/8/2)

Midwives also made decisions in other circumstances. For example, women who planned to travel to hospital in labour, were encouraged to come for a check at the local facility. This was to ensure that they were not in an advanced stage of labour, which would make it unsafe to travel in a car. In this instance the midwife also made the decision about the mode of transport.

So when I went into labour things happened pretty quickly again and I checked into the local facility beforehand but this time they had a rule with the traveling. If you were six centimeters dilated you couldn't go down in your own car you had to go in the ambulance At least I saw it coming. And I had a feeling that things were progressing pretty fast

anyway. So I wasn't surprised when they said no you will have to go in the ambulance. (w/ 5/3)

One of the women who transferred in labour was also a midwife. She was asked how she remembered managing these two perspectives at the point when transfer was suggested.

I think for me, for both labours, you always worried and think things because you are a midwife and you have that underlying knowledge; Always very aware of the significance of any of the findings. I think that once in labour you forgot about that but come the crunch you know what a deflexed head means and you think, well this isn't going to happen here and you knew that it could have some very adverse effects and what that could lead to if you stayed. It could have all turned out fine at [the local facility] but then if it didn't then you are seriously a long way from help. (w/2/3)

And you are starting to wonder what is going on especially when you had a reasonably quick labour with your first baby. Yes everyone was surprised so I didn't worry about it at all I just said well that's fine then let's go. There is nothing you can do about it you just have to go with the flow.

And then at the end of the day you want a safe outcome for you and your baby. Of course it wasn't in distress but if it became distressed you could have a nasty complication. (w/2/3)

This woman's experience highlights how tricky it can be to decide when to make the call to transfer when the woman had previously birthed normally after a quick labour.

The ambulance experience

Once the decision was made to transfer, the focus for all involved was on how quickly it could happen. In this study the women commented on how frustrating

and stressful they found the transfer experience. If the ambulance was delayed this added to the stress and discomfort for the women.

...because I thought that when an ambulance is called they need to get in there. It's OK the baby is fine but what happens if the baby wasn't? Would that ambulance have hurried up or would it still have been forty minutes for it to arrive and then pissing around for another thirty? That was at least another hour that I was immobile. (w/12/1)

... and they had 3 transfers that night and they needed to have a change of shift of the ambulance driver, so by the time that we waited for the St. John people to change their driver and get someone new on it was five or six o'clock in the morning before I left. (w/5/4)

The husband of one of the women recounted their experience and the frustration of waiting for the ambulance.

All the ambulance officers who were on duty were out on calls, so by the time they came in and picked us up in the ambulance [there] was a bit of a delay. And I expect that is something I didn't appreciate, that if we had to transfer that it would actually take five hours to transfer not two and a half. Better to get in the car and go. (w/9/1)

Sometimes the delay occurs as the midwives are preparing the woman for travel.

But once it got there, there was a delay because they couldn't get a line into me. So the ambulance was there for about 20 to 25 minutes before we even got into the ambulance so we weren't even ready for the ambulance when it arrived. It didn't go all that smoothly. It is quite stressful by the time you get to that stage. (w/12/7)

Just getting into the ambulance was a challenge in advanced labour.

And it's quite [difficult] too just getting physically into the ambulance...as you know; when you are in labour it is quite a biggie.

It's like they are asking you to climb Mount Everest. ...they had it hoisted quite high and ... I looked at it and said how do you expect me to get up there? (w/5/9)

Once on the road, the women all found the ambulance trip long and uncomfortable. This was mainly because they were unable to move freely and work with their contractions. Adding to these constraints, were travel sickness and bumpy road conditions.

I had the gas with me which was fine. My midwife sat in the front which [at] the time I didn't worry about it. She told me she was going to [as] she gets travel sick. But in hindsight I would have preferred having someone in the back with me. It was a wee bit because you are lying sideways on the gurney and I get travel sick too, being in labour and lying sideways and trying to hold the gas with one hand and the gurney with the other and I was vomiting too and dehydrated so it was a bit – it felt like a fast trip but [it wasn't] We actually did take our time as the roads were quite icy and they weren't going fast at all. (w/5/4)

One woman transferred by air. She had some local knowledge and when faced with the prospect of transfer, asked for a helicopter.

Then about 11.30 started to crack on and at 12.30 not making any progress with pushing and they examined me and it had a deflexed head I knew the implications of that I didn't need it to be explained. So then they contacted [the] hospital and I politely asked for the helicopter if it was available and they agreed. (w/2/1) We arrived [at the hospital] and were only there about five minutes and I managed to push him out so I had a nice normal delivery with a room full of people; seriously embarrassing. They were all there for the entertainment value. So it was good that it turned out well though it could quite easily have been the other way. (w/2/1)

Despite the discomfort of the transfer trips the women also worried about the wellbeing of their partners and support people.

Concern about the wellbeing of their partner and support team during transfer

Concern was expressed by the women about their partner's fatigue and whether they were safe to drive behind the ambulance. At times the road and weather conditions were an added worry, as was finding somewhere to park the car and stay when they got to the city.

I think the worst part was my partner traveling along behind not knowing what was happening. Fortunately for us it was during the day but it is an issue for those who have been up all night with long labours; particularly too if the roads aren't flash with winter driving condition; [and] often there is nowhere to stay [and] they have to turn around again and drive home. (w/2/3)

...and I think that my husband was more distressed than I was because he had to turn around and come back home to pick up our daughter and then come down to meet us not knowing what was going on. (w/2/1)

The thing is it is always a bit of a hassle for the partner when you get down to the hospital. You know parking your car and that. And he was a bit stressed out so probably wouldn't have been in the best shape to drive down anyway. And they always stopped to do your vitals and stuff and they tell us we are going to stop there so that the person following doesn't panic because we had stopped the ambulance, [or] get excited because we had stopped the ambulance and that this baby was going to be here. (w/5/4)

The women also talked about the outcome of their births including their response to the transfer experience.

Looking back on the birth events

In order to make sense of a childbirth experience women frequently need to talk it over with family, friends and those who shared the journey with them. In this study all the women had a clear and well articulated birth story complete with the times of events, emotions and firm ideas of who said what and when; these reconstructions having become an integral and enduring part of the woman's and her family history. For two this was celebrating a birth in their local area, while for others it was coming to terms with the transfer experience and reassessing their risk for future births.

Local birth; an everyday experience

The experiences of the women who birthed locally were cause for personal pride and celebration. However their stories appeared to be silenced by the very 'ordinariness' of a normal birth, compared to the stories of women who had experienced transfer and surgical interventions.

You sort of feel if you have delivered at [the local facility] that and you haven't gone to [the hospital] and had all the bells and whistles that it was a pretty non event and uninteresting. (w/10/7)

And the process just seemed to take over and the time just flew. It was amazing how it just flew. Um the labour itself, I had no painkillers or nothing I just got into my breathing and everything and had quite a really natural birth. And my baby didn't even cry when she was born. She just looked straight at me as if to say I know you when she was given to me. So that was an amazing process; really amazing. (w/1/1)

Coming to terms with a transfer experience

For the women who transferred during labour there was disappointment that they were unable to birth in their local areas. For some there was a pragmatic response that if a caesarean section was needed then they wanted to get on with it.

My main concern looking back on it now was because they put down “wanted a natural birth”. They were trying everything they could for me to have it that way. Whereas I told them after a few hours down there just cut me open. I am no supermodel it won’t matter. But I think they were trying to keep with my wishes back then. I didn’t care I just wanted to know if he was a boy or a girl at that stage. (w/7/2)

With the cesarean itself it was absolutely brilliant in [the hospital]. They were that relaxed I think the only thing missing from the surgery room was a keg. They were joking and carrying on and it was really nice atmosphere, it really made me relax and they were excellent. (w/7/5)

Talking over their birth and transfer experience over with their midwife was important for the women giving them an opportunity to express their surprise and often disappointment about the decisions made.

That was what we talked about afterwards. If you had been in a main centre you would have had that luxury and said well we will give it another half an hour and see what happens if baby is ok and you are managing and that in retrospect would have been fine but when you are 2.5 hours from any major medical intervention then you don’t have that luxury...And you are starting to wonder what is going on especially when you had a reasonably quick labour with your first baby. (w/2/3)

A meeting with her midwives was an opportunity for one woman to ask them about the decisions made during her labour, including the timing of the transfer decision.

Both midwives had come out to tell us about that and talk to us at that six weeks sort of mark and talk about the process of going to hospital and also to talk about the birth if there was anything we wanted to talk about and discuss and we both talked about this relief midwife should

have been working for our midwife... It was sort of the wrong way around but at the end of the day it was a difficult birth and it sounds as though we are blaming the relief midwife we are not at all its just that it was difficult and it would have been horrible for anyone to deal with but in terms of making us more comfortable with the whole transfer process our midwife said we are going to call the ambulance. It should have been done she was our midwife and she told us so it wasn't for the relief midwife to go hold on for a another half an hour thinking that it was all going to happen because it just stressed us out. (w/12/9)

For another woman the opportunity for debriefing was not offered following a long stressful labour and subsequent transfer. In addition the woman had perceived a disinterested attitude from her midwife throughout her whole childbirth experience. This prompted her to make a complaint.

So it ended up and I dealt with it at the time as you do but it ended up being a bit traumatic after I got home. I got upset by being let down by the midwife and just the whole delivery...I didn't do anything while she was here because it didn't really dawn on me that this wasn't good this wasn't professional. What I did is I got one those forms, I am not sure if everyone gets those so I rang the midwifery council and I said look I am quite upset about this and is somebody going to read this so I wrote a letter. Just outlining what I thought was not appropriate and that the back- up cover wasn't arranged.

I genuinely believed that I would have my baby normally. And I definitely didn't want a caesarian I definitely didn't want all the interventions that I had. (w/9/2)

Thinking about a future birth

Most of the women in this study were thinking ahead to the possibility of having another baby. When asked where they would plan to give birth in the future some of the responses were surprising. For example one woman had

experienced a very long labour culminating in a caesarean section. For her next birth however she was determined to have another go at the local facility.

I am going to push it out in five minutes next time I betcha. That's the great plan anyway. (w/12/11)

This aspiration was also expressed by another woman who had experienced a similarly long labour and cesarean section; though she understood that this choice might not be supported by her LMC.

I would like ...it would be nice to know that you could have your baby in [the local facility] and know that it is safe because you know you have got all the technology but obviously you can't have that everywhere but if I got pregnant again I would still choose [the local facility] but chances are I will have to go to [hospital] because I have had a cesarean. (w/7/5)

For others the experience of either the birth, or the transfer experience has left them undecided as to where they will plan to birth in the future.

Researcher: Would you consider the rural facility next time?

Not sure I haven't decided as yet. The ambulance trip didn't thrill me to bits. (w/8/3)

Yes and I would have the same midwife again and my plan would be to be at the local facility. But I would have an open mind and yes the second time around you are so much more aware whereas the first is so new. (w/8/14)

For other women who transferred there is no doubt that they will plan to travel to the city to birth to avoid the long trip should transfer be necessary in a future labour.

Um oh I would just go to hospital straight away...everything is there and you don't have to travel. (w/8/7)

Another, while resigned to plan a future birth in secondary care was nonetheless hoping that she still might manage to have a vaginal birth next time.

[T]two midwives had said that to me too having had a cesarean better to birth [at the secondary facility] next time and I think I had made that decision anyhow just to cut out that whole ambulance trip. I don't think my husband would let me go through that again anyhow. But I have done a bit of reading and was curious to know what happened and why. My understanding is that 70% have a vaginal birth after a cesarean. I am still hopeful of that. (w/9/3)

Local maternity services and their influence on women's decisions

All of the women expressed an interest and investment in their local maternity service even though some had chosen to birth elsewhere. Their mix of experiences also gave them a personal insight into many aspects of their rural maternity service. Comments were made throughout the interviews which clustered around the positive aspects of the local facility and the costs incurred by those who transferred or needed to birth elsewhere. Also of interest to the women was the struggle they saw for rural communities to attract midwives and sustain the local maternity service.

For the most part the women had high praise for the service they experienced in their rural area, even when transfer occurred. Comments such as

...but I only have praise for that place (w/4/6)
and ...

I love [our local facility] because it is a very special time for the ladies and to be able to spend the time there and you do get looked after so well and your husbands can stay if they want to but it is just a time where you can get to know your child it is lovely. It's nice and

comfortable and warm and you can do what you like and it is a really nice time. (w/4/5)

If you talk to mums that were able to go to rural units they were out of there lickity split they didn't want to hang around...Not many of them seemed to be going home they were going to [the local maternity facility]. (w/8/4)

I just got out of the hospital as quick as I could. There are some nice people there I don't mean to be awful about it, it is the ones that you strike that aren't very good. And I think you know when you start losing that personal touch it is time to pass the job onto someone else isn't it? (w/4/6)

The costs of transfer

For women who needed to transfer in labour however, there were costs associated with relocating to the city for birth. Some of these are financial expenses while others are the cost of time, travel, emotion and energy that affects both the woman and her family.

I do wonder sometimes how people with one income or a solo parent or a person in that situation delivering away from [home cope as it] can be a bit of a strain in other ways. Especially if you have other children and family and people that want to visit you. You know like grandparents and that. Which living in [rural area] you become accustomed to having to travel to access medical services, but it is not always easy when you are in the middle of it. (w/5/9)

I do feel that if you live in a town like ours and deliver at the larger hospital it is a bit of a shame afterwards. Like you know your husband has to come home to the other kids or whatever and then come back and get you there is a lot of to-ing and fro-ing. And when we added up the cost of that it does cost quite a lot of money. We don't have family in the city. That he could have stayed with so then you have got to

look at motels and everything. Even car parking the city there is not financial assistance available. (w/5/9)

One woman who birthed locally recounts the costs involved for other women she spoke with. She was horrified at the tight time frame allocated for women to return to the rural facility and signals that this is not sensible or safe.

I hear about other girls, some have had a terrible time. [W]hen I had my baby one of the girls had transferred from the city and because of that¹⁰ time scale and they had been up from about two in the morning and she had had her baby in [the secondary facility] and then they had to transfer back to the local maternity facility. And her husband had been up with her and she had had a rough time of her pregnancy and he drove three quarters of the way and was exhausted and she drove the rest of the way to the rural facility. It's horrific. It's like what our health system is like. Does someone have to have a car accident for them to look at those sorts of things its just stupid? It's about the dollar and it's not about the health of the child or the mother. It's exhausting. (w/1/3)

Uncertainty about rural maternity services

The women expressed concerns about the shortage of midwives. In one area there was concern following a temporary closure and what this might mean for women who wanted to birth locally.

Because when [the local facility] were having those issues last year it was a reality for us, hey if that's not going to be there we haven't got very many options. I think it was about two weeks before [my birth] that one girl had her baby in the car park and her labour was only an hour long. So imagine that to get to the city. There would be a lot of babies born on the road side. (w/1/3)

¹⁰ The "time scale" referred to here by the woman is the 12 hours time frame in which the woman needs to return to the rural facility in order that a postnatal facility fee can be claimed by the rural facility.

This uncertainty was felt by one woman when these services were not available locally. The result was mixed in that some opted for home birth while others were lost to the city hospital.

I think for the mums and the midwives a lot of it was a lack of communication which was a little bit frustrating. I think the mums that were due or overdue were put under a lot of pressure and some in the end did have home deliveries that they weren't going to, and some ended up going to the city. (w/10/1)

For this woman while home birth was an option it was not her first choice for her first birth experience.

You don't need that especially with your first baby. I think that if it hadn't been my first baby I would have been more than happy to have a home birth but I quite liked the idea of going to somewhere like the local facility. Some of my thinking was that if it wasn't a positive experience and something went wrong I didn't necessarily want those memories in my own home. (w/10/1)

It was seen as short sighted by one woman that a more fully equipped facility was not provided in one area. The private birthing facility had recently experienced a temporary closure leaving women with no other local birth facility option.

...so I don't feel it is a dilemma for the women and the midwife but I feel it is other people that have let the system down. You know possibly the funding isn't quite right. It seems like there are some flaws in the whole system and it seems short sighted not to have something in this area. (w/4/7)

In some areas midwives were in short supply or planning to leave the area. This meant that the local women had less choice and found it difficult to find a midwife with whom they felt comfortable and could establish a rapport.

So I think my biggest concern for here is I think that I worry about the lack of midwives in this area given that we are a growing community and there are a lot of women here. And the other thing is that you have to find a midwife...that you get on with or that you relate to well, and we just don't have that option here because you have to take what you can get. I would have a good rapport with because they are a part of your life, come into your house, and are at the birth of your child intimately. (w/4/6)

My midwife has left town and another one has retired so we are short of midwives at the moment. So it must be a terribly difficult job working in rural midwifery. (w/9/4)

The decision of a midwife to not continue care in the secondary facility was understood by women when it affected the cover for other local births.

And I understand it is too expensive for them to travel all the time and given the limitations and one thing [my midwife] said was that I won't travel with you to [hospital] because I have other people here who want to birth here and if I am in [the city] and can't birth them then that is not good enough for them. I said I understand that completely and I really appreciated where she was coming from because if I was birthing here I would be really upset if my midwife was in the city hospital with someone else. (w/4/7)

No clear strategies for maintaining and improving the rural maternity services were suggested by the women. However their comments were insightful and provided a personal understanding of how women women's decisions about where to birth can be affected when local services are not secure and midwives are in short supply.

Discussion

The women in this study faced several important decisions. They deliberated over where to give birth over the course of their pregnancies. Distance was a

recurring theme in relation to their choice of birthplace; the women seeking a space that felt right and safe for them. Nevertheless the choice for many was a tentative one, with the possibility of transfer hovering throughout pregnancy.

Once established in labour, the women who had made the choice to birth locally, settled into their rural facility with the expectation that this was where their baby would be born. It was only when an unanticipated problem arose, or labour, was unduly prolonged, that they needed to think about transfer. These decisions were at times complicated, and in most instances, the decision to transfer was decided by the midwife. This would seem to contrast with the expectation that such decisions ought to be a shared process between the woman and her midwife in the first instance. Where this does not occur suggests that styles of decision making may change in different circumstances.

Women and their families are inevitably affected by the experience of transfer, particularly when this occurs in labour. In addition, the net effect of decisions made has the potential to influence the birth choices of other women and affect the viability of the rural facility.

Considering safety and place of birth

Planning where to birth for the women was a complex decision. It was influenced by their personal, social and cultural history. Part of this decision was the understanding that when you lived in a rural area that transfer was a possibility. In this study women positioned themselves in regard to how safe they felt about planning birth in their rural area.

For two women, the family's historical connections with the area were important. Key also was the support from family and friends and a relative sense of distance from unwarranted intervention, which they believed would be more likely should they plan to birth in the city hospital. Their plans had been based partly on what had been heard, both from those who had birthed in the secondary facility, and what they had read in the media about the rising rates of intervention. For these women safety represented a place where they would not

be subject to unnecessary disturbance during their birth and near to their family and home.

A sense of the rightness of a location for birth was also found by Howie (2007). In this study, women in the central North Island of New Zealand were invited to share their motivations for choosing their birthplace. The women who chose their rural facility, did so not only because it ‘felt right’, but also because of the physical aspects of the birthing environment, which made them feel ‘emotionally right’ (ibid).

Gallagher’s (2003) study also found that a ‘sense of place’ was an important consideration when women planned where to give birth. Some of the women in her study were drawn home from elsewhere in the country to birth on the Akaroa Peninsula where they had support from local ¹¹whānau and friends (ibid). For this group of women this was a natural choice, with birth away from their ‘place’ not even considered (ibid). Other women were concerned about their safety in the rural area and a desire to avoid transfer (Gallagher, 2003). These women chose the tertiary hospital in Christchurch; a decision frequently influenced by the advice of partners and friends (ibid). This decision sometimes caused feelings of guilt at letting the Akaroa facility down by their choice, given its financial vulnerability. Nonetheless, for these women even when the Christchurch experience was poor, it remained their first choice for subsequent pregnancies (ibid).

Several women in this current study had ‘niggles of fear’ about the prospect of needing to transfer in labour. These anxieties were sometimes further complicated following visits to specialists or other health professionals. These consultations often resulted in the women being appraised of the pros and cons and having to weigh them up for themselves. Where a recommendation was expected and not given, some of the women found the decision more confusing than before the consultation.

¹¹ Whānau in Māori means to be born; give birth; family (Ryan, 1989).

In the end, each woman in this study began labour in the place they had chosen at the outset. This included three women who secretly hoped that their labour would begin and progress in such a way that they would end up birthing in their rural area. Though keen for a rural birth experience, the risk was more than they could accept. This choice was made despite their knowing that a normal birth experience would be harder to achieve in the larger hospital. These responses concur with those found by Pitchforth et al., (2007) in rural Scotland, where women were prepared to trade off the additional costs and inconvenience of travel, rather than risk transfer from the rural unit in labour.

These decisions about birthplace were played out over the pregnancy, thus the women had time to consult and work them through with their personal philosophy and tolerance for risk. Decisions needing to be made in labour however were sometimes more urgent and equally complex.

Deciding on transfer in labour

The possibility of transfer in labour had been discussed with each woman at some time during pregnancy. However it seemed that in most instances, the midwives made the decision when transfer was thought necessary. Such a process would fit the description of a paternalistic style of decision making (Charles, Whelan and Gafni, 1999). For one woman this was a surprise and she expressed resentment about the decision made by the midwife.

So she would have preferred me to be at the hospital. And I hate hospitals so I didn't want to, but then I came round and said OK fine, I really couldn't be bothered arguing about it, (w/8/5)

Another of the women had decided that if her midwife decided that she needed to transfer then she would be prepared to take her advice. She felt that once in labour she may not be in a fit state personally, to make such a call. One woman had discussed with her midwife how decision making might occur if there was a risk to her or her baby.

Yes and it was definitely discussed if there was anything which she thought jeopardized my health or the baby's health that I was pretty much leaving the decision with her because I didn't know what I

would be on gas drugs or whatever and I was leaving it to her as the professional and I was going to go with her decision. (w/8/2)

Decision situations in labour were explored by Freeman, Timperley and Adari (2004). The authors suggested that by “using a discourse of equality in partnership ...can obscure the power relationships, which are operating by talking as if they do not exist” (p.4). Their model of decision making suggests that the balance of who makes the decision could be based on the degree of risk. In other words, where the risk is low the woman is the key decision maker. However should the woman be considered high risk then the midwife is best placed to use her “professional judgement” (p.11).

Such a position challenges the partnership model extant in New Zealand (Guilliland & Pairman, 1995) which does not discriminate on the basis of risk in terms of the equality of the decision making partnership. In fact, to do would constitute a breach of the ethical relationship with the woman denying her autonomy. It also leaves the decision of what is high risk to the woman within the midwife’s purview. In a shared model of decision making the expectation is that the relationship will have been established prior to the need for a transfer decision. Or, in other words grounded in a pre existing relationship with an understanding of who will make decisions and when (Charles, Whelan & Gafni, 1999).

However for power and decisions to be truly shared, a climate of trust and mutual understanding of each other are vital ingredients (Leap & Edwards, 2006). While this appeared to be the case in some of the women’s stories of transfer decisions, it was not so for all the women. Further, to have such an arrangement in advance may not be appropriate for all the labour situations (Cooke, 2005); for example if a woman is “in pain or distress” (p.132).

While most women were happy to transfer when urgent situations arose, trickier were the decisions when labour was prolonged. In this study, the women’s response to the midwife’s decision was mixed. Some were resistant but became resigned to the decision given the length of time they had been in labour.

I had confidence that the midwife would make the right decisions and if she felt that I needed to go to hospital then by all means I would go. But it wasn't my first choice. (w/10/1)

It appears that the decisions made were a mix of styles; these dependent on the relationship with the midwife, and also on the style of interaction and decision making particular to the women. Where the relationship had been well established in labour and trust built up, the women felt more at ease with either making the decision or leaving it to their midwife to make on their behalf.

Rooks, Weatherby and Ernst (1992) suggest that the majority of decisions are not urgent in prolonged labour. This appeared to be the case with the women in this study, as often on reaching the hospital there was no rush to intervene. In fact for most, efforts continued to try and facilitate a vaginal birth. Thus it could be suggested that for most decisions about transfer that there is time to reach an agreed decision without coercion. So perhaps it is how the decision is viewed in the future that best shows how ethical and consensual it was.

Reflecting on the transfer decision

Whatever the outcome for the women who transferred, the opportunity to reflect on the decision was important. Creasy (1997) suggests that issues of communication, control and continuity of carer, affect how women experience transfer (ibid). These links were explored with women who had experienced transfer in labour from a rural facility or hospital. The women in Creasy's study were frequently disappointed with the outcome, but where they had received good information, explanations, debriefing and ongoing care from their practitioners, they were better able to manage their feelings (ibid). Further, it was easier to come to terms with their experience when their carer had been present during the crisis point (ibid).

A sense of 'loss' was a central theme found in another study of women's experiences of transfer (Walker, 2000). Walker's study looked at transfers from a midwife-led to a consultant-led maternity unit in both late pregnancy, and in

labour. The sense of loss related to several factors including continuity, choice, control and support. These cumulative losses resulted in feelings of anger and resentment, being most strongly expressed when the woman perceived no reason for the transfer (ibid).

This sense of disappointment, anger, and loss was experienced by one woman in the current study. This was related to the breakdown in her relationship and sense of abandonment by her midwife when she began her labour.

So it ended up and I dealt with it at the time as you do but it ended up being a bit traumatic after I got home. I got upset by being let down by the midwife and just the whole delivery...

I genuinely believed that I would have my baby normally. And I definitely didn't want a caesarian I definitely didn't want all the interventions that I had. (w/9/2)

An opportunity for women to debrief and reflect on the events of their labour and transfer experiences offers the opportunity to express feelings and hear the perspectives of others. For example, where a woman felt that her transfer had been delayed this was an important conversation.

It [the baby] was sort of the wrong way around but at the end of the day it was a difficult birth and it sounds as though we are blaming the relief midwife we are not at all its just that it was difficult and it would have been horrible for anyone to deal with but in terms of making us more comfortable with the whole transfer process (w/12/9).

In the Netherlands, Wiegers, van der Zee and Keirse (1998) found that one in five women in the care of a midwife was referred when labour commenced. Contrary to expectations they found that the transfer experience had little influence on how the woman experienced her birth (ibid). However for subsequent births, the confidence of these women was shaken in terms of their first choice about birthplace (ibid). This therefore, resulted in an overall drop in the number of women choosing to birth at home (ibid).

This lack of confidence about planning to birth in the rural areas for a future birth was evident in this study. The women had clear recollections of the events that they had experienced and the emotions felt. These influenced their thinking around where they would contemplate birthing in the future and most were resigned to having to go to the city next time. The stories of these women experiences have become part of the folklore, not just in their family circles, but also in their respective local communities. Thus the collective experience of women in an area has the potential to continue to influence the birth choices of others.

Whenever the subject of transfer in rural areas is raised in the literature it is inevitably linked with issues of sustainability. The decision to transfer is seen by rural communities as a critical issue given that it is about the safe care of the woman and her baby, but also because a high number of transfers can impact on the future viability of the facility (Tracy et al., 2005). If the threshold for offering a rural birth is too high, then women who could safely, and would choose to birth locally, are denied this opportunity. If it is too low then the rate of transfer in labour is increased and the chance of a poorer outcome more likely. Either way the viability of the facility could be threatened (ibid).

Local maternity services and their influence on women's decisions

Despite their birth experiences, and their decisions about where they would choose to birth in the future, all the women in the study expressed support for the continuance of the local maternity service. In fact their experiences enabled them to see the problems and to say what from their perspective could improve the services.

During this study one rural area experienced temporary closure affecting those women who planned to birth locally. This meant that over the course of their pregnancies these women were unable to confirm their birth plans. Concerns expressed were broadly about costs for women and families if services were not available locally, and difficulties attracting and keeping midwives in the areas. For example, the cost associated of travel and accommodation was considerable when family members needed to commute or stay in the city.

Such public health costs associated with closure of rural facilities are of international concern also (Canadian Medical Association, 1994; Nesbitt, Larson, Rosenblatt & Hart, 1997; Tew, 1995; Tracy et al., 2005). The costs for both the community and the women in particular, were outlined by Nesbitt, Connell, Hart & Rosenblatt, (1990). The costs of relocation of families were noted by Rogers (2003). Economic costs to the community were acknowledged and calculated by Holmes, Slifkin, Randolph and Poley (2006) (Chapter 2).

The effect on families of closures in the wake of service reorganisation in remote areas was described by Kornelsen and Grzybowski (2005) who found that women, like those in the current study were left feeling uncertain and often without skilled local care, during their pregnancies. These challenges occur in New Zealand also when midwives leave causing women to have to travel to neighbouring towns or cities for birth. The women suggested that the funding was not right and should be re-evaluated for rural areas so that service interruptions did not occur. Such disruptions lead to women losing faith in the local service and also fears of being caught out in labour without skilled help.

Because when [the local facility] were having those issues last year it was a reality for us, hey if that's not going to be there we haven't got very many options. I think it was about two weeks before [my birth] that one girl had her baby in the car park and her labour was only an hour long. So imagine that to get to the city. There would be a lot of babies born on the road side. (w/1/3)

Wish-lists for the women included having access to secondary services within easier reach of their rural facility and funding to assist with the costs of transfer. Their comments provided insights into how women in communities are affected when local services are not secure, and midwives are in short supply. Further these local situations have a considerable effect on how women make the decisions about where to birth and impact on the timing and experience of transfer.

Summary

Transfer in labour was a possibility considered by all the women in this study. Birth in a rural facility takes place against the backdrop of distance and time from secondary services and this reality prompts women to consider where they feel safest to plan to birth. This decision may be made after consultation with family, friends, their midwife and or other health professionals. Of interest is that some women planning to birth at a secondary hospital may despite 'niggles of fear' nurse the hope that if all goes well they might still be able to birth locally.

Once in labour the women in this study expected that the midwife would make the decision about transfer if there was a complication. This decision was less clear when labour was prolonged with some women feeling reluctant to agree to transfer. Decision making styles of both the women and their midwives were discussed in regard to how these relationships function when decisions about transfer need to be made. This included the idea of a shared relationship within which trust and negotiation are key to equality in decision making.

Most of the women who needed to transfer found the ambulance uncomfortable and stressful; their concern being exacerbated when delays occurred. The decision to transfer also caused disruption, fatigue, and worry, for partners and family members supporting the woman during labour. Transfer meant that at an emotional and anxious stage, women found themselves in a strange hospital environment needing to relate to staff they did not know.

Talking over the birth experience was important for all the women. For those who had birthed locally this was with a sense of wonder and personal accomplishment. Where women had transferred to secondary care, the opportunity to debrief the events with their local midwife was critical to enable them to add to their understanding of what had occurred and why. For women who had unhappy transfer experiences there was frequently a sense of loss and anger, this was so particularly where their relationship with the midwife was poor. Transfer experiences also influenced where and how women planned to birth in the future.

Collectively the women's experiences and their reflections on their experiences highlighted some of the strengths and weaknesses within their local rural maternity services. These included the additional costs incurred with transfer, and uncertainty about maternity services and access to local midwives. These themes are returned to in the next chapter which explores and discusses the ideas and reflections of the rural midwives. In this chapter the theory and styles of decision making are developed further and related to the midwives' data and other research and commentary.

Chapter Eight: Views of rural midwives supporting rural births

Introduction

In this chapter the rural midwives provide insights into the decisions they make while working with women throughout pregnancy and labour. For this project, 15 midwives providing Lead Maternity Care (LMC) care for women in rural areas participated in individual and small group interviews (Chapter 5). The views and experiences of the midwives provide a different perspective from those of the women in the previous chapter; though in many respects the accounts appear to be two sides of the one coin. This was particularly apparent in the way distance and the rural environment influenced their thinking and decision making around the possibility of transfer in labour.

The major themes, as in the previous chapter, are explored in the text as a weave of comment interspersed with excerpts from the midwife transcripts. These address the discussions with women in advance of labour, and also those in labour and early postpartum, when there is a need to transfer from the rural area. Ever present within these conversations are frequent references to the local and secondary care context within which these decisions are made.

Overview of the themes

Working at distance from secondary care services is an everyday reality for the rural midwives. This rural positioning influences each decision in regard to whether and when to transfer. The comments about needing to ‘think ahead’ taking distance and time into account correlate with similar comments found in the survey (Chapter 6).

The major theme ideas introduced in the analysis of the women’s interviews (Chapter 7) are used to structure the data in this chapter. The first theme *helping women decide about birthplace* concerns how the midwives go about working with rural women in regard to their choice of birthplace. This includes the consideration of distance and discussions on the possibility of transfer in labour. The midwives also share how they set boundaries for practice.

The second theme *deciding about transfer in labour*, addresses the main focus of this thesis. The midwives discuss the differences between emergency transfer, and transfer decisions that emerge over time. Included are challenges around practice boundaries which need to be balanced with a woman's desires for her birth and the logistical realities of the rural setting.

How the midwives look back on the events around the decision to transfer is approached in the third theme - *reflecting on the transfer decision*. This includes sharing the stories with colleagues and also considering the impact of these decisions on the community, their reputation and that of the rural maternity service.

The local service arrangements also influence transfer decisions. This final theme, *considering issues for rural areas and their impact on decision making*, highlights the practical, communication and logistical elements particular to each rural area. Included are strategies for maintaining secondary care linkages, attracting women to birth locally, and keeping skilled midwives in the rural areas.

Table 4: Themes from the interviews with midwives

<i>Major themes</i>	<i>Sub themes</i>
Helping women decide about birthplace	Distance and time as a rural reality Discussing the possibility of transfer Helping women make decisions about where to begin labour
Deciding about transfer in labour	Emergency transfer decisions Making the mind shift from normal to abnormal: the dilemma of slow progress Pushing the boundaries Deciding how and when to transfer: the local context

- transport decisions
- weather and road conditions
- getting back home after a transfer

**Reflecting on the
transfer decision**

Talking it over with colleagues
Ripples in the community

**Considering issues for
rural areas and their
impact on
decision making**

Skills and decision making
Consulting with secondary care
Attracting women to the local facility
Attracting midwives to rural practice

The presentation of the text

Throughout this chapter selected quotes from the midwives' transcripts are interspersed with text. In some sections it was impossible to separate the fine distinctions between the sub themes. Thus in some parts large sections of complex text are presented so that the comments can be seen within the context of the reply or comment.

The source of each quotation is represented by the transcript number and relevant page. This is represented thus; (m/x/x). Where the midwives have been interviewed in small practice groups the identifying number represents the voices of all participants. Minor grammatical and syntactical changes have been made to the quoted passages to assist the reader where the meaning was unclear. The names of the midwives, the facilities and geographical areas have been replaced with generic terms. The aim is to preserve the anonymity of the participant and avoid the possibility that detail in the anecdotes could inadvertently identify women in the rural areas. These terms are located in square brackets. Where words have been removed from a sentence or passage of text, three full stops (...) are inserted. This action has been reserved for instances where the textual elements are unrelated to the meaning or overall intent of the sentence or paragraph.

Helping women decide about birthplace

The starter question for the midwives was designed to open up the discussion about rural practice and decision making in particular. The midwives were asked what had brought them to the area and to rural midwifery practice. The responses revealed that lifestyle was important plus the opportunity to practice with some freedom and independence. They were keen to share their rural experiences as well as some of the benefits and challenges of rural practice. Many of these responses related to the assessment of women who were planning to birth in the rural area or at the local facility. The comments reflect how distance and time from secondary care becomes a factor that is ever present in these early assessments around the safest and most appropriate place to begin labour.

Distance and time as a rural reality

One midwife who was well integrated into her community suggested that the very nature of the rural environment and the distance from secondary care encouraged the women to approach birth with a more confident attitude.

[The women] were more focused on giving birth normally and they are not going to the hospital for drugs. They are more independent [and] that's the part I like...We see a lot of satisfied and confident mothers.
(m/1/4)

However for midwives who had moved from the city, there were challenges in the new environment. This was at the forefront of their thinking when they were assessing women for local birth.

One midwife new to rural practice relished the challenge of practising in a rural area. However in a conversation with the resident local midwife she illustrates her early response to working at distance from secondary care without the equipment and logistical support she was used to in the urban setting.

... I would say things like where is our CTG machine? And she would say we haven't got one mate. And I would say, but we should have

one or, what do you mean I've got to take my own bloods? Where is the lab? Her response was, we don't have one and we take those things. (m/6/3)

Another reflects on the challenge of distance and time from secondary care and a different interpretation of stress. The midwife's new role is thought to involve more 'prophet' decisions and preparedness to be able to respond appropriately in any emergency situation.

I am enjoying the challenges that come with this place, I used to think that the tertiary facility was an extremely stressful place to work but there was always that recourse to other specialists instantly and I actually think it is harder working in a rural unit where there are such a lot of prejudgment and prophet decisions to make. And there is a lot about honing up our individual skills. We have to be responsible for our own midwifery skills so that is the challenge of working here. (m/1/5)

In response to these challenges the rural midwives set boundaries around their practice and referral patterns. Thus the threshold for referral was seen as needing to be more sensitive than if they had been located closer to secondary care. There is also the acknowledgment that the risk is that such boundaries could result in higher levels of referral.

Well that was the decision I made when I came here that I was going to transfer very easily if I thought I needed to. (m/4/2)

So sometimes you refer a little earlier if you think they are high risk. (m/1/10)

If you were close to the hospital you could keep her at home a little bit longer. (m/1/4)

Discussing the possibility of transfer

All the midwives in the study said that they addressed the possibility of transfer in labour with women in their care. One midwife tells how she incorporates this discussion with the idea of a flexible birth plan. Within this comment there is a sense of fluidity and the opportunity for ongoing discussion.

We always tell the women that it is very hard to make a birth plan because how do you know how you will feel when you first [go into labour] and how do you know what you will want when you are in pain. So we'll always ask them to tell us their wishes and as long as it is safe we will do it. If it is a little bit different we tell them what our philosophy is and if they want something different we can change it so we are not very strict with birth plans. And we tell them if there is increased risk if the baby is too small, high or whatever that we will go to the hospital with them. But when they choose to have a hospital birth then we always have to think what they want if it is going very fast and that if you go in the car when you are 'fully' it is more risk of having it at the side of the road than having it at home. So we say sometimes you have to change your plan. (m/1/5)

In the example below the midwife was reflecting on her thinking pattern when working with primiparous women planning to birth at the local facility. Her assessment here is clearly projected forward to the possibility of transfer in labour.

Yes once again you are looking at your primips. If you have a primip who is a week overdue with high head nowhere near the pelvis, very unripe cervix, no softening unable to be tipped. No use you keeping her another [week] because the likelihood of [her] going into labour is very slim. If that baby is right down and well flexed and at the cervix then it is a different story. (m/2/3)

Time frames were sometimes suggested with the hope that the baby would change position.

.. say “I give you to Friday because you are going to be fourteen days then”. And if you think the likelihood is high [that she will labour well] then that is ok, but if not then I don’t feel as if I am letting the mother down to send her down [to the hospital]. (m/2/3)

Prior to the interview another midwife had just completed an antenatal assessment. The woman was at that stage undecided about where she would begin labour. The midwife recalls her response demonstrating another way in which the topic of transfer may be approached. It also reveals some cautious risk management by the midwife.

Well this woman who was here just now, I will scan her at 36 weeks just because she is not committed to birth here. She does have a big baby she is very frightened and it is quite hard to palpate that baby. And there might be a bit more fluid around it and I would just like to know. And that might reassure her that she is safe here or it might tell us that she is not. (m/4/11)

Helping women make decisions about where to begin labour

For another midwife, discussion about where it was best to begin labour was based on a gradual coming to know and understand the woman’s attitude to birth and tolerance for risk.

Well you have got a partnership that has been developed over a period of time. Like you get an idea of which women are likely to be prepared to wait and which women are medicalised and want intervention sooner rather than later... you pick up those cues and they go into your birth plan and you can get a fairly good idea of which women are going to do all the midwifery things that they can to advance the labour or which women say no I can’t cope with this.

And the influence of the wider family I think too comes through with that.

When we are initially with women, we discuss the fact that this is a primary unit and if for any reason we need to go to hospital that that will happen. That is basically it. (m/5/6)

For women well suited to birth locally the aim is to arrive at a clear understanding of what events would prompt a discussion about transfer in labour. However some women possess a strong desire to birth locally even when there are concerns about their suitability to do so. In these circumstances boundaries are established by the midwives aimed at reducing the risks to all parties.

So in other words [to] have boundaries for your own practice is very important... I have had that a number of times [women] who wanted home deliveries where there has been a previous poor history with retained placenta. And [I have] put it to the woman that you wouldn't be happy because it is putting [my] practice at risk because [I] have rights as well as the woman. So I think it is very important that we screen carefully and make sure that [our] standards are met as well as the woman's. (m/2/2)

One midwife new in the area was caught out with a woman in advanced labour who desperately desired to birth at the local facility. The story shows how not knowing the woman and her history can compromise safety for both the woman and the midwife. It also demonstrated the midwife's thinking and decision making around the timing of transfer, including interim management of the baby, given her options at the time.

... I had a woman who assured me that she was 38 weeks pregnant and came in labour and really hard labour and just as she was about to start pushing I reviewed her notes and this was when I hadn't long been here, and she was 35 weeks and five days. She didn't want to go to hospital. People love this unit so much. It didn't help that she wasn't completely honest about it. There would have been time to transfer her before the baby was born. And even when I found out there would

have been time and I thought the baby would have been born on the road. So he was born here and we expressed [colostrum] and there was only me and a nurse and I got on the phone for an ambulance. And the parents were both insistent that they weren't transferring. (m/4/11)

Researcher: Did you have an incubator here?

No we had a nice warm mum and he did fine that wee baby. He was in NICU down there for six weeks but he didn't need any antibiotics and in his whole life he had 19 mL of formula. His blood sugars and oxygen levels were fine. (m/4/11)

In some circumstances the midwife boundaries were blurred. One midwifery team discussed what they saw as an enlarged 'normal range'. For example where a woman had a strong desire to attempt birth at the local facility the midwives did what they could to help her achieve her goal. In contrast to the story above, there was a relationship of mutual trust and respect between the midwife and the woman.

The normal range is quite large here and we are blurring and can overlap at certain points but it depends on your relationship with the woman. Like [one woman] who was borderline for polyhydramnios, borderline of diabetes, borderline for everything but she wanted to birth locally. So OK we worked the boundaries and she had a normal birth here and she was very pleased that she did but she knew that we were pushing the boundaries and you knew as her midwife that you were on the edge....It would have been very easy for an obstetrician to say well you should have had this one in hospital because of this that and the other thing. But it was not what she wanted and you know you work towards keeping things as normal as you can. (m/5/6)

Stepping out of a comfort zone for women means that not only is the midwife having to deal with the actual and perceptual distance and time from secondary care, but also with her own concerns about her reputation as a safe practitioner and that of the facility within the rural area.

In the next theme the decision making process during labour is explored further. This section focuses on how labour events are perceived and acted on in a variety of circumstances.

Deciding about transfer in labour

Emergency transfer decisions

Transfer in labour is almost always more disruptive and stressful than referral situations in the antenatal period. When women planning to birth in a rural facility begin labour, there is the expectation that this will progress and the baby will be born in this setting. Thus the woman, her support team and the midwife are all journeying together for this common goal. Transfer however will need to be considered if there is a sudden or gradual change in either the wellbeing of the woman or her baby.

One midwife describes her process when making a decision in regard to the baby's welfare during labour. Clearly whatever the response of the consultant this midwife is preparing to transfer.

Yes there are one or two where I have printed off the foetal monitor strip and faxed it through and say that this one is not reassuring for this reason and I just call [the hospital] and ask for the consultant on call and either talk to them or if it is not quite as serious I will talk to the registrar or the house officer. And just tell them I am coming and fax through what I need and call the ambulance. (m/7/7)

Disappointing, and very disruptive, is a circumstance where a woman's labour and birth go well, but the placenta is retained. One of the midwives describes an emergency transfer she had recently dealt with. Such a problem underscores the skills needed in the rural area and also the preparation needed to keep the woman safe during the journey.

Last week I had a retained placenta,[the woman] pushed out a big fat baby then the placenta decided to stay where it was despite doing everything. So she was tripped out. The placenta needed to be peeled

off. It was partially separated. For most of the journey there was hardly any blood at all. I had two lines and syntocinon up. (m/6/6)

One complication all rural midwives dread is a postpartum haemorrhage. This is particularly worrying in a remote rural area where there are delays in getting the woman to hospital. The challenge this presents is described below as the midwife works to control the bleeding while organising an emergency transfer. It also reveals how fast time passes in such emergencies.

Researcher; You were talking before about a critical transfer for a postpartum haemorrhage.

It is the time involved when it is a critical situation. Just the time you call [the hospital] and decide yes we have to do something until they are out the door, that was over two hours, and then the time of the transfer, I mean the helicopter, that was only seventeen minutes but that was from when it took off until it landed.(m/4/4)

In this instance help was accessed from on call local staff. With this anecdote the midwife paints the picture of how much needs to be done by the LMC midwife in such a situation. This includes not just the hands on control of the bleeding but the insertion of intravenous lines plus organizing the transfer process.

...so we actually called one of the RNs that lives in the area so she came and she got the second [IV line] in and she helped get a lot of the stuff organized, she knew where things were better than I did. You just need as many hands as you can get. And that is something we were talking about afterwards it would be nice to have somebody we could call to call people to come in so that we didn't have one third of our people doing that. (m/4/4)

Three of the midwives were caught out with near term breech deliveries. Two of the women were expecting a vertex presentation while one woman planning to

birth in hospital, was unable to make it. Two of these experiences are recalled by the midwives.

I rang her and said well come in. And she walked down the passage and you could see she was in really good labour...as I got her into the shower her waters went with a gush and there was meconium, not a lot. And I am standing here and [the other midwife] looked up at me and said it was a breech... and she just pushed and with each push another part of the baby came out and the head came out with one push and baby cried at birth. (m/4/5)

One woman arranged to meet her midwife at her practice rooms on the way to the hospital.

So I was at my [rooms] so I said if you drive here I will go with you to hospital and when she arrived she was fully and pushing, so she had a two hour birth and the only thing I could do was catch it and also it was a more difficult breech with two arms up but my colleague came in and we did it and it was great but always you have to explain it that you couldn't go to the hospital. So that kind of referral is sometimes hard. (m/1/3)

Life threatening emergency transfers however are not commonplace for well women and babies near term. The stories above indicate that the midwives are clear that transfer must be attempted if possible so that the baby can be born, or, the woman treated in the most suitable setting. However the distance and time from the hospital may make this a less safe decision in some situations and the best plan is to stay put and access whatever help is available at the local site. To make this call involves considerable courage given that the outcome is unknowable. Some of the most challenging labours in regard to decision making about transfer, were those where labour or birth progress was slower than expected.

Making the mind shift from normal to abnormal: The dilemma of 'slow progress'

When labour slows down either the first or second stage of labour the midwives need to make sense of the change and decide whether or not it is safe to stay in the rural area. This can involve a gradual mind shift from doing everything to promote a normal birth experience to having to voice their concern to the woman about the possibility of transfer; for example in the scenario below.

The other thing is women who have little bits of bleeding when they are in labour and you are thinking is that just the cervix dilating and the show, or is this the start of something more sinister? You think well if I transfer now then everything can be dealt with there and if I don't, am I putting everyone at risk? (m/4/11)

The midwives in this study describe this 'tipping point' of movement from normal to possibly abnormal labour, and how this realization is often complicated by tiredness.

Our focus is normal and we are willing it to happen and it is very difficult to make that mind shift ourselves as well. OK I need to stop here and often that is the time we need each other's support to find out, and maybe [for our colleague] to say well I really do think you have to make a decision here. And we do sometimes come across as the meanie to the family doing that but it is the need to see clearly in the situation which must be the midwives challenge really when they have been up for hours and hours. (m/5/6)

I think the challenge here for me is finding the balance and working out when the normal becomes the abnormal and what perhaps could have been prevented. That is the other challenge for rural midwifery. (m/5/3)

The midwife describes her dilemma: "...is this normal or am I keeping this normal or am I normalizing something that is abnormal? Or other way around abnormalising what is normal". (m/5/15)

To describe the decision making process in regard to slow labour, the midwives resorted to stories from their practice. The reconstructions of the labour events demonstrate how the midwives 'made sense' of what was happening and how the decision to stay or transfer was arrived at. In the following situation a midwife describes her vacillation over the decision to transfer for slow progress; this decision complicated by fatigue.

Our decision was intermittent because there [were] some changes and she was standing and it looked like there was some progress and we are definitely going to transfer. So it was an oscillation of progress there was no head at all above the brim, it was a big baby good OA [occipito-anterior] position so we were trying to persuade her to keep going and we felt she could do it. But it was the early hours of the morning or was it late at night. I can't remember, I had been up for several hours and I asked [my colleague] for support as we had decided to go to [hospital]. (m/5/4-5)

Critical for this midwife was having colleagues available who could help put the events into perspective

... when someone has been caring for someone in labour well you are very sleep deprived when you are getting into the early hours of the morning the value of them being able to call two of your colleagues in and say this is the situation and I need your input into looking objectively at where we are at, help me make some decisions. (m/5/13)

In some slow labour situations the woman's partner plays an important role in supporting the woman to birth. In the comment below one midwife explains how she worked with the partner of a woman whose labour had stalled.

I just got her on her side as she was pushing and not getting anywhere, and I showed him how to lift her “sit bone”¹² and she rolled slightly between her side and her back and she had the baby. It is something that Wintergreen, *Birthing Better* had shown me. And she would have done it anyway but it just made it a little quicker for her. (m/4/6)

On another occasion the partner of a woman gave the midwife a much needed rest during a long labour prior to transfer.

Had a long haul and ended up going down there at 8 centimeters and she had a Caesar. The baby was wedged in the pelvis. Honestly it was her husband who did all the work; I sat in the chair and rested while he worked. I said that man is one who should be a midwife. (m/4/3)

In rural areas the challenge of timing for transfer during slower labours involves not just the events unfolding but also forward thinking.

I have had a few [that I transferred] and I have had a few where I got very close to it. Because things start slowing down and you... the thing is you always have to be thinking ahead. When you work here you have to be thinking ‘what if’. (m/3/4)

This notion of thinking ahead and poised to intervene and transfer was voiced by others. Waiting to see if progress happened meant that if transfer needed eventually to happen then valuable time would have been wasted.

You need to be thinking well ahead you need to be very aware and keep those emergency skills really sharp and if in doubt transfer really - we haven’t got that leniency or opportunity to leave it for another hour and see what happens. (m/3/4)

¹² The “sit bones” or “sitz bones” is a lay term for the swelling or tuberosity on the superior rami of the ischial bones which form part of the pelvis. This pair of bony points being literally what we sit on.

Thus the challenge of a long labour can result in rural midwives getting close to, or moving beyond, where they feel comfortable.

Pushing the boundaries

Situations where the woman is motivated to keep trying and thought to be close to delivery are situations where the rural midwives may be prepared to push the boundaries. These boundaries are generally about notional time frames for stages of labour, the second stage in particular. As time passes the midwives know they are in a grey area and the midwives anticipate that there may be repercussions should they be perceived to have persisted too long in the effort to assist the woman to birth.

Say the transfer in second stage which is one of the tricky issues. How long do you wait and hope that it is going to happen? And after one hour, two hours realise that it is not going to happen. So how important is it to make that decision in a time frame, or, is it not important; those sort of questions. We are guided by [the hospital] of course in that although there are not strict regulations around the guidelines we feel obliged to their way of thinking to a degree. You try and extend that time. (m/5/4)

Researcher: What makes you extend it or...?

Well some of it is a mixture of fear and instinct I think and the family appreciate how well the woman is coping, effectiveness of pain relief at the time and obviously the progress of the labour is the main thing the foetal heart. A recent woman comes to mind [she] pushed for three hours the first hour wasn't very effective but the next two hours were reasonably effective she was a very young girl very tired big baby. The decision came slowly to me as near the end she became much more stressed...(m/5/4)

In another labour the midwife describes her dilemma when deciding to transfer a woman. In this case she faced a significant delay before an ambulance would

be available. The main concern at this stage of labour was the stress on the baby over the time it would take to transfer. Thus the midwife was contemplating what else she might try should it become necessary.

I had a lady that was pushing and ran out of steam. The baby was fine if the baby had taken a dive I would have been tempted to use the ventouse, there were several kiwi cups there so we decided to go to [the hospital], we ordered an ambulance but they said sorry there is no ambulance, but they rang back and said there was a helicopter at an open day in [a nearby town] do you want it? Yep. But she didn't really need a helicopter but it made it so much easier. She got down to [the city hospital] and they pulled the baby out. That was all she needed. (m/6/3)

Researcher: Are you experienced with the use of the ventouse?

I would only use it in an emergency. I have done the ALSO course and I have done a couple [ventouse extractions] under the tutelage of the obstetrician, but I would still only do it in an emergency. (m/6/3)

What the midwives were clear about though was that a decision to transfer in labour would be made much sooner if the woman requested it.

[You] never push the boundaries with someone who wasn't feeling safe. If a woman wanted to go transfer to [hospital] I would never push boundaries. It is about your safety and your practice. (m/5/17)

Thus there is the dilemma of whether or not to wait for progress. If the move is made too early the baby may be born on the way in an environment that is not as safe as the planned birth place. However once the decision to transfer is made, the most pressing issue is how best to traverse the distance from the rural to the secondary or tertiary facility.

Deciding how and when to transfer: the local context

Transport decisions

Transfer of a woman in labour in almost all cases is done by ambulance. For acute situations it may be possible to use the air ambulance, either helicopter or fixed wing aircraft. The decision about which transport should be used is part of the consultation process with the referral centre. However the mainstay is the road ambulance.

Some rural areas have a paid ambulance service while others have a mixture of paid and volunteer staff. In the smaller areas the ambulance crews and drivers are all volunteers on call from the local community. As the ambulance service needs to meet the emergency needs for the whole area, delays are encountered when the crew is attending accidents or acute illness in the community. Similarly the ambulance may be en-route to or from the city.

Well you can wait up to an hour or longer for the ambulance and the actual trip is an hour and a quarter so you have to think about that when you are making your decision. (m/4/8)

We have quite a few issues around that we have up to an hour before we can actually get an ambulance to our unit because we only have two St. Johns paid paramedics and everyone else is voluntary. And most of the voluntary people live out of [town]. They are probably a maximum of twenty to twenty five minutes away. So by the time we set up a call and those people are notified they get into their uniforms and head into headquarters to get their ambulance and get here it can be anywhere between 45 and sixty minutes. Then it's possibly 10 or so minutes before we get into the ambulance and then it takes an hour and a half to travel to the secondary unit which is a very long transfer time to consider. (m/3/1)

Researcher: You have all volunteer ambulance service here?

There are some permanents but so often when it is a busy weekend and these things happen that are only normal average things but you have got [festivals] or you have got skiing or something else that is taking the services. So you have to wait in line. But if you can have your call in and be prepared then they know to get themselves organized because they often have to have a meal go to the toilet and have a shower before they are ready to travel and get their gear on. (m/2/5)

From some of the more remote areas, there are health and safety requirements for regular stops so that the ambulance crew is fit to continue the journey. One midwife describes what this means in terms of further delay for the woman.

It takes four to five hours to get across to the tertiary facility. The ambulance needs to stop every so often they have to get out of their ambulance and have a ten or fifteen minute break. So it adds on quite a lot to what would be easily 4-5 hours from when they leave here. They don't normally go more than 80 km an hour if someone is in a lot of pain either so that just adds another hour to the trip. Plus they have got three stops. (m/3/4)

The rural midwives described ways in which they worked with the reality of the demand on the ambulance service and the frequent delays. Local knowledge was employed to plan ahead even when transfer was uncertain in order to be able to access the ambulance in a timely fashion.

If it is going to be a problem..., [we] ring them and they get themselves organized before the baby is born and they are all there ready to just jump. (m/2/4)

And I was lucky enough to have my first two years with an older colleague who was very experienced around transfer. She knew the systems really well so she knew how to make phone calls...to find out where the ambulance was at the moment. ...So she would find out where the ambulance was coming from so then we could work out

[how long it would be]. So when you have knowledge of the area it makes a difference. (m/3/5)

Weather and road conditions

Once ambulance transport was secured, further delays could occur when there was heavy tourist traffic or where the ambulance needed to negotiate the city during peak hours. In addition the time taken to transfer could be affected by weather and road conditions. Thus when deciding about the timing of a transfer the midwives needed to include these possibilities in the mix. In the winter months in some areas, forward planning was required.

Researcher: [With] the recent long patch of ice and snow and hoar frost did you have any issues about transfer?

No thank God!

If someone comes in and you think you might have to transfer you look at it at three in the afternoon instead of six at night. So that if you have somebody who has had ruptured membranes for quite a number of hours, and you can see [that they] are going nowhere, OK lets get her out when there is a thaw in the afternoon. If she delivers on the way that doesn't matter [because] you are out of this area and you are safe when the weather is adverse. And there are people around in daytime. Nighttime is a dangerous time for ice. So once again you have to think ahead. It is very secure when you are down at the hospital because you have got everyone there, all the obstetricians, all the paediatricians, everybody is at your fingertips, but up here you don't. (m/2/5)

In acute situations air transport is desirable but timing and weather conditions may be problematic.

...there is a conversation about how are we going to transfer whether we use the helicopter which would definitely make things shorter and but most times the weather doesn't allow that. (m/3/2)

Yes I had a helicopter call but they said it was raining and they couldn't come so I spent four hours in an ambulance. Now they can fly at night but they couldn't for a while. I've had three helicopters in one day with two mothers and a baby. (m/6/2)

In the story below an acute situation coincided with severe road ice, the non attendance of the local doctor, and delay in accessing a pilot and helicopter.

Researcher: so the transfer process was a little fraught in terms of getting her away?

Again because of the weather conditions [the ambulance] had to come in from [further south] in the ice so that took a long time to get here and she continued to bleed. Not being able to get hold of the doctor. The timing it takes for other help to get here. In [the hospital] you ring the bell and you have the whole hospital there. Here you call for help and it takes 25 minutes for people to get here. And you are tied up completely with the woman and people say "what time was it"? and I had my back to [the clock]. And then of course it took another forty minutes after that for the helicopter to get here as neither of them (the pilots) were on standby; they were both out to dinner and there was the weather to fly through. (m/4/13)

In the examples above the energy of the midwife is focused on the issues in front of her but was further frustrated by delays in transport.

Getting back home after a transfer

Another challenge for the rural midwives was how to get back to their rural area after a transfer.

Researcher: Do you go back with the ambulance after a transfer?

Yes but you sometimes get stuck in [the city] and the ambulance has gone without you. You never give those things a thought in [urban practice]. Yes I have been stranded a few times. (m/4/6)

...when I had a partner here we both went. But I have been stuck at [the hospital] because I don't have a ride home. My husband has to come and get me or something. (m/7/7)

Another midwife depending on what is happening may choose to stay down following a transfer.

I as a rule go down and stay. There are a few times I have gone down and they have a prem and they are not going to have the baby then I go back in the ambulance. Or they are bleeding and they are stable. If they are going to have the baby I stay. Most often I stay. Sometimes I have come back with the parents. (m/6/4)

In some areas an ambulance officer will follow in the midwife's car though not all were keen to do that.

And I have also heard that one of the ambulance officers would drive the midwives car but there is something wrong about that too because they volunteer to be an ambulance person not a chauffeur. So I am not sure if they do that anymore I haven't asked them to. So one of the times the other midwife drove my car and we drove home together and I don't remember how I got home. Usually my husband would come and get me. (m/4/6)

No I went down once and [my colleague] had to drive [down to] pick me up because the ambulance people wouldn't drive the car. Well actually [my colleague] says she sometimes drives her car behind the ambulance which is not ideal. (m/4/6)

Whatever the arrangements for getting back home all involved are likely to be suffering from fatigue and loss of sleep. A midwife comments on her search for a bed after a transfer.

I have had some funny looks. Five o'clock in the morning you turn up looking for a motel and they are trying to get ready to turf people out not book them in. If you have pre-booked the motel because you know you are going down you know you have a bed. (m/6/12)

One strategy is for the midwife to reschedule any visits planned for the next day and stay overnight. If it is a quiet time for them this can be a good chance to visit friends and family in the city and catch up on shopping.

The other thing is that when you do 'four' (births) a month you can quite easily put people off for the next day. I don't usually come straight back and if I get there late at night I always go to bed and leave early in the morning rather than come back at night. You can ring up the women and say when you will be back and they don't mind because they know that when their turn comes that you will be with them. (m/6/13)

This is not possible with a large caseload or if other women are starting to labour in the rural area. For instance the midwife in the situation below is going from one birth to another and questions whether her decision making would be the same had she not been so tired and under such pressure.

And there was another one who had a [long] second stage and then there was another just after that a primip I was here by myself and I had been up all night with a woman and transferred her down long haul, um and I was still down there when I got the call from the other woman; so stressful. Anyway she came in and her mother was with her who had caesars and again I knew this woman didn't have a lot of room anyway she was working she was amazing, she did everything I told her to do. She was just amazing, she stayed upright and was working really, really hard and between one [vaginal examination] and the next there was no change. I think she was five or six centimeters and I decided to take her down because I didn't think she was going to deliver normally and it turned out and I might not have made that

decision if I hadn't been tired, up all night with one primip and then straight on to the next one or if I had someone else here. I took her down and came back and it turned out she delivered normally. (m/4/3)

The midwives are also conscious that the volunteers in the ambulance may be suffering from fatigue also.

Like the ambulance driver the other night, "I'm glad you are sitting up front" she says "because I am feeling a bit tired". (m/6/4)

Once the midwife has done her best for the woman and her family there is the opportunity to attempt to make sense of what has happened and their role in the experience.

Reflecting on the transfer decision

Talking it over with colleagues

Midwives talk over birth events in almost every situation. This occurs even when a birth has gone smoothly without any need for referral. The opportunity to debrief a transfer decision was considered by the midwives in this study to be particularly important if they were to continue to practice in rural areas and avoid making unsound or defensive transfer decisions in the future.

I think it is so important to have those times, just to debrief about the decision. Say the transfer in second stage which is one of the tricky issues. How long do you wait and hope that it is going to happen and after one hour two hours realise that it is not going to happen. So how important is it to make that decision in a time frame, or is it not important, those sort of questions. (m/4/5)

One rural midwife recounts the no win conversations she had with an obstetrician following transfers she had arranged for slow progress in labour. The anticipation of such comments may well prompt an early transfer decision, rather than the particular events in a birth situation.

[It] depends on the reason for transfer. The transfer [takes a long time] in the ambulance and it is very uncomfortable for the women and sometimes the relationship with the male obstetrician is not very supportive. You have to make a decision and sometimes you make it a little early because you have to drive for one and a half hours. And sometimes when they have made no progress you try a lot of things at home and maybe transfer two or three hours after no progress. Then they say “why didn’t you come early?” So you have to consider everything [including] the reaction of the obstetrician. (m/1/2)

This difficulty in debriefing birth events in a mutually respectful fashion with some specialists is further developed by the midwife.

...sometimes after a difficult [birth] you want to discuss it and get some feedback and I am not afraid to tell them what I have done. I don’t just want to hear from them “why didn’t you just come to the hospital?” so having a better access to the knowledge of the obstetrician would definitely help... We now have two female obstetricians we can talk with so we are happy now but it should be all obstetricians so there is some help for rural midwives. And if you have made a mistake then they can talk normally about it we are after all human beings and I am not afraid to learn from my mistakes but I don’t want in the middle of the night, when I have been eight hours with the woman, having a screaming obstetrician telling me that I should have come two hours before when I have just had a one and a half hour transfer. [They] need to hear your point of view as well. So I think the communication between obstetricians and midwives is improving but a lot of obstetricians do not feel that midwives are good enough. (m/1/7)

After a particularly challenging transfer following a postpartum haemorrhage one rural midwife describes how she went over and over the events and her actions in order to put things into perspective. Despite feeling that she had done everything “by the book” and her actions were successful in stopping the

bleeding, it was a sobering experience that left her with a keener sense of distance and vulnerability.

Researcher: Did it rock your confidence?

It didn't rock my confidence so much because although I am new [here] every single thing we did was exactly to the book but it does make you realize how very vulnerable we are, and how very far away we are, from help when we need it. And I was very traumatized by it. It wasn't just like an odd tear that you are not sure how to suture that was really major. (m/4/12)

Researcher: Sounds like you did fabulously well?

It doesn't feel like that but we have been over and over the notes and we had done everything that anyone could have done.

Researcher: You probably won't get anything as grim again?

Well I told the girls here if I do then I am buying a skirt and I am going to become a secretary. (m/4/12)

Midwives in rural areas who have dealt with challenging transfer decisions may then find themselves having to manage the often ill-informed community reaction.

Ripples in the community

The rural midwives are closely aligned with their communities and for the most part find them supportive and encouraging of the rural maternity service. However in a rural area word spreads quickly when a woman is transferred in labour. This is particularly so for small communities with tightly integrated networks. The midwives in this study were aware that dramatic transfer stories could shake the confidence of local woman who were planning to birth at the local facility. The knowledge that a particular birth experience is being talked about in the community, circles back to influence how midwives go about

making decisions; firstly about who is fit to birth locally and secondly how early they would consider transfer.

I had a woman a few months ago who had a prolonged second stage and she was transferred in second stage and she had a cesarean ...and after that we had a lot of women saying they wanted to birth at [the secondary facility] because they didn't want to transfer in second stage. And it does have a ripple effect through the community. (m/5/15)

There is also the lurking thought that some members of the rural community believe that women are not safe to birth locally. Thus there is the fear that when a mistake is made or a reasonable decision results in a less than desired outcome, that the community might withdraw their support for the midwife and the facility. This prompts the midwives to practice defensively.

But I really feel there are people in the community that are wanting to pick up little tidbits about the midwives and how they practice and how they wanted doctors and you need to be aware that in the community if you make a mistake they are going to pick it up and the service is seen as less safe. (m/5/15)

But it does come back when something goes awry and like there was someone who went past the ten days and they had a stillborn baby then all of a sudden everybody will be inducing their babies at ten days overdue. (5/16)

As part of the rural communities doctors and other health professionals are often very influential in terms of advice about birth care. In most areas these relationships are positive and affirming of the rural service. However some unprofessional and unwarranted comments can undermine the confidence of the woman resulting in a flow on effect to the community. Below the midwife describes how one such incident affected her and the wider maternity service.

One [woman] had an APH. She was from [a town further north] and she had a doctor friend who had run down and maligned midwives.

And at each interaction he would ring them up and say if you need any help just call me; just nasty stuff. So she was only one centimeter but she had plopped out a few clots and apparently when they got down [to the hospital] they maligned us too. That was just unpleasant. (m/4/2)

As a counter to these comments the right word in the right place, particularly from a doctor or consultant, can influence the woman and her family's perception of the midwife's actions. In one incident following an emergency transfer the obstetrician praised the midwife's efforts to the woman and her partner.

It was great that that obstetrician was there because she was very, very good. She was exceptional. When you consider how it could have been before they left here. The dad was questioning things, well that completely went [after the conversation]. (m/4/8)

Thus as shown in the above comment, had the consultant been critical of the midwife's actions and decision making, then significant damage could have resulted in terms of the community support for the midwife and the rural facility.

In this final section the views of the LMC midwives are presented in regard to the service arrangements in their local areas. In particular they hypothesize how these local elements contribute to their decisions about transfer.

Resource issues for rural areas and their impact on decision making

Details of the rural practice environment were referred to throughout the interviews. These included the mix of skills rural midwives needed and what practice patterns were most effective in dealing with the local environments. In addition there were references to their relationships with secondary providers and the systems and protocols that either sustained or frustrated their decision making. Many of the comments relate to specific rural areas and practices and

serve to underscore the multiple ways that rural maternity services have developed and currently operate.

Skills and decision making

What all the midwives agreed on was the need for rural midwives to have the skills needed to deal with any eventuality that arose in the local maternity setting. This included not just the hands on practice skills but also the skills of assessment and thinking in order to make decisions; the latter needing to take into account the practice context and the distance from secondary care.

This is summed up by one midwife.

I think it is very important for rural midwives [to have] good emergency skills and be experienced in breeches, very experienced about putting in a drip and resuscitation, but also shoulder dystocia and twins. So thinking skills, decision making skills, emergency skills they are all important. (m/1/6-7)

An experienced midwife beginning work in a rural area was clear that despite her previous exposure in secondary and tertiary care she would still need to hone particular skills for rural practice.

Well the first thing was getting my head around trying to do stuff. I was scared stiff really but I made the decision that things like cannulation if I am coming up here I've got to do that. Cause I would run a mile rather than do it. So I took the bull by the horns at every opportunity I got in and did it because it is a skill you have got to have up here. And I was really grateful that I worked in [the hospital] before I got up here. I met lots of staff and medical staff so that when I walked in the door I would know them, which was really good. (m/6/2)

As raised earlier in this chapter, relationships with secondary care staff can be tricky; particularly when transfer in labour occurs. Some of the midwives in the study had established strong and workable links that worked well for them in

their practice. Others however, talk about how these relationships are stretched when there is disagreement about the timing and reason for transfer.

Consulting with secondary care when making decisions

As part of a regionalised maternity system the midwives are subject to the practice protocols policies and guidelines that are developed in the secondary and tertiary systems. Tensions are created when these expected referral and practice expectations are not met. Below one midwife conveys the considerable energy needed to maintain the trust and respect of the consultants particularly when an actual or perceived practice boundary is breached.

I think we have to be very careful that we don't step outside of our scope of practice and lose the confidence of the relationship we have with [the consultants at the hospital]. Because I think at the moment they have quite a level of trust that we do what we do and we know what we are doing. But I think you know what your level of practice is and don't step beyond that.

Don't jeopardize that as it makes practice incredibly difficult once you try to regain that trust. (m/5/14)

An area of contention raised was the strict rules about women who are post dates. This recommendation potentially reduced the number of women that would be eligible to birth at the local facility. However individual doctors had differing practice policies creating more confusion for the woman and the midwife. Where there was some room for negotiation this opened up an opportunity to advocate for a more flexible option for the woman.

One of the things is the 'postdates thing' isn't it? ...Of course you know you want to keep them here for as long as possible but we are guided by [the hospital policy] of ten days over. (m/5/16)

And at the same time keeping that relationship with the obstetricians because you know that the moment you step over that line or the outcome is not what you hoped for [the woman] again you start from

scratch to build up that; which is hard because they differ amongst themselves so it is difficult to have a standard.

Or if you get someone on the end of the phone and you think that is so and so oh good, we will be able to negotiate this one and then you get someone else and you know you are going to have to fight every inch of the way. (m/5/16)

Another hot topic at the time of the interviews was the strict 12 hour timeframe in which women who had been transferred needed to return to the rural facility. This corresponded with the concerns raised by the women in chapter six. The issue was not only seen as an unjust imposition on the women but also as a threat to the viability of the local maternity service.

We only get 48 hours of facility funding for postnatal. If they are back in 12 hours we get the full postnatal if it is 24 hours then that is halved. The difficulty we have at the moment Jean is that we are currently under review from the DHB and the 12 hours is making such a huge difference or that portion of the funding to our provision of postnatal care. (m/5/9)

However to add to the confusion, the policy did not seem to be universally supported by the clinicians in the secondary services.

Researcher: Does the twelve hours after include the cesarean section women?

Well that is not clearly defined and after the conversation I have had with the staff in [the hospital] and the obstetricians and anesthetists they are very unhappy and will not support women who have had cesarean sections returning within the twelve hours. I mean even at 24 hours we are pushing to get them back but we certainly say if it is not clinically safe for you to return they are much better to remain there and get their postnatal care in [the hospital]...and you just need to add the last week's road conditions into it and it becomes terribly unfair to put that pressure on to women to say for us to get our portion of that postnatal care you need to be back in twelve hours.

Well one of our ladies left twice ...Yes turned round twice to try and get back, she was determined she was going to be out those doors by the 12 hours. It is ok if you birth at seven in the morning but what if you birth late at night and you have to be back in 12 hours it is hideous. (m/5/10)

The positive side however was that this requirement made some women think twice about their planned place of birth.

But equally we have someone who has decided to deliver here because she would not want to leave there within the 12 hours. So she has decided she is delivering here with us this time which is her third time. And that is why is so frustrating when you see the service struggling to survive and stuff and these women are choosing to go to [hospital] to birth their babies when they could adequately birth them here. (m/5/11)

This comment indicates that rules and funding decisions can have unpredictable effects on how women plan their births. However the rural midwives expressed disappointment when women who were ideal candidates to consider having their baby in the local facility chose to birth in secondary care. They saw this as one of the major threats to the viability of the local maternity service.

Attracting women to the local facility

Attracting women to birth locally in some areas is a real challenge. One midwife recalled her discussion with a woman in early labour.

she had a show so I checked her and she wants to go to [hospital] because [she feels] it is very safe... This is her third baby and she had a three hour labour last time... I said you are only going to have an hour of contractions and you will have that baby but she was keen to go (m/2/7).

In another instance a midwife working on the core team questioned why a woman was being transferred. The rural midwife assured her that it was the

woman's choice to come and not because she had suggested that it is a good place for her to be.

There was concern that she might not make it. ...and she delivered in [hospital] about an hour later. She was 4-5 centimeters dilated when she left. It was her third baby too.

Researcher: How did she feel about it after?

She said oh I should have stayed and had it here. Both her and her husband said they should have stayed here. (m/5/8-9)

To increase caseloads and therefore income, some of the rural midwives offered to birth women in the secondary service. Others however were clear that this was not for them as it could compromise their availability for other local women.

Researcher: Are you going to [the secondary facility] with women and birthing them there?

I haven't been because it would have been just absolutely ridiculous... And whenever you do a transfer you have often been with someone for hours and hours anyway and that is part of my thing. I don't think midwives are very good at self care. And I just think it would be absolutely ridiculous to be with someone for eight or ten hours and then do a drive down there. (m/4/6)

What we tell them is that we do not go for a normal birth to [the hospital] because we think it is not fair to the other women ...And we find that a secondary care unit is not the best place for normal birth. ... so they have the decision between [the local facility] and home. They are guaranteed that if there is any problem we will go with them to [the hospital] and then they will be seen by the obstetrician and the pediatrician. So we say it is not proven to be safer to deliver in a

secondary hospital and we don't recommend it to women. They know we are focused on having natural births. (m/1/6)

In our situation which might be different to other rural units where we don't follow the women through we take them to the [hospital] but we don't stay with them until they birth and then bring them back. It is just too long for us to be out and how do we get back? And we are still on call and what about our other women? (m/5/8)

How the midwives structure their practice and commitment to the local women can have an impact on how attractive an area is to midwives who might be considering rural practice.

Attracting new midwives to the area

One recurring topic in the interviews was how to attract midwives into the area to work as the incumbent midwives move on or retire. In one small group there was a discussion about how the midwives in the area work and the acknowledgement that their current practices may not be sustainable. This was particularly of interest as their collective caseload was growing and they needing to attract more midwives to the area.

We are not very good at rostered time off. This observation has been made by our student

We have arrangements for special occasions, if we say we have something coming up

We are probably quite casual about it aren't we?

Yes

We cover for each other.

We are not very good at weekends off.

No we are not, but I think we are starting to talk about that a little bit, (m/6/8)

This anecdote reflects the fact that many of the midwives in rural areas relish the independence that working in a rural area offers and prefer to work alone or in partnership with another midwife. This means that they are less inclined to

form a practice group which might be a more attractive option for midwives not familiar with the area.

Midwives employed in a practice team however believe that this arrangement keeps them safe from burnout and provides much needed support when transfer decisions needed to be made.

There are three teams of two midwives so each woman gets to know two midwives through the course of antenatal care and will have one of those midwives at the birth. And one of the other midwives who is on that day will be the second midwife at the birth. So it means that there is a cyclical pattern. There is a roster for the midwives who have set days off, which is part of the strategy to not get burnt out. So we are only on call for five days at a time but saying that it is the teamwork here that is really important as three midwives work together so we have each other's knowledge... (m/5/3)

In another area the community was trying desperately to find ways to attract other midwives to support their local midwife and maintain the local birthing service; this involved meeting with DHB representatives, and midwife organizations.

They often ring to say what else can we do because after all the confusion and turmoil we had and public meetings with different hierarchy and they often say- What questions do you want us to ask? I have lots of ideas. No the community are absolutely outstanding and I feel very privileged to be a part of it actually. Very spoilt. (m/3/6)

One suggestion was to offer accommodation.

Actually it wouldn't hurt. Doctors that come to this area are offered free accommodation but our midwives aren't. And I know that when I came to the area there were no rental properties it was very difficult for me to find accommodation. And I do think there needs to be some accommodation incentive; I think something has to be in place for the

first six months so they didn't have to worry and don't have to waste time. (m/3/5)

In all but one of the areas the rural midwives were concerned about attracting and keeping midwives in the area. They realised that their own practice viability and enjoyment was enhanced when others shared the call. Colleagues were also invaluable when a midwife was faced with a tricky problem or needing to make a decision about transfer.

In the last section the comments of the midwives are summarized and discussed with reference to research and commentary. Links are also made to findings and information already presented in the earlier chapters of this thesis.

Discussion

The midwives painted a complex picture of how decisions were made in their respective rural areas when transfer was required. Decisions were influenced by conversations during pregnancy, in labour, and coloured by memories of past transfer experiences. Thus the events at the time could not be separated from the personal, historical and environmental contexts. The decision making moved forward and circled back at times, reflecting on past events, future ideas, and contextual factors. A mix of decision making styles and strategies emerged within the texts, showing glimpses of 'reflection in action' and 'reflection on action' (Schön, 1983). These were most obvious when labour slowed, and the rural midwives were faced with having to make a decision under conditions of considerable uncertainty.

Helping women to make decisions: Decision making styles and relationships

The midwives stressed the need to get to know each woman well and establish a relationship of trust, so that the best decision could be made about where to give birth. These conversations would also include assessing the woman's tolerance for risk. In some instances women, thought not to be suitable to birth locally, were 'steered' to consider birth in secondary care. This strategy was related to the distance and time from the rural facility to the hospital, should transfer be needed. To manage these decisions, the midwives talked of tentative

boundaries, and discussed flexible birthing plans; the latter, often remaining contingent up until labour began. Other strategies included assessment closer to term at which stage a firmer plan would be made; for example in the comment below.

If you have a primip who is a week overdue with high head nowhere near the pelvis, very unripe cervix, no softening unable to be tipped. No use you keeping her another [week] because the likelihood of [her] going into labour is very slim. If that baby is right down and well flexed and at the cervix then it is a different story. (m/2/3)

Such 'steering' could be seen as a paternalistic style of decision making where the midwife makes the decision for the woman (Charles, Whelan & Gafni, 1999). Such a discussion has the potential to close off a local birth option to the woman who may be keen to delay the decision, at least until her labour starts. Alternatively the decision may be presented as in the informed model, as one the woman is invited to make, having been apprised of the pros and cons of each choice (ibid). The expectation being that the woman will weigh the benefits and risks for herself; the midwife supporting her in whatever decision she makes.

Within the midwifery partnership model (Guilliland & Pairman, 1995) the woman is considered to be "the ultimate decision maker" (p. 47). However within all relationships there are issues of power. In some situations the woman may not believe that she has the autonomy to dispute the advice, particularly where she sees the midwife as in possession of greater knowledge or authority (Cooke, 2005). How free the woman would feel to challenge a recommendation or act on information given may be related to the language used (Thompson, 2007). For example, it is possible for a midwife to adopt the rhetoric of informed consent and partnership, but act in such a way that the woman is manoeuvred into a predetermined position consistent with the view of the midwife.

How women and midwives go about making decisions is complicated (Cooke, 2003). Our styles of interaction are not always fixed and may vary depending on the individuals involved and the particulars in the situation (ibid). While each woman will have a preference for making decisions in some contexts, this may differ in others. For example, a woman may seek more or less control depending on the circumstances (ibid). In the extract above the midwife is weighing up the pros and cons and the woman may be open to negotiating a middle path, or take the midwife's caution seriously (ibid).

Where a relationship of trust had been established such a decision could be seen as shared decision making open to discussion and compromise (Charles et al., 1999). Leap and Edwards (2006) suggest that the building of trust in a relationship establishes a platform on which good decisions can be made. While this would seem to be the best basis for working through decisions, it would be naïve to believe that no power differential exists.

In maternity settings within easy reach of secondary care, some decisions can be postponed to see how labour progresses. However, what the rural midwives were dealing with were decisions that needed to be made ahead of time in order to provide the safest place for birth. For example, in the comment below distance was compounded with adverse weather.

So that if you have somebody who has had ruptured membranes for quite a number of hours, and you can see [that they] are going nowhere, OK lets get her out when there is a thaw in the afternoon. If she delivers on the way that doesn't matter [because] you are out of this area and you are all safe when the weather is adverse. (m/2/5)

This thinking showed that the midwife took into account, the local circumstances in addition to the clinical picture and the woman's birth plan. Thus the midwife's professional opinion included her estimation of the likelihood of transfer, their distance from secondary care, the time it would take to access an ambulance, as well as any adverse weather and road conditions present at the time.

Uncertainty and the need to make decisions in labour

Once a woman is labouring in a rural facility, the energy and expectations of everyone are directed at supporting her. Urgent problems can emerge requiring an immediate response, however if they are able to be managed and resolved, transfer may not be needed. Mok and Stevens (2005) suggest that emergency or spur of the moment decisions need to be enacted without delay. In these circumstances, normative or probabilistic decision trees or flow diagrams can provide a heuristic guide as to what needs to be done, and in what order (Mok & Stevens, 2005; Morris, 1972).

The midwives in this study described some situations in which they had to act quickly and make urgent decisions. One midwife described her process of decision making about a postpartum haemorrhage. This required her to do emergency hands on care while at the same time organising transfer. Other anecdotes referred to the discovery of an unexpected breech presentation in the second stage of labour. Where the birth was imminent it was deemed in two situations that the safety of the woman and the baby were best served by staying put. Where there was time to move to secondary care this was organised. Thus these urgent situations, required skilled decisions, firstly to deal with the presenting clinical situation and secondly to make the call as to whether transfer was required, and if so, when.

Considered “tricky” by the rural midwives was deciding about unclear situations in labour. Signs could be differently interpreted as the following comment demonstrates.

The other thing is women who have little bits of bleeding when they are in labour and you are thinking is that just the cervix dilating and the show, or is this the start of something more sinister? You think well if I transfer now then everything can be dealt with there and if I don't, am I putting everyone at risk. (m/4/11)

This is a dilemma for the midwife, to move too early and find that it was of little significance would be disruptive and deprive the woman of continuing with her

birth plan. To continue in the hope that all is well could mean ignoring a developing problem.

Equally challenging, was the question of whether, or when, to transfer if labour slowed. Variations of slow labour progress were highlighted as the most common reason (49.67%) for transfer in labour in the rural survey in this study (Chapter 6). The midwives talked about the “tipping point” and “...the balance and working out when the normal becomes the abnormal...” These ideas suggest that the midwives were experiencing some discomfort with how things were progressing and began to question themselves as to their perception of events.

Tversky and Kahneman (1974) suggest that decisions made in this liminal space are potentially subject to our heuristic devices of representativeness, availability and adjustment or anchoring (Chapter 3). A mix of these can be imagined where a midwife had recently experienced a similar labour pattern with a woman in the recent past that eventually needed to be transferred. This memory could be fore-grounded in the current situation. Alternatively, the midwife may be anchored to a view that labour will progress inevitably and adhere to this view despite signs to the contrary. Perceptions can change however, albeit slowly.

The midwives in this study reflected on some of the situations that made them uncomfortable causing them to consider raising the subject of transfer with the woman. This process of reflection is described by Nakielski (2005). “The practitioner selects and re-mixes responses from previous experiences when deciding how to solve a problem in practice, utilizing their tacit frames” (p.147). Tacit frames in this context are the unspoken theories used by the midwives to make practice decisions (ibid). According to Schön (1983 & 1991) these tacit frames are regarded as theories “in use”; in other words, those that guide our actions in the situation and our view of what is happening. When these theories and our everyday patterns of practice cause us to feel uncomfortable it requires the practitioner to stop and reflect within the situation and reframe what is happening. Reflective and thoughtful practitioners, who

experience a challenge to their theory in practice, will adjust and expand the theory to incorporate new information and possibilities (ibid).

The uncertainty of a slow labour and decision making

Both reflection in action, and recourse to familiar frames of reference, appeared to be present in the midwives' stories, particularly when labour slowed down. For the midwives it was not always clear if the delay was a variation on normal, or if it signaled a problem which might require transfer. For assistance, midwives and other primary maternity practitioners in New Zealand refer to the *Guidelines for Consultation with Obstetric and Related Specialist Medical Services* when preparing to consult or refer (Ministry of Health, 2007). The guidelines allow some flexibility in terms of the clinical circumstances surrounding a situation, but the practitioner needs to be able to justify their actions should they veer from the recommendation.

There are three levels of referral; level one states "may refer", level two "must recommend" that consultation is warranted, and level three, must recommend that a woman's care be transferred to a specialist (Ministry of Health, 2002, p.2). Obstructed labour and deep transverse arrest are at level three, while prolonged first or second stage of labour are at level two. This terminology differs from that used by the midwives in the interviews and in the survey, where terms such as failure to progress, dystocia, high head and slow labour were used. But even when using the terms in the guidelines it would be difficult to decide which category fitted. Is labour obstructed or has it just slowed down? How long is too long to wait?

Friedman (1978) cited 65 "terms in current use to describe labour variants"; a list that he did not consider exhaustive (p.4). In the quest to define the course of 'normal' labour Friedman studied the rates of dilatation within a case mix that included breech positions, twins, and the use of oxytocin, sedatives and narcotics plus caudal anaesthesia and forceps deliveries. The goal was to provide an objective measure for when labour moved from normal to abnormal.

If we recognize and accept the limitations of our clinical knowledge and diagnostic acumen, we must concede that there is a vast, ill-defined gray zone between the obviously normal and the clearly abnormal case. Without objective criteria, therefore, we cannot expect that we will be able to understand labor or its variants fully. (Friedman, 1978, p.5)

These investigations resulted in the now familiar sigmoid curve plotted against time thought to represent the 'normal' pattern of cervical dilatation and that of foetal descent. The partogram based on Friedman's findings is incorporated into maternity notes worldwide. Time frames for labour were set at 12 hours for a first labour and six hours for a second or subsequent labour. For the second stage, time limits were set at two hours and one hour respectively.

More recently Friedman's time frames have been challenged; particularly in the case of low risk women anticipating a normal birth similar to those who plan to labour in a rural area. A descriptive study by Albers, Schiff and Gorwoda (1996) looked at the labour times of 1473 low risk women of mixed race. The results, when compared to Friedman's time frames showed that 20% of the women experienced a prolonged active first stage of labour and 4% a prolonged active second stage of labour. The duration of the active phase of labour to full dilation was considered to be from 4 cm. to full dilatation and full dilation to delivery. The limits in first stage of labour for both first labours and second or subsequent labours were "considerably longer than Friedman's at 12 hours and six hours" (p.357) respectively. Statistically these were 19.4 hours for first labour and 13.7 hours for multiparous women. For second stage the mean times were closer to the Friedman findings, being 147 minutes for nullipara and 57 minutes for multipara. Women in the study who had a prolonged second stage of labour experienced more post partum haemorrhages, and more infants needed active resuscitation. However neither of these findings was statistically significant. Thus labour lasted longer than is widely appreciated without any excess maternal or neonatal morbidity. The results prompted the authors to suggest that an upward revision of the time frames for normal labour was warranted.

In a systematic review, Altman and Lydon-Rochelle (2006) similarly concluded that there was no association between prolonged second stage of labour and adverse neonatal outcomes. However most of the studies included in the review had methodological differences. These included different measures for establishing the beginning of the second stage and uncontrolled confounding variables. Thus these differences limited what could be offered as a guide for practitioners in the field.

The variety of definitions, and the challenge to time frames around slowed labour, leaves the rural midwives without any definitive time frame for how long they can continue hoping for progress. In the absence of a clinical problem with the baby or the woman, the decision whether or not to transfer is often made in regard to other factors. This may include the woman's desire to persevere, or, the degree of risk the midwife is prepared to accept. Below one midwife shows how complex this decision was in the following quote.

Our decision was intermittent because there [were] some changes and she was standing and it looked like there was some progress and then we are definitely going to transfer. So it was an oscillation of progress there was no head at all above the brim, it was a big baby, good OA position so we were trying to persuade her to keep going and we felt she could do it. But it was the early hours of the morning or was it late at night. I can't remember, I had been up for several hours and I asked [my colleague] for support as we had decided to go to [hospital].
(m/5/4-5)

In the end, the timing of transfer may be based solely on practical concerns. These the midwives saw as the distance to specialist care and the availability of ambulance transport. However, tiredness as mentioned in the previous quote, may be the most influential factor triggering a transfer decision.

Considering tiredness when making transfer decisions

Fatigue is a problem for midwives who continue to care for women in a long labour; particularly when transfer occurs. For rural midwives this time is extended with the addition of the time taken to travel from the rural area to the hospital. If the midwife elects to stay and support the woman in secondary care, then further time elapses. Tiredness has been shown to affect the higher cognitive functions in the brain, which are involved in complex decision making (Miller, 2002). Impairment of these functions can affect the ability to communicate clearly, respond to, and assimilate, rapidly changing situations.

Both the woman and the midwife may be affected by fatigue in some labour situations affecting their collective judgment. Miller acknowledges that the midwives are motivated to stay with women and see their care through to a safe birth. Women too, expect that the midwife will be there when the baby was born, and while they were mindful of their own tiredness, admitted to not appreciating how tired their midwife may be (ibid).

Continuity of care is considered a cornerstone of the partnership model of care espoused by midwives in New Zealand. Guilliland and Pairman (1995, p. 47) state that “[i]n order to work with her body in labour rather than against it, the woman must feel safe enough and in control enough to be able to lose control”. Clearly for women, continuity of a trusted carer throughout labour and birth provides the sense of familiarity and security to allow her to lose herself in her labour confident that she will be safe. However in some instances this may not be the safest situation for a woman. This was recognized by the midwives in this study as some sought consultation and the perspective of their colleagues at these times.

The decision whether or not to stay in support when fatigued is also a moral issue (Miller, 2002). Morality according to Urban-Walker (2007, p.10) is “fundamentally interpersonal”. Thus moral practice and decision making cannot be one way but is the responsibility of all the parties involved. For example the midwife is required “to ensure that no action or omission on their part places the woman at risk” (NZCOM, 2007, p. 10). This statement suggests that in a labour situation a decision needs to be made as to who is the person, best placed to

continue care, and whenever possible this decision should be made collaboratively.

Women not wanting to transfer

Ethical and practice boundaries can also be challenged in instances when women resist the suggestion to transfer. In the excerpt below, clear boundaries had been agreed to assist one woman to achieve her goal. In this situation the woman and midwives had established a relationship of trust and respect (Leap & Edwards, 2006). This was a wait and see situation with the expectation that decisions would be made as labour unfolded.

...So OK we worked the boundaries and she had a normal birth here and she was very pleased that she did but she knew that we were pushing the boundaries and you knew as her midwife that you were on the edge...

When a woman is strongly resistant to transfer it can cause considerable anxiety for the midwife. A midwife in this study new to the area did not know the woman who presented in premature labour. The midwife advised transfer but the woman insisted on birthing at the rural facility. These opposing viewpoints of what is in the best interests of the woman and her baby are difficult to resolve late in labour; particularly in a rural context where there has not been a previous understanding of each others' views. This story had a happy ending as the woman birthed safely in the local facility and later transferred.

Tracy (2006) suggests that women who make a determined choice to birth at their local facility may have done so in order to avoid what they perceive to be the risks of intervention in a secondary care facility. Thus the woman may weigh up the risks for herself given her priorities and these may differ from what the midwife views as risky. It would seem that there is no perfect solution to resolve a situation where the perspective of the woman and midwife differ widely. But if the woman is informed it is then up to her to decide what level of risk she is prepared to take (Ibid.).

Midwives talking about the transfer decision

All transfer decisions have some effect on the practitioners involved, though these are not always negative. Griew (2003) interviewed Australian midwives working in birth centres about their responses when transfer occurred. The responses included feelings of guilt, personal responsibility, disappointment, frustration and feeling cheated, particularly when there was no clear indication for transfer (ibid). In Skinner's (2005) study similar responses to transfer were found including "feelings of failure and disappointment" (p. 178). These were not just experienced by the woman but also by the midwives involved. However when a clear indication for transfer was identified such as an emergency the midwives were clear that transfer was inevitable and were relieved (Griew, 2003). These responses mirror closely those experienced by women in the wake of transfer canvassed in the previous chapter.

The telling of birth stories among midwives was found to be 'abundant' by Skinner (2005). These were told not just when things went wrong but also when things went well (ibid). In this current study the midwives welcomed the opportunity to debrief with their colleagues. The opportunity to reflect and tell stories was particularly valued following a challenging labour or transfer event. One midwife comments: "I think it is so important to have those times, just to debrief about the decision. Say the transfer in second stage which is one of the tricky issues" (m/5/4).

Midwives also sought conversations following a transfer, with the obstetrician or paediatrician involved. This could be fraught where a consultant had made up his or her mind about what should have been done, and was not prepared to listen to the midwife's viewpoint. One midwife who found the response unhelpful records that "...sometimes after a difficult [birth] you want to discuss it and get some feedback and I am not afraid to tell them what I have done. I don't just want to hear from them "why didn't you just come to the hospital?" (m/1/2). In other circumstances, collegial support was demonstrated for the midwife which, allowed dialogue to occur. "...It was great that that particular obstetrician was there because she was very, very good. She was exceptional..." (m/4/8). Thus the midwives experienced a mix of responses with the potential to

increase their anxiety when transfer occurred not knowing how their decision making would be understood.

Stories of transfer also are retold in the community. These ‘niggles in the community’ were highlighted as a major problem, particularly where they were ill informed. The midwives worried that bad news stories could have an effect on the confidence of women in the community planning to birth locally. This could ripple on to affect the viability of the local service. Unwarranted criticism of transfer decisions by secondary care personnel, or individuals in the community has the potential to affect how midwives made future decisions. More conservative transfer practices potentially could affect the midwife’s confidence as well as restrict the birth options for local women.

The rural maternity service: issues of sustainability

The rural midwives also reflected on what they saw as the issues critical for the maintenance and viability of the rural facilities. These were linked to the quality of decision making both in terms of the colleague support available to the midwife, and the practical assistance available, particularly when transfer was required.

It was considered that midwives working at distance from secondary care needed well honed skills. These were not just technical skills such as those needed in an emergency, but those of assessment and communication also. This is summed up by one midwife as “...thinking skills, decision making skills, emergency skills they are all important” (m/1/6-7). Collectively these skills are believed by the midwives to contribute to quality decision making and their relationships with the women.

The above skills are also suggested as those that best establish a trusted relationship with secondary care specialists even though such relationships may be tricky at times. In one area the nourishing of these relationships is critical but also requires energy and perseverance from the rural midwives.

“Because I think at the moment they have quite a level of trust that we do what we do and we know what we are doing. But I think you know what your level of practice is and don’t step beyond that...Don’t jeopardize that as it makes practice incredibly difficult once you try to regain that trust. (m/5/14)

The support of women and the need to attract midwives to rural areas was also discussed. One issue of concern was the number of well women who bypass the rural facilities. The rural midwives had developed different practice patterns. Some offered care to local women wherever they chose to birth, while others only provided labour care for women birthing locally believing that to offer care in secondary care settings would compromise the local service. To attract both women and midwives to join their rural service, good use was made of local publicity opportunities. Articles in local newspapers included the celebration of the increase in births in the area (Cook, 2006), while another by line stated that “[r]ural midwives go that extra mile” (Grundy, 2008). This featured the local midwives talking enthusiastically about their service.

Resource issues for future rural maternity care, was commented on by the midwives. This topic is revisited in the next chapter in relation to what funding options are available and how decisions about resources impact on the quality and safety of transfer decisions.

Summary

The complexity of decision making around transfer decisions is demonstrated by the words of the midwives in this chapter. Some decisions need to be made quickly when there is an obvious threat to the wellbeing of the woman or her baby. Less urgent, but often more difficult to make are decisions about transfer when labour slows and the woman and baby are otherwise well. Where women are keen to continue to try and birth their babies the midwives may push the time boundaries though in some situations that can result in midwives feeling exposed and vulnerable. Distance and time also become critical when a decision is made to transfer; the timing influenced by the characteristics of the locality as well as the staffing and skill mix available to assist in preparing the woman for

transfer. Delay in ambulance transport can add to the time, particularly when complicated by adverse road and weather conditions.

To provide responsive care to women is a juggle for the rural midwives. The aspirations of the local women need to be balanced with the need to provide safe and appropriate care. To continue to enjoy rural practice and make good decisions for women, the midwives acknowledge the need for good practice, communication and decision making skills. These included the maintenance of amicable relationships and clear communication channels with the secondary referral centres. Within the context of transfer stories a range of decision making styles and heuristic strategies were identified and ideas for ‘reflection in practice’ and ‘reflection on practice’ were canvassed. However central to good decisions is the quality of the relationships with the rural women. Where there is a foundation of mutual trust and respect flexible birth planning consistent with the preferred decision making style of the woman can be accommodated.

These ideas are returned to in the next chapter and placed within the wider New Zealand and international context. This amalgamation of the survey and interview data, plus the ideas and research presented in earlier chapters represents the meta-inference in this study.

Chapter Nine: Meta-Inference

Introduction

A weave of the survey and interview interpretations is presented in this chapter. Each strand of the concurrent mixed model design has been discussed and interpreted within the preceding chapters. These are now drawn together in a meta-inference which theorises that a focus on the best interests of the woman and her family provides the most appropriate and safe environment, within which to make transfer decisions.

Decision making theory and styles are revisited in terms of how they contribute to the relationship between the woman and her midwife and influence transfer decisions. This is followed by a discussion of the linkages with secondary care services and the logistical support provided by members of the local community within a regionalized perinatal system. The various ways that the nature of birth is appreciated within the wider cultural environment is explored. The case is made that each interlinked layer of the maternity service, and the decision making styles and attitudes held by individuals, contribute to the quality and timing of rural transfer decisions in labour and birth.

Thinking ahead: Rural women and midwives making decisions about transfer

When the women and midwives talked about making decisions, they moved back and forth between personal ideas, consideration of other's opinions, the distance and time from specialist care, and the rural environment. Thus an in-depth and or esoteric exploration of the decision making around transfer decisions eluded me in this thesis. Instead, a rich and complex fabric was rolled out with the help of the survey responses, the interviews and the reading of others' work. This provided an insight into personal positioning within varied rural contexts, with ideas and experiences resonating between midwives and women, and between the various rural maternity services.

The refrain of 'thinking ahead' surfaced in the survey comments and interview transcripts. This theme was similar to that of practising "predicatively aware"

found by Baird (2005, p.62) in her study of rural midwives. For the most part this cautious strategy was to allow for the time and distance involved should transfer occur. However it would be simplistic to suggest that distance alone influences the timing about transfer decisions. Rather a complex mixture of personal and relationship factors, the opinions and attitudes of interested others, the logistics of rural services, plus attitudes to the nature of birth in the population generally, configure how transfer decisions are made, and women and families supported at these times.

The transfer process usually began with a conversation between the woman and her midwife. This was preceded at times by discussions with colleagues to clarify the situation, particularly when the midwife was tired. The suggestion of transfer either came as a surprise to the woman, or, confirmed her fears that all was not going well. Just how the decision was made was not always clear, but in most instances the possibility of transfer was raised by the midwife.

Three manners or styles, of decision making are described by Charles, et al., (1999) as paternalistic, informed and shared. In a childbirth context a decision would be considered paternalistic where a midwife makes the decision, or prescribes a course of action. Within the informed style of decision making, the woman would make the decision, having been appraised of the pros and cons of her options. This decision would be supported by the midwife irrespective of whether or not she agrees with it. Within a shared decision making style there is active involvement by those involved and a commitment to arrive at a consensus as to what actions to take (ibid).

Every woman and midwife relationship involves issues of power and status, and these also need to be acknowledged (Cooke, 2005). In some instances where a relationship is strained, achieving a consensus decision free of coercion may be difficult. Differing relationship and decision making styles were evident in this study (Chapters 7 & 8). For instance, one woman, unsure of how she would be in labour stated that she was leaving any decisions up to the midwife as the expert on birth. Another woman felt disempowered when her midwife decided where she should birth; the woman reluctantly agreeing not feeling able to

challenge the decision. The midwives also described situations where they felt pushed out of their comfort zone by the desires of some of the women. One example was where a woman rejected the advice and concern expressed by the midwife about the safest place for the baby to be born. Another midwife felt that her boundaries had been stretched, potentially putting her in a position of professional risk, when a woman wished to continue her labour in the rural area despite concerns about progress.

Each woman and midwife brings her own unique historical, cultural and decision making strategies to any decision (Sullivan, 2005). Decisions about transfer vary with the particular context and the emotions involved, and like all human endeavour, are subject to misperception and self deception. Psychological, cognitive or social descriptive theories provide insights into how heuristic devices are used by individuals to make sense of uncertain situations (Bell, Raiffa & Tversky, 1988). These include the concepts of representativeness, accessibility and anchoring. These were discussed previously in relation to the decisions made by the midwives. The midwives talked about “oscillating” “making the mind shift” or the “tipping point” and “having to balance when the normal becomes the abnormal...” during a slow labour (Chapter 8). These comments demonstrate the reflection in action (Schön, 1983) that is going on as the midwives review and potentially re-examine their anchored views (Tversky & Kahneman, 1974) of what was happening. To move from such a perception of labour events may be difficult, particularly when labour slows and other explanations are preferred.

Thus it would seem that relationships and styles are not always consistent. The women and midwives exhibited a range of styles and emotional reactions to some of the more testing transfer decisions. Styles of interaction were adapted depending on the urgency of the situation, or aligned with the preferred decision making styles of the women. Relationships too, were not always easy to manage, particularly when circumstances changed and the desires of one party over-rode the concerns of the other.

Cautious and sensitive referral decisions

Despite some occasional difficulties, the decision making by the rural women and midwives in this study was cautious. This was demonstrated both in the decisions about where to plan birth and the timing of transfer in labour or birth should this be necessary. The transfer rate from the 30 midwifery facilities surveyed over the two year period was 17% (Figure 3). The pattern reflected a sensitive threshold for transfer, with variations on slow labour making up the largest percentage of 49.67% of all the reasons for transfer in labour and early post birth (Figure 5). While slow progress in labour is of concern and the cause of distress for women and midwives, these transfers are rarely considered urgent (Altman & Lydon-Rochelle, 2006; Canadian Medical Association's Joint Position Paper on Rural Maternity Care, 1998; Torr, 2000).

Whether a transfer rate of 17% is appropriate for this group of women is not the objective of this study. It would also be difficult to determine given that studies in New Zealand and elsewhere concern different populations, and use different methodologies. Skinner (2005) suggests that the rate of transfer is less important than the appropriateness of the transfer decision. However, as outcomes in this study were not linked to the outcomes for the women and infants, appropriateness cannot be determined. Even had this been done the question of appropriateness may not be answered. Birth progress and outcome, like most of life's events, is uncertain, and only probabilistic predictions can be made. Such predictions would be unable to incorporate the complex relational, physiological and biochemical influences which affect the trajectory of labour; these being particular to each woman, and to the milieu in which her birth occurs.

Reflecting on transfer decisions

Messy or confusing situations, such as slow labour progress, challenge our habitual, taken for granted decision making processes and can make us uneasy. This was obvious in the comments of the midwives as they grappled with decisions about whether or not to transfer. According to Schön (1983) when the practitioner experiences discomfort this should be the cue to stop and reflect on the circumstances, in order to avoid the possibility of compounding an error of judgement made at an earlier stage (ibid). To make sense of these complex and

uncomfortable situations, a process of critical reflection, not just addressing the clinical elements but also the emotional and relationship issues is recommended (ibid).

This is also advocated by Morris (1972), who acknowledges that where decisions are shared, such as during labour, perceptions of the events can become distorted. Unpicking the components of a decision can potentially provide some clarity (ibid). However any reflection on a decision whether in the midst of the activity, or after the event, will invariably be partial: a reconstruction of fragments with the luxury of hindsight (Mead & Sullivan, 2005). It is accepted that in this study as in any other aspect of life, the women and midwives were working with remembered fragments from their experiences of the birth events; these coloured by personal perceptions, made all the more vivid when paired with the emotions involved.

An understanding of potential fallibility of our decision making, coupled with a habit of reflection therefore provides an opportunity to frame new paradigms of practice (Siddiqui, 2005). These personal paradigms in thinking, and decision making style, can shift in response to practice experiences; particularly when these are reviewed critically (ibid). Such critical reflection and review involves looking outside the situation to other knowledge and relevant practice theory in order to bring new insights to future decisions.

So while women and midwives can use these ideas and strategies to reflect on transfer decisions, in practice, these decisions are also influenced by others and the very circumstances of the rural area. Thus the thinking ahead referred not just to the clinical situation that was unfolding, but also the logistics of transportation, the time it would take, and any other local circumstances that needed to be considered in the mix. Within a regionalised perinatal system there are expectations about timing of transfer and processes for its management of which the midwives were aware. Should these times be extended the midwives anticipated that they would be challenged about the perceived delay when they reached the hospital.

The regionalised perinatal system: linking rural and urban during transfer

In New Zealand, primary, secondary and tertiary maternity services are linked in a perinatal system. Each of the primary rural maternity services are unique in terms of geographical location, the distance from secondary care, the local management structure and the availability of midwives and other health professionals (Chapter 6). Beere and Brabyn (2006) found in their study that only 1.57% of the New Zealand population lived further than one hour's travelling time from a maternity unit. This of course could be a primary rural unit or a secondary/tertiary facility. Nevertheless women have access to primary maternity care within reasonable reach of their home, despite the reforms which caused many provincial health services to close (ibid).

The rural facility and the possibility of normal birth

The place of birth is important for many women. Those who identify strongly with a geographical area, consider it natural that their children will be born in 'their place' close to family and friends (Gallagher, 2003; Howie, 2007). Other women choose the local facility because they have confidence in their ability to birth without intervention and this was so for two of the women in this study (Chapter 7). Rural facilities offer an environment where women can labour undisturbed, which Odent (2008) suggests is necessary to support the physiological processes. Such a place also aligns with Fahey's (2008) notion of a "birth sanctum" (p. 19). With good support the woman has the opportunity to move and make noise and to manage her pain in whatever way she chooses; using her inner resources supported by those she has chosen to accompany her on this quest.

However, in some rural areas of New Zealand the birthing facility may be some hours from secondary support. This was acknowledged and considered by the women and midwives in this study. Concern about the distance was expressed by some of the women who felt that the possibility of travelling in labour would disrupt their birth process and not allow them to lose themselves in their labour and optimise the benefits of their rural isolation. Though paradoxically, distance

was acknowledged by others in the study, as a protection from unnecessary intervention (Chapter 7).

The rural community

Community spirit and determination is clearly a social asset without which, women in rural areas would be deprived of the opportunity to birth at or close to their home. Many older local identities have been born in, or given birth in the local maternity annexe, home or hospital. In some areas these community members forge strong links with the rural facilities, providing both financial and logistical support. Changes over the years have not always served rural areas well and regionalisation of maternity services resulted in the closure of many maternity homes and annexes in the past (Board of Health, 1976 & 1982; Rosenblatt 1984; Donley, 1998). Thus many communities are suspicious when further restructuring is rumoured. More recently the closure of several small regional hospitals has increased the distance rural women need to travel to access secondary services.

News about maternity matters is keenly reported in local newspapers, with dramatic events such as helicopter transfers, or births on the side of the road, making the front page. When funding cuts are proposed petitions may be launched. One local woman recently featured in an article opposing the 12 hour limit set by the DHB within which women were required to return to the local facility (Otago Daily Times, 2007). This prompted the DHB representative to say that he was “curious about how people came to hear there was an issue...” (p.15).

Rural Scotland has similar geographic and isolation challenges to those in New Zealand. In these areas Lambert (2008) suggests that maintaining rural maternity services requires local solutions. In some instances this may be to obtain skills and expertise in practice. The emphasis according to Lambert (2008) should be on the whole community. In other words where a local midwife needs assistance, the most durable solution may be to see how this could be provided by local people. This suggests that midwives in the rural area

know best what needs to be done and what additional support or skill is needed (ibid).

Local New Zealand examples of proactive activity include lobbying for extended hospital services in the wake of a population increase (Schofield, 2008). An extension to the hospital service was advocated in one particular area, given the considerable distance to access secondary care services. In other initiatives midwives raised the profile of their services by including good news stories about local births. These are needed to balance the negative and fearful newspaper comments from other local residents. For example, Eckhoff (2005) invoked her nurse specialist status to make unsubstantiated claims of incompetence about the local midwife service, claiming that a return to GP involvement in maternity care should be instituted. Such claims from professional colleagues can be particularly damaging in rural areas.

A wide range of service arrangements in rural areas was recorded in the results and comments of the rural maternity survey (Chapter 6). Midwives also described the challenges in terrain, climate and road conditions that affect transfer times. Though, even when these were a problem, unique local solutions were provided. For example the assistance of the four wheel drive clubs who put their skills to good use and provide an emergency service for women in adverse weather or road conditions (Chapter 6).

Rural ambulance services

The rural ambulance services provide the vital link with secondary care services. Without the local volunteers and ambulance officers, few women could confidently plan to begin labour in their local area. However the volunteer status of the crew was considered to be the major issue contributing to the “delays in activation” cited in the Emergency Ambulance Services Survey (Canterbury West Coast Emergency Care Co-ordination Team, 2005-2006, p.39). Though, the lack of local knowledge at call centres was also felt to be a contributing factor. Communication problems were also found. In particular these related to information exchanges and responsibilities during transfer (ibid).

Delay in the arrival of an ambulance was a common theme in both the survey and interview comments in this study. In some of the more remote and sparsely populated rural areas, the volunteer crews undertook some of the longest transfers in labour. This often involved traversing roads vulnerable to adverse weather conditions. In addition volunteer crew members were subject to fatigue when a night trip was added to their normal working day.

National ambulance services are currently under the spotlight with calls to strengthen the resource available to the volunteer sector given the responsibilities they shoulder (Morning Report, 2008, February 20). Of concern are the fluctuations in the number, experience and skill base of the officers that assist with transfer in labour (Emergency Ambulance Services Survey, 2005-2006). In these situations the prompt arrival of the ambulance crewed with at least one officer with advanced life support skills would be welcomed. This being critical for areas where local hospital or GP services are lacking or cannot be relied on at all times.

The midwifery resource

Midwives linked with the rural maternity facility bring to the community their experience, skill and knowledge. Their contribution is two-fold; first as citizens of the community, and secondly, as a resource in terms of midwifery knowledge and links with secondary care. This ‘embeddedness’ (Patterson, 2002) or “connectedness” (Lauder, Reel, Farmer and Griggs, 2006, p.73) contributes a form of social capital. Increasingly the role of rural midwives includes the provision of antenatal and postnatal care for local women, who have chosen to, or need to birth elsewhere.

These complex midwifery roles required for rural practice were also of interest in Scotland. Tucker et al., (2005) reviewed the literature on midwifery education and found that while opportunities were available to assist midwives to develop a full range of emergency skills, thinking and reasoning ability, no formal process was available to test their competence. According to Hundley et al., (2007) there is every reason to believe that the competence and confidence

to manage emergencies and the complex decision making required, is at least comparable with that of midwives in other settings. However given that this is a self report by the midwives themselves, Tucker et al., (2005) and Ireland et al., (2007) suggest that independent research is needed on the skill sets required for practice in remote rural areas.

In New Zealand all practising midwives are required to demonstrate current competence in a range of skills (Midwifery Council of NZ, 2008). These include emergency procedures such as adult and infant resuscitation, cannulation and management of post partum haemorrhage. Also required is portfolio evidence of ongoing learning with assessment and reflection on suturing and other skills required of a LMC. In this study the rural midwives all agreed that this combination of skills were needed for safe rural practice (Chapter 8). In addition, where individual midwives perceived gaps in their knowledge, they sought assistance from colleagues to achieve the requisite level of competence (ibid).

A mix of commitment from the community, the ambulance services, and others is vital for midwives and women when transfer is needed. At the point of transfer women and midwives bridge the gap between primary and secondary care. This, as previously discussed, demands a change in thinking from looking to the experience of a normal birth to the possibility of intervention in the interest of the woman or her baby. Thus there is a heightened level of concern and anxiety for the woman as well as a sense of loss if she is unable to continue with her birth plan.

The secondary/ tertiary care interface

Contact with secondary services occurs at an early stage when transfer is being considered; usually with a conversation with the obstetrician or their delegate. These discussions may be iterative in situations where the midwife seeks a consultant opinion, where guidance is needed to manage an urgent situation at the local facility or in anticipation of a transfer decision being made. The regionalised nature of rural maternity services, and the midwife's responsibilities under the Maternity Services Notice (Ministry of Health, 2007),

require these linkages to be maintained and readily accessed for women who need additional care

The midwives in this study suggested that relationships with the secondary care staff and specialists were for the most part cordial and respectful. There were however tensions at times, particularly when transfer occurred. In some instances pronouncements were made by those receiving the woman as to whether the earlier actions and decisions taken were appropriate and safe. It was considered by the midwives that some judgements were made on incomplete information (Chapter 8). Where these were negative and shared with the woman or her partner, this opinion was likely to endure and become the dominant construction of how things should have been done.

Unwarranted negative comments, particularly by medical staff, devalue the choice made by the woman to begin labour in her local facility. They also have the potential to damage the midwife's reputation and cause other women in rural areas to lose confidence in their local maternity service. One experience was highlighted in the previous chapter, where a 'bad news' story was circumvented when the consultant obstetrician praised the prompt actions of the rural midwife. This generous collegial support could easily be offered more frequently in recognition of the challenges that women and midwives face when having to make the hard decisions to transfer to secondary care.

The culture and daily experiences of those working in the secondary care services differs from that of the rural primary unit. Women at the end of a transfer journey are often distressed and anxious. This can then become the representative, or anchored view of rural birth for those receiving the woman. For the rural midwives this is not the usual outcome. Rather their representative or anchored view is more likely to be that of birth occurring without the need of intervention. In this study the survey results revealed that 83% (Figure 3) of the women birthed in their rural facility over the two year period but this is an invisible outcome for those in busy hospitals who need to deal with the full range of birthing experiences. Thus it is possible that beliefs about the nature of

birth and how the process of labour is understood can influence how birth in rural areas is regarded.

Views on the nature of birth

The work of Regan and Liaschenko (2007) provides a useful frame for viewing how cognitive frames of childbirth might influence behaviour. Three views of childbirth are described; “birth as a natural process; birth as lurking risk, and birth as a risky process” (pp. 618-621). These cognitive frames are presented not as enduring and discrete approaches to birth, but rather as a window on how different positioning as to how birth is perceived might serve to influence policy and practice. Aligned to these individual responses, is how problems are solved and decisions made about care (ibid).

It is possible that women who choose to birth in rural areas are more likely to accept birth as a natural process. It might also be assumed that midwives who choose to work in rural areas are similarly positioned. This is not to say that these midwives and women are oblivious to the potential for something to go wrong, but rather that they are travelling hopefully believing that a positive and optimistic frame of mind is advantageous for labour. In this study the women who birthed locally, and their midwives, had all considered that transfer was a possibility but also believed that there was every chance that birth would occur without the need for additional care.

Cognitive framing suggests that a woman, while desirous of a local birth but not confident to pursue it may be otherwise positioned. In this case the woman may consider that risk is lurking or that birth is a risky venture. This concurs with the comments made by some of the rural women in Chapter Eight. It is also possible to hypothesise that midwives attracted to work in secondary or tertiary care settings might be more inclined to the view that birth is risky. If such a dichotomy exists in ideas about birth, this may well place the rural woman and midwife in a disadvantageous position when consultation is sought. Thus a cultural difference in how birth is viewed and how best to proceed, becomes a gulf that is not easily spanned without considerable compromise on a

philosophical position. Given that the need to consult has occurred, then this compromise will be largely for the woman and her rural midwife to make.

The simplicity of such an idea has appeal. Women's positioning about how birth can happen may be in response to what they hear of others' birth stories. For midwives their confidence could be affected in response to recent practice experiences, either positive or negative. For example the midwives alluded to a period of defensive practice decisions after a challenging birth event (Chapter 8). Thus such a linear view of how birth is approached may not be consistent with the complex processes women and midwives engage in when decisions about transfer are made. It is probable that women and midwives move back and forwards along the continuum. Potentially this movement is possible also for those who see birth as a risky enterprise.

Celebrating an 'everyday' event

One woman in the study suggested that her birth wasn't "all that interesting" (Chapter 7). It was of course a very interesting event for her and her family, but in terms of the community at large it was an everyday event, not associated with the drama of a transfer. It seems from this woman's comment, that she found it hard to openly celebrate her normal birth without by association, casting a shadow on the experiences of women whose birth is otherwise.

The normal birth process is orchestrated by a "complex interplay of hormonal influences" (Foureur, 2008, p. 57), with oxytocin playing a central role throughout labour and birth (ibid). Where a woman is in a safe birth territory, with continuous calm support, she has the best chance of experiencing a physiological birth (ibid). However, exposure to cortical stimulation from noise, or the entry of strangers into the room can interrupt the flow of oxytocin, and stimulate the production of stress hormones (ibid). This stimulation can make it more difficult for a woman to enter that autonomous space where she feels safe enough to lose control (Guilliland & Pairman, 1995).

The trend to pathologize what are the 'unique' aspects of the range of women's birth experiences (Downe & McCourt, 2004) has the potential to marginalise

and make less visible, the normal birth experience within the community. Thus as more women are labelled 'at risk' the number of women considered safe to birth in rural areas will continue to decrease. As illustrated in Chapter Eight, labour may be arbitrarily labelled abnormal if it extends beyond the time frames of the partogram curve. Odent, (2008) poses two scenarios for the future of birth. The first focuses exclusively on the criteria of mortality and morbidity rates and issues of cost effectiveness (ibid). Following this pathway would see caesarean section as the most common, even normal, way to give birth (ibid). The second scenario would focus on 'first things' that is the sustainability argument and efforts to understand the needs of the labouring mother and her baby. Thus if the 'everyday experience' of birth in rural areas is to continue to be a safe and sustainable choice for women, then acceptance of its uncertainty and complexity needs to be more widely appreciated. Such an understanding can only contribute to the quality of decisions made around transfer and allow the exploration of the possibility for each woman.

Summary

Decisions about transfer from rural maternity areas always were and always will be made under conditions of uncertainty. While some decisions are easy to make, others are murky and difficult. To manage both the risk and the possibility rural women and midwives think and plan ahead with distance in mind. Transfer is a necessary part of rural maternity practice and in New Zealand occurs within a regionalised perinatal system. Involved are those assisting at the rural facility, community ambulance services, and those in the specialist services at the secondary or tertiary hospitals. Thus each has an important role to play in supporting women and midwives when transfer is needed.

For ethical decision making, supportive and trusting relationships are needed between the woman and her midwife. Equally respectful and supportive responses are needed between each individual and group involved when transfer occurs. A climate of trust and the acceptance of the possibility for normal birth to occur, provide the opportunity for well women near term to celebrate the unique birth environment that the rural facilities offer. However, financial,

logistical, workforce and communication problems persist in many areas threatening long term viability and safety of the rural maternity services. It is contended that appropriate investment in rural maternity facilities which focus on the best interests of the woman and her family, provide the safest and most appropriate environment for sound decision making when transfer is considered.

The next chapter concludes this thesis and provides an opportunity to reflect on the research project as a whole. Recommendations are offered which emerge from the aggregated findings presented in this chapter. The research approach and the mix of methods are reviewed in terms of their usefulness for the research question and fruitful areas for future research are suggested. Finally, the contribution this research makes to the national and international understanding of decision making in rural maternity transfer situations is indicated.

Chapter Ten: The possibility for rural birth

Introduction

In this final chapter the contribution of the rural maternity option and the social contribution this makes to the understanding of normal birth, is affirmed. The findings and challenges of the research project are reflected on and areas for future research projects suggested. The complexity of practice decisions has been approached with the understanding of how knowledge of theoretical ideas and a process of reflection can assist to mitigate some of our human blind spots. Also acknowledged is the dynamic environment within which transfer decisions occur. Other individuals and the systems within which they operate, have the potential to influence the timing and quality of the transfer experience. The point is made that all our decisions and processes reflect both individual ethical positioning and our cognitive appreciation of the nature of birth.

The significance and contribution of this research to the national and international understanding of transfer decisions is explained, and broad recommendations offered. These reflect the findings in the previous chapters and include individual attention to decision making strategies and critical reflective processes, a focus on the support needs of the birthing women, and logistical and financial support for local communities to maintain their rural birthing option. Collectively it is argued that these processes would support those making the decisions within the rural areas, while providing the necessary safety net for women and their families. The thesis is finally concluded with an overview of the project as a whole.

Reflections on the rural scene and research findings

This research project provided me with a privileged opportunity to re-ignite my memories of rural practice both wonderful and challenging. Travelling to the rural areas for the interviews reminded me of how far away it can feel when you need help. However once in the rural areas there was a sense of belonging and familiarity with the mud-splattered, farm trucks and the perfunctory wave when passing on the road. It has also been a chance to pull apart some of the taken for granted practices and processes that contribute to the decision making by

women and midwives. This was focused primarily on those decisions made around the time of transfer in labour and soon after birth. Naturally the study stretched to include those decisions made in advance of labour, and the reflections that came after.

A changing rural scene

The distinction between rural and urban is becoming increasingly blurred in New Zealand. Lifestyle development and tourist businesses are stringing many isolated towns together. Similarly, what were once small towns dependent on farm revenues, are now bustling centres connected by tar sealed roads and growing populations; the citizens of which, commute to the city areas for work, school and lifestyle purposes.

Midwives in these rural areas, provide antenatal monitoring for high risk women to save them unnecessary trips to the city for routine assessments. This universalising process blurs the distinction between the midwifery expertise needed for the care of women at low risk of complications from that needed for women requiring specialist, high risk care. Therefore any future discussion of rural midwifery needs to acknowledge this enlarged practice scope, particularly in the context of transfer in labour.

The word 'rural' is not used in the Maternity Reports to identify rural facilities; rather they are included under the heading of 'primary facilities' (Ministry of Health, 2007). Instead the domicile of women is used to determine the degree of rurality for statistical and funding purposes. The invisibility of the word 'rural' in relation to birthing facilities suggests that there is no difference between primary facilities within easy reach of a referral centre, to those one or more travelling hours distant. Clearly this is not the case and the women and midwives in this study articulated how the physical distance and time interval impacted on their decisions when transfer was considered.

Birth rates in New Zealand are increasing and this has resulted in higher numbers of births in some rural areas (Statistics New Zealand, 2008). This is particularly so in the more populous areas of the North Island, where local birth

is the expected norm. However for many rural facilities, fewer births are recorded each year and the services struggle to remain viable. There are some hopeful goals signalled in the Maternity Action Plan (Maternity Services Strategic Advisory Group, 2008). The principles in the plan espouse a culturally appropriate, woman-centred approach, which views pregnancy and childbirth as a normal life stage. Health outcomes and the reduction of inequality are advocated as is improved access “to a comprehensive range of maternity services that are funded and provided appropriately to ensure that there are no financial barriers to access for eligible women” (p.7). Also, pertinent to this study, is the principle which requires those involved with maternity care to work together seamlessly in partnership with the woman (ibid).

These principles fit well with the aspirations of women and midwives in rural areas. If acted on with goodwill there is the opportunity to celebrate and affirm the contribution of the rural maternity services, and by default support and facilitate optimal transfer decisions in regard to birth place and transfer of care.

The complexity of decision making in rural maternity practice

The habit of ‘erring on the side of caution’ and ‘providing a margin for error’, were recurring themes in this thesis and sum up many of the everyday decisions made in rural midwifery practice. While this watchfulness provides a safety margin, given the distance from specialist care, the downside may be that it may be difficult to dwell completely in the moments of labour and birth, open to the possibilities for the woman. Midwives also thought ahead in anticipating the response from those to whom they referred, as well how their decision would be perceived in their rural communities.

It is this complex mix of personal and contextual factors which sum up the challenge of making decisions about transfer in rural maternity practice. It seems that the everyday work and problem solving are resistant to an ordered or linear process. Rather, much decision making is without a rational process, being circular and subject to the influence of personal philosophy, style, contextual noise, and at all times partial and sometimes blinkered understanding of the events taking place. Awareness within the moment which makes space

for confusion, followed by reflection with reference to new knowledge, can improve this vital skill. However, such growth in understanding cannot occur safely within an environment that seeks to blame or obscure; or one where individuals respond by retreating to systems and processes that serve to give a false sense of security to both women and midwives.

Each decision we make is imbued with an ethical position. The writing, passion and research of both Urban-walker (2007) and Lather (1991) remind us that all individuals involved in any human interaction have the right to stand and be heard. Thus, any act or omission that fails to acknowledge this right militates against an individual's ability to express their desires and assume responsibility for their actions. Christians (2003) suggests that "[t]he common good is accessible to us only in personal form (p.234), seeing ethics not just confined to a set of rules for behaviour, but rather the interpersonal exchanges at all levels of our lives. Nowhere are these ethical and relationship skills more critical than in the important decisions needed during labour and birth at distance from specialist care.

Odent (2008) challenges us to return to these 'first things' (Odent, 2008); that is the practices and environments that centre on the woman and her baby's best interests at all stages of the childbirth experience. They are as simple or as complex, as the establishment of a relationship of trust and respect (Leap & Edwards, 2006; Lavender & Kingdom, 2006) within which ethical decisions can be made and reflected on. But it is also about respect for the physiology of birth (Foureur, 2008) and the way in which the environment and the actions and words of those around a woman supports or inhibits this process (Fahy, 2008).

Support for optimal transfer decisions in rural areas

The birthing work of women in rural areas and that of the midwives, who support them, contribute to the social capital at all levels of society (Lauder et al., 2006; Sandall, 2004). Similarly, there is a significant contribution from volunteers and members of local communities who provide the necessary practical support to allow birth to happen safely in rural areas. This contribution is of particular relevance given the widespread desire by governments in New

Zealand and elsewhere to promote normal birth and reduce the rates of intervention and caesarean section (Ministry of Health, 2007; Thomas, 2006).

In 1984, Rosenblatt commented that “[b]ecause pregnancy is a natural event and not a disease; there is considerable concern that increasing emphasis on the technical aspects of obstetrics may transform a normal and emotionally momentous human process into a medical event” (p.1). It seems however, that over two decades on, this trend continues without any clear benefit to the majority of women and their babies (Canadian Medical Association, 1994; Nesbitt et al., 1997; Tew, 1995; Tracy et al., 2005). This would seem to not only be a clinical concern but an economic, social and moral one as well.

To provide the optimal environment for rural birth to prosper, and optimal decisions around transfer to occur, three areas are highlighted as amenable to improvement and change. These include the interpersonal decision making at the rural facility and an understanding of how decisions are made; the strengthening of the role of local communities to assist when transfer is required and the affirmation, promotion, and resourcing of the rural birth option.

Incorporating critical reflection into transfer decisions

Decisions about transfer in labour or soon after birth are rarely simple, and women and midwives can only make a best guess based on their experience and expertise within the situation at the time. The cautious strategy of thinking ahead was used by the midwives in this study to manage the uncertainty of the clinical situation, and the expectations of others. While this can provide a safety margin in most instances, it was conceded that where the decision was too sensitive it could affect the viability of the rural birthing services and the confidence of the local women.

A process of reflection in action and reflection on action (Schön, 1983) was revealed in some of the midwives’ transcripts when they were considering transfer. These critical reflective processes have the potential to unravel some of the cognitive processes relied on in the midst of practice. The challenge from Schön (1983) is about being alert to times when discomfort is experienced in a

practice situation. This unease ideally prompting a pause and review, to expose any taken for granted ideas obscuring what else might be going on at the time. Intuitional (tacit) and rule of thumb (heuristic) habits, while serving us well in everyday practice, can mislead us and confound our perceptions in other situations (Tversky & Kahneman, 1974).

A habit of critical reflection, which unpacks the elements of interpersonal, contextual and underlying power and ideological influences in a decision, would provide a more useful process to improve future decision making (Nakielski, 2005). For rural midwives this might include reflection on particular skills they need to hone and the responses from others about their decision making. Morris (1972) proposes a framework for reflection where questions about the practice event are explored. It is acknowledged that engaging in a reflective process may not be always a comfortable process, but rather one that presents personal challenge where new insights might be gained to inform future practice decisions (ibid).

For rural midwives who practice alone or in small groups, isolation can be an issue, particularly when they have experienced a transfer event. Thus it may not always be easy to find the resources or access to colleagues for such critical reflection. One option is the strengthening of a rural midwifery community of practice suggested by McIntosh (2007). Such a community could provide a place for rural midwives to link with colleagues who experience similar practice challenges. This linkage could provide a vehicle for an exchange of ideas and knowledge sources, and most importantly, a safe and supportive place for debriefing and reflecting on rural practice decisions.

Tapping into the potential of the local community

The vital contribution of members of local community was identified in this thesis as critical to the functioning of the rural maternity service. Midwives in this study took opportunities to raise the profile of their maternity services and celebrate the local births. Thus using their 'embeddedness' and connection with the community to promote a rural birth option.

Further initiatives could include joint exercises with other local health professionals and volunteer ambulance officers to deal with emergency situations when transfer is required. The funding necessary could be requested when outside assistance was needed to assist with skill development initiatives. Investment in courses which focus on management of obstetric emergencies could be offered to local nurses and volunteer ambulance officers involved with transfer. Potentially these could be similar to those offered in remote rural areas of Australia, where the delivery of short courses raised the skill and safety levels in these communities (Kildea, Kruske & Bowell, 2006).

The value of developing the skills of members of the local communities was also identified by Lambert (2008). This was seen as the most sustainable response for supporting maternity care in rural Scotland which has much in common with New Zealand in terms of terrain and size of rural populations. This combination of rural maternity attributes thus becomes a unique and renewable resource for the country as a whole; in other words a form of social capital. Such a perspective would be a welcome change from that which requires these services to make a financial return or face service reduction.

Contestable funding has been available to rural maternity and other rural health services. Rural bonus funding was also made available by the Ministry of Health (2007) for LMC midwives in rural areas. The aim was to provide additional income support to enable the rural midwives to access locum cover. Application forms required a comprehensive report of their practice, caseload and the characteristics of their respective rural areas. Funding was to be ranked according to points accrued as a result of the information provided by the midwife (ibid). Other options include the Rural Innovations Fund (2008). This funding with a limit of \$50,000 for one 12 month period aimed at giving rural organisations the opportunity to reconfigure their local services. A comprehensive business plan is required calling for the agreement and signature of the relevant DHB. These schemes are a start though the work, time and expertise needed to complete the application documents may well be a problem for many midwives and small rural Trust Boards.

While short term funding might kick start some local initiatives, longer term funding would enable these initiatives to be bedded in. Sandall (2004) suggests that birth is not just an important social event within a community but it is also a public health issue. Thus investment in rural facilities to promote local birth would have a long term impact on the health of not just on the women and their families, but the society as a whole.

Understanding the nature of normal birth

When transfer occurs in labour the women and midwives involved experience a change in culture, or ‘sense of difference’ (Patterson, 2002). This includes uncertainty as to what will happen next and also how decisions will be viewed by others. It was understood that the local community could be supportive, or censorious, if events did not go well with a birth, or transfer. These tensions are inevitable, given that individuals are positioned differently in their approach to decision making, and their understanding and comfort with the nature of normal birth.

Bridging this cultural gulf has been approached pragmatically by Brodie and Leap (2008) with suggestions to help narrow the gap between the ‘ideal’ and the ‘real’ (p. 165). This focuses on the territory where birth occurs and includes the language used and the power dynamics within the situation. The birth territory of the rural facilities, provide most of the physical and personal characteristics required to support normal birth. These include preparing women for the reality of labour and birth, one to one support and staying the distance during labour; all elements of care that support the physiological processes and reduce the incidence of dystocia (Lowe, 2007).

Downe and McCourt (2004) suggest that we find ways to celebrate the cultural value of normal birth. To begin, the survey result from this current study shows that 83% of women successfully birthed in rural facilities which ought to be cause for optimism and confidence in the decisions made by women and midwives in rural areas. Emphasis on the environmental and practice skills that support normal birth, could become part of the strategy to reduce the concerning rise in interventions and caesarean sections which contribute to the escalating

cost of maternity care (Ministry of Health, 2007; Thomas, 2006). Such a view would justify appropriate resources to sustain rural maternity services. This in turn would ensure that women and midwives are supported in their work, and in the best position to make safe and appropriate transfer judgements.

Reflections on the study design

The modified concurrent mixed model design used to structure this research provided the flexibility to look broadly at the topic of decision making around transfer in rural areas. This conceptual model is one of many emerging within mixed method research (MMR) and as such presents a challenge to the more traditional paradigm structures. This prompts Tashakori and Teddlie (2003, b) to describe MMR as a “3rd methodological movement” (p.672) which rejects the either/or of the qualitative/ quantitative debate. Both these orientations were included in this research project the conduct of which was informed by pragmatic ideas; that is the focus was on the mix of methods and processes best suited to the questions posed.

The survey data provided a valuable snapshot of the transfer patterns, processes and characteristics of the respective rural areas and facilities over the two year period. All 19 rural facilities in the South Island returned a survey with a return of 11 from a possible 26, from the North Island. Delays in distribution were experienced in the north, due largely to the institutional turgidities experienced in obtaining Locality Assessment from the respective DHBs (Chapter 5). Had there been the opportunity to approach the rural facilities directly, the response rate may have been higher. Nonetheless, the results provide a mark in the sand, against which, rural facilities can compare their statistics and local circumstances.

A review of the survey forms showed areas where improvements could have been made to the wording and scope. For example some respondents counted the well mother who transferred with her unwell, baby and vice versa (Chapter 6). Where these were unable to be resolved by contacting the respondents, a best guess was allocated, taking into account the detail in the other sections of the form. It is acknowledged that these minor problems may have been resolved

had a full pilot study been done. One postnatal transfer reason added by several respondents was maternal infection following caesarean section. There was no expectation that women who had birthed elsewhere would be included in the postnatal statistics. In hindsight it may have been simpler to focus on perinatal transfers and leave postnatal events for another research project.

Rich clear information was provided about the geographic and service characteristics of the areas. Explanations were given of staffing arrangements, plus details of topographical and climatic conditions which could affect the time it would take to transfer. The unique and creative ways that these issues were overcome was evident in the comments about the ambulance services and how these were crewed and organised in the local communities.

Alternate terms were added to the forms in some sections. One area of significance for the study was the section asking for the primary reason for the transfer. Terms such as slow labour, prolonged labour and failure to progress (FTP) were added in preference to the available option of obstructed labour. Possibly there was reluctance to label a transfer with a level three weighting such as that attached to 'obstructed labour' and 'deep transverse arrest' in the referral guidelines (Chapter 8). In contrast prolonged first or second stage are weighted at level two and this appears to be how many of these situations were perceived by the rural midwives. In the analysis the totals of each definition of slowed labour were combined given the intention of the midwives to convey slow progress. A future survey could include a range of synonymous terms to reduce the confusion and provide for preferred definitions in common use.

All the women interviewed were from the South Island. This bias combined with the 100 percent return of survey forms from the South, makes this a study that profiles more closely what happens in the South Island rather than New Zealand as a whole. However 11 survey forms were returned from North Island rural facilities and one midwife working in the north contributed to the interview data. These survey returns, and the comments of the midwife, reflected largely, the same issues and challenges reported in the south. Identical

were the struggles for viability, recognition of the value of the rural service, and the dilemmas and difficulties associated with transfer decisions.

What is not captured in the survey or in the interviews, are responses from some of the rural facilities in the more densely populated areas of the north. As previously acknowledged these facilities provide primary maternity care for large, predominantly Māori and Pacific populations of women (Chapter 1). Statistically these are younger women, and judging by the large numbers in these primary facilities, women who utilise their rural facilities. It is reasonable to speculate that had these facilities responded to the survey, the transfer statistic in labour would have been less than the 17% recorded in this research. This assumption is based on the higher numbers recorded for normal birth for Māori in the Reports on Maternity (Ministry of Health, 2007) and the trend for women of European origins to delay beginning a family.

Areas for future research

There are opportunities to replicate this study using both survey and interview methods. This would ideally be provided for women who are at low risk of complications that would plan birth in their local facility. Such a study would optimally include outcomes both maternal and neonatal in order to provide more information to women about the benefits and or risks they assume when planning to birth in their local area. There is also the opportunity to compare the outcomes of low-risk women who bypass the local facility. The results of a retrospective cohort study (Davis et al.) which aims to compare select childbirth outcomes for the intended place of birth, is currently underway in New Zealand, and will address some of these questions.

It was not expected that women who chose to birth at home would be included in either the surveys or interviews. However a few births were recorded as born before arrival (BBA) and home birth. The latter were assumed to be inadvertent home births or where the woman had been booked in but changed her mind in labour. A research project that sought out this even less visible birthing community would be of great interest. As many of the midwives in rural areas provide birth care in homes as well as in rural facilities, findings would likely

be similar to those in this study; particularly in relation to the challenges of transfer decision making.

National and international significance of this research

This thesis makes a significant contribution to the national and international understanding, of decision making about transfer from a rural or remote birthing unit to a specialist unit located at a distance. As examined in chapter two, there are many studies from countries including Australia, the United Kingdom, the USA, Germany and Canada which have explored this issue and found similar challenges for the maintenance of rural birthing services, and the issues around transfer (Campbell & McFarlane, 1994; Peddle et al., 1983; Rosenblatt, 1984; Tew, 1995). These countries in common with New Zealand have experienced ongoing closure of rural maternity services. This trend continues in many areas despite research which shows that rural maternity services contribute health and economic benefits to their communities (Nesbitt et al, 1990 & 1997; Klein, Christilaw & Johnston, 2002; & Tracy et al., 2006) (Brown, 2008; Sutherns, 2004; Kornelsen & Grzybowski, 2005).

In addition, this research affirms that within a regionalised perinatal system, it is appropriate for well women near term to plan birth in their local rural area. This contention is supported by the survey results which revealed a transfer rate of 17% during labour and in the first few hours following birth. Of this number, almost 50% of transfers were undertaken for variations of slow labour; a situation which is rarely an emergency (Altman & Lydon-Rochelle, 2006; Torr, 2000). The rural midwives practicing at distance from specialist care maintain their skills and make cautious transfer decisions. This ‘forward thinking’ demonstrates an understanding of not just the clinical indications, but also the contextual and environmental factors that affect the organisation and timing of the transfer.

A rural maternity facility is testament that normal birth can and does occur in the community. In the survey 83% of women whose births were recorded, achieved their goal to give birth in their local area. To support the continuance of this option and promote the environment for optimal transfer decisions in

rural maternity care, recommendations are offered. These include a process of critical reflection, investment in local communities, and the affirmation and appropriate resourcing of the rural birth option. It is acknowledged that transfer decisions need to be made under conditions of uncertainty, as women and midwives travel hopefully through labour and birth, alert to problems arising but also to possibility.

Conclusion

Rural maternity facilities provide women with the opportunity to give birth close to their home and family; the environment providing a space that facilitates the process of normal birth. The rural midwives working in rural facilities have the skills to manage most of the common or emergency problems associated with birth, and it is only when additional care is needed or labour is unduly prolonged, that transfer needs to occur.

The aim of this study was to look at how women and midwives made decisions about transfer in rural areas in New Zealand. It was acknowledged that coming to such a decision can cause considerable disruption and distress. Women may fear for their own or their baby's wellbeing as they face the unknown at the end of long and often uncomfortable ambulance trip. Midwives too find transfer difficult and often struggle with making the decision, particularly when labour slows.

Having to transfer can shake the confidence of the woman in terms of future birth planning. In a similar way the midwives admit to more conservative practice following a worrying transfer experience. The community environment within which the decisions are made also influences the women and midwives. Each area has a unique history with regard to how health services have been developed, staffed, managed and resourced. Within these communities the understanding and views about the nature of birth vary, and affect how individuals respond to the birth experiences of others. Different also are the demographic, topographical, and climatic characteristics in the rural areas, factors which also need to be considered when transfer occurs.

The transfer decision is rarely simple to make. This was confirmed in this thesis as the women and midwives grappled with the timing of the decision when there was concern about the wellbeing of the woman or her baby. The most common reasons for transfer in the survey related to the passage of time and the stage of labour, and the midwives found these to be the most challenging calls to make. Behind the decisions about transfer is the understanding that the time needed to reach specialist care needs to be taken into account. This may mean that the decision is made at an earlier stage than necessary. But the midwives added a margin of time, which they described as thinking ahead. This strategy was with the knowledge that the transfer may be unnecessary in hindsight and that this would be a birth lost to the local facility. But this needed to be balanced by cautious practice for the safety of all.

To support women and midwives to make the most appropriate transfer decisions, practice environments are needed with fair and workable systems that allow for respectful collegial discussion. An environment with an attitude of openness, reflexivity and curiosity, which acknowledges our partial view of the world and taken for granted practice habits, is important for future decisions. To support women and midwives investment in the skills available in the community is desirable, given that these communities have a vested interest in the continuance of sustainable and well resourced rural maternity services. Given the obvious benefits that rural maternity services contribute to the social fabric, a redistribution of funding could be considered on that basis alone. Such a move could nourish the dreams of those who strive to provide primary options in both rural and urban areas where women's options are limited to secondary and tertiary hospitals.

Maybe good decision making can be simply summed up as Page (2000) suggests; that it is important for midwives to ask at least two questions of themselves. "Is what I intend to do likely to do more good than harm? "Am I spending my time doing the right things?" (p.45). It is suggested in this thesis that the 'right things' begin at the beginning. In other words reflection on what are the actions and environments that keep women and their babies safe, and

provide optimal birthing opportunities, wherever they choose, or need to give birth.

Appendices

Appendix A: Ethical approval



Multi-Region Ethics Committee

Ministry of Health
Level 2, 1-3 The Terrace
PO Box 5013
Wellington
Phone (04) 470 0655
(04) 470 0646
Fax (04) 496 2191

26 October 2006

Ms Jean Patterson
Otago Polytechnic
296 Blueskin Rd
Port Chalmers
Dunedin

Dear Jean

Should we stay or should we go? A discourse analysis of decision making by women and midwives with regard to transfer to secondary or tertiary care from rural maternity facilities in New Zealand Aotearoa
Lead Investigator: Ms Jean Patterson

MEC/06/05/045

The above study has been given ethical approval by the **Multi-region** Ethics Committee.

Approved Documents

- The Survey
- Information sheet for midwife participants
- Consent form for midwife participants
- Information sheet for women participants
- Consent form for women participants
- Information sheet for midwives or managers completing the survey
- Advertisement for midwives
- Advertisement for women

Accreditation

The Committee involved in the approval of this study is accredited by the Health Research Council and is constituted and operates in accordance with the Operational Standard for Ethics Committees, April 2006.

Progress Reports

The study is approved until **31 December 2008**. The Committee will review the approved application annually and notify the Lead Investigator if it withdraws approval. It is the Lead Investigator's responsibility to forward a progress report covering all sites prior to ethical review of the project in **October 2007**. The report form is available on <http://www.newhealth.govt.nz/ethicscommittees>. Please note that failure to provide a progress report may result in the withdrawal of ethical approval. A final report is also required at the conclusion of the study.

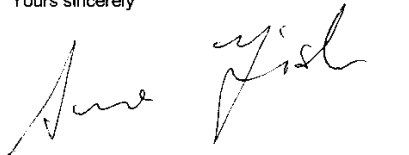
Amendments

It is also a condition of approval that the Committee is advised of any adverse events, if the study does not commence, or the study is altered in any way, including all documentation eg advertisements, letters to prospective participants.

Please quote the above ethics committee reference number in all correspondence.

It should be noted that Ethics Committee approval does not imply any resource commitment or administrative facilitation by any healthcare provider within whose facility the research is to be carried out. Where applicable, authority for this must be obtained separately from the appropriate manager within the organisation.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Sue Fish', with a stylized flourish at the end.

Sue Fish

Joint Administrator, Multi-region Ethics Committee
Ministry of Health
DDI: 04 470 0646
Fax: 04 496 2191

<http://www.newhealth.govt.nz/ethicscommittees>
mailto:Sue_Fish@moh.govt.nz

Appendix B: The rural survey form

THE SURVEY

Section One

NUMBER OF TRANSFERS FROM YOUR RURAL MATERNITY FACILITY FROM 1ST JULY 2004 TO 30TH JUNE 2006

total births	TOTAL BIRTHS • Total number of women who gave birth at your local facility during the two year time frame from 1st July 2004 to 30th June 2006.	Number:
	Comments:	
transfers in labour	TRANSFERS IN LABOUR Total number of women admitted to your facility who transferred during labour to a secondary or tertiary facility. <i>Please include only women who are more than 36 weeks gestation within the two year time frame.</i>	Number:
	Comments:	
postnatal transfers	POSTNATAL TRANSFERS Total number of women or neonates who transferred to a secondary/ tertiary facility following birth. <i>Please include only postnatal transfers for women or neonates up to seven days post birth within the two year time frame. Where both the woman and the infant have been transferred count only the individual for whom the transfer was required. For example if the woman was well but the baby required transfer then only count the baby.</i>	Number: Women: Neonates:
	Comments:	

The Survey

Should we stay or should we go? A study looking at how women and midwives make decisions around transfer from rural maternity facilities to secondary care facilities in New Zealand Aotearoa.

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Section Two

FOR THE WOMEN AND NEONATES TRANSFERRED, PLEASE SELECT THE PRIMARY REASON FOR TRANSFER FROM THE OPTIONS BELOW

non clinical	NON CLINICAL Transfer the following a change of plan by the woman for social, family, or for any other non clinical reason, following admission to the facility after 36 weeks gestation.	Number:	
	MEDICAL PROBLEM Transfer following admission in labour for exacerbation of any medical (non - obstetric) condition after 36 weeks gestation. <i>For example: Heart disease, asthma, diabetes, psychiatric or other.</i>	Number:	
problems during labour or birth	PROBLEMS DURING LABOUR OR BIRTH Transfers of women at any stage during labour and birth > 36 weeks gestation. <i>Please indicate the primary reasons for the transfer.</i>	Number:	
		Antepartum haemorrhage	
		Preeclampsia	
		Hypertension in pregnancy	
		Multiple pregnancy	
		Meconium stained liquor	
		Maternal fever or infection	
		Prolonged rupture of membranes	
		Malpresentation	
		Pain relief	
		Obstructed labour	
		Retained placenta	
		Foetal distress	
		Post partum haemorrhage	
Extensive perineal trauma			
Other (please comment):			
postnatal	POSTNATAL Neonatal transfers from birth to seven days of age. <i>Please indicate the primary reason for the transfer.</i>	Number:	
		Neonatal respiratory distress	
		Neonatal abnormality or suspected abnormality	
		Neonatal temperature instability	
		Heart murmur	
		Neonatal infection	
		Neonatal jaundice	
		Feeding difficulties	
		Other (please comment):	
		Transfers of women following childbirth to seven days postpartum <i>Please indicate the primary reason for the transfer.</i>	Deep vein thrombosis
Acute psychosis			
Other (please comment):			

The Survey

Should we stay or should we go? A study looking at how women and midwives make decisions around transfer from rural maternity facilities to secondary care facilities in New Zealand Aotearoa.

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Section Three

CHARACTERISTICS AND SERVICE ARRANGEMENTS IN YOUR AREA AND FACILITY

	FACTORS	COMMENTS
travelling time	What is the average travelling time by road to your nearest secondary/tertiary facility?	Time: Comments:
distance in km	What is the distance in km by road to your nearest secondary/tertiary facility?	Km: Comments:
emergency transport	What choice(s) of emergency transport is available in your area? <i>Please circle or add.</i>	Road ambulance Air ambulance Boat Other (<i>please comment</i>):
geographical features or climatic conditions	Are there any particular geographical features or climatic conditions that impact on transfer in your area? <i>Please circle or add.</i>	Mountain ranges Road slips Snow Ice Subsidence or washouts Flooding Other (<i>please comment</i>):
midwives	Are there any midwives (core staff) employed in the facility? <i>Please circle or add.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No Number:

The Survey

Should we stay or should we go? A study looking at how women and midwives make decisions around transfer from rural maternity facilities to secondary care facilities in New Zealand Aotearoa.

PAGE THREE

Section Three - continued

**CHARACTERISTICS AND SERVICE ARRANGEMENTS
IN YOUR AREA AND FACILITY**

<p>emergency care</p> <p>What assistance is available at your facility to assist with emergency care prior to transfer? <i>Please circle or add.</i></p>	<p>Second midwife: <input type="checkbox"/> Independent <input type="checkbox"/> Core</p> <p>General practitioner</p> <p>Other medical personnel</p> <p>Paramedic</p> <p>Other (<i>please comment</i>):</p>
<p>locum or relief cover</p> <p>What locum or relief cover is available for the women locally when a midwife accompanies the woman or neonata on transfer? <i>Please circle or add.</i></p>	<p>Midwife</p> <p>General practitioner</p> <p>Nursing staff</p> <p>Other (<i>please comment</i>):</p>
<p>maternal and neonatal transfer decisions</p> <p>Please comment on any other factors that you feel impact on maternal and neonatal transfer decisions in your area.</p>	<p><i>Please comment:</i></p>

END OF SURVEY (PLEASE RETURN YOUR RESPONSES IN THE REPLY PAID ENVELOPE)

Thank you very much for taking the time to complete this survey.

Jean Patterson

The Survey

Should we stay or should we go? A study looking at how women and midwives make decisions around transfer from rural maternity facilities to secondary care facilities in New Zealand Aotearoa.

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Appendix C: Rural survey information letter



The Survey

Information sheet for midwives or managers completing the survey

Contact details

Researcher

Jean Patterson

Email: jeanpat@tekotago.ac.nz

Supervisors

Dr. Joan Skinner and Dr. Maralyn Foureur

Graduate School of Nursing and Midwifery

Victoria University of Wellington

P.O. Box 600

Wellington

Phone: (04) 463 6654

About the study

Project title

Should we stay or should we go? A study looking at how women and midwives make decisions around transfer from rural maternity facilities to secondary care facilities in New Zealand Aotearoa.

Introduction

You are invited to complete the survey form which looks at how women and midwives arrive at the decision to either stay at a primary rural facility, or, transfer to a secondary or tertiary facility in labour or post birth. For this research I plan to survey each primary rural facilities in New Zealand with regard to transfer numbers and their particular local characteristics. I also plan to interview women and midwives.

My name is Jean Patterson. I am a midwife and currently teach in the Midwifery School at Otago Polytechnic in Dunedin. In 2005 I was awarded a Scholarship to complete my PhD at Victoria University of Wellington and I have chosen the above topic which aims to explore the issues for women and midwives when transferring from a rural primary facility to a secondary or tertiary facility during childbirth.

Women in New Zealand have historically had access to rural facilities for birth and I have had the privilege of giving birth to my children in my local area and subsequently sharing the birth experiences of many families as a rural midwife. Thus I have an enduring interest in birth in rural areas and the need for appropriate and well resourced services for the future.

What are the aims and objectives of the study?

- The primary aim of the study is to explore how women and midwives arrive at the decision to either stay at a primary rural facility, or transfer to a secondary or tertiary facility during labour or post birth. For this research women and midwives from a range of rural areas across New Zealand will be interviewed.
-
- To background the study, primary/ rural facilities, as defined by the Maternity Report (2004), will be surveyed with regard to the number and nature of transfers to secondary and tertiary care. In addition the survey will ask for some demographic and contextual information particular to that facility.
-
- It is envisaged that this study will provide useful information for women, midwives and organisations responsible for planning and resource allocation in rural areas.
- The study could also offer insights for midwifery education with regard to course content and the clinical experience appropriate for rural practice.

About this survey

Transfer rates and the reasons for transfer of women and neonates from primary/ rural maternity facilities

The survey

The survey is designed to determine the number of maternal and neonatal transfers from the primary/ rural facilities across New Zealand over a two year period from the 1st July 2004 to the 30th June 2006.

- **Section One** asks for the total number of births and the number of transfers of both women and neonates in your area over the two year time frame.
- **Section Two** asks for the primary reason for the transfer where this information is recorded in the birth register for the woman or her infant.
- **Section Three** acknowledges the variety of service provision arrangements and locations of our primary and rural facilities. This section asks for some brief details with regard to your facility.

There is also opportunity for you to comment in each section.

The information from this survey will be collated and analysed. No individual or facility will be identifiable in the analysed data. Therefore there will not be any material that could personally identify you in the final thesis or any reports on the study. Thus the responses to the survey will be confidential to the researcher and her supervisors. The raw data from the survey will be stored in a locked cabinet and any identifiable electronic details will be password protected. The survey forms will be held for a period of five years before being destroyed at the conclusion of the research

A research report will be offered to all participants at the completion of the study as an acknowledgement of your contribution. This report will be submitted for publication in peer reviewed Journals, and presented at conferences and/or seminars in the future.

Approval for this study

This study has received ethical approval from the National Ethics Committee/
Multi-region Ethics Committee.

Your rights with regard to participation in this study

Taking part in this study is voluntary and you have the right to decide not take part or withdraw at any time without giving a reason.

Participation or withdrawal in this study will in no way affect your ongoing employment or your academic progress.

If you have any queries or concerns regarding your rights as a participant in this study you may wish to contact a health and Disability Advocate, telephone

- | | |
|------------------------------------|-------------------------|
| • Northland to Franklin | 0800 555 050 |
| • Mid and lower North Island | 0800 42 36 38 (4 ADNET) |
| • South Island except Christchurch | 0800 377 766 |
| • Christchurch | 03 377 7501” |

Please feel free to contact the researcher (see contact details above) if you have any further questions about this study.

Thank you for agreeing to read about my research project. I look forward to hearing from you.

Jean Patterson

Appendix D: Information letter and consent form for women participants

Information for women participants

Contact details

Researcher

Jean Patterson

Email: jeanpat@tekotago.ac.nz

Supervisors

Dr. Joan Skinner and Dr. Maralyn Foureur

Graduate School of Nursing and Midwifery

Victoria University of Wellington

P.O. Box 600

Wellington

Phone: (04) 463 6654

About the study

Project title

Should we stay or should we go? A study, looking at how women and midwives make decisions around transfer from rural maternity facilities, to secondary care facilities in New Zealand Aotearoa.

Introduction

You are invited to take part in a study which looks at how women and midwives arrive at the decision to either stay at a primary/rural maternity facility, or, transfer to a secondary/ tertiary maternity facility in labour or post birth. For this research I plan to interview 6 women and 6 midwives.

My name is Jean Patterson. I am a midwife and currently teach in the Midwifery School at Otago Polytechnic in Dunedin. In 2005 I was awarded a Scholarship to complete my PhD at Victoria University of Wellington and I have chosen to look at the decision making for women and midwives around the issue of transfer either in labour or post birth.

Women in New Zealand have historically had access to rural facilities for birth and I have had the privilege of giving birth to my children in my local area and subsequently sharing the birth experiences of many families as a rural midwife. Thus I have an enduring interest in birth in rural areas and the need for appropriate and well resourced services for the future.

-

What are the aims and objectives of the study?

- The primary aim of the study is to explore how women and midwives arrive at the decision to either stay at a primary/ rural facility, or transfer to a secondary/ tertiary facility during labour or after birth. For this research women and midwives from a range of rural areas across New Zealand will be interviewed.
- To background the study, primary/ rural facilities, as defined by the Maternity Report (2004), will be surveyed with regard to the number and nature of transfers to secondary and tertiary care. In addition the survey will ask for some demographic and contextual information particular to that facility.
- It is envisaged that this study will provide useful information for women, midwives and organisations responsible for planning and resource allocation in rural areas.
- The study could also offer insights for midwifery education with regard to course content and the clinical experience appropriate for rural practice.

About the interviews

What questions will I be asked?

The interviews will be an opportunity for you to explore your experience and opinions about the topic. As an opening question I would ask about your birth experience and how you planned where to give birth.

All who agree to an interview will be asked the following questions.

- Can you tell me a little about your recent birth experience?
- What did you consider when choosing where to give birth?

- Was the possibility of transfer raised during your pregnancy labour or after you had given birth?
- If transfer was discussed how did you and those supporting you contribute to the decision?

Note you do not have to answer all the questions in the interview and you may stop the interview at any time.

How long will the interviews take and where will they take place?

The interviews will take about an hour to an hour and a half. The interviews may be recorded in your own home. If that is not convenient another venue can be arranged.

Can I have a support person or an interpreter?

You may wish to have a friend or member of your whānau or family with you during the interview. If you need an interpreter I will endeavour to provide one

What expenses will be met?

Any reasonable costs associated with attending the interview will be reimbursed. For example if you need to arrange child care or travel to the venue for the interview. Also light refreshments will be offered where appropriate

What happens after the interview?

Following the interview if you wish to add, change or withdraw any comments this will be welcomed up until the point that the analysis is begun.

The content of the tapes and transcripts will be kept confidential to me and my supervisors and under lock and key or password protected for the duration of the study. Your name will not appear in the final thesis or any publication or presentation as the data will be merged in the process of analysis. Therefore there will not be any material that could personally identify you used in any reports on the study.

At the completion of my PhD I will offer you a copy of my research report. This report will be submitted for publication in peer reviewed Journals, and presented at conferences or seminars in the future.

What organisation has approved this study?

This study has received ethical approval from the National Ethics Committee/ Multi-region Ethics Committee. Ethical approval has also been obtained from the Victoria University of Wellington Human Ethics Committee and forms part of my PhD study supervised by Drs Maralyn Rowley and Joan Skinner.

What are my rights if I agree to take part in this study?

Taking part in this study is voluntary and you have the right to decide not take part or withdraw at any time without giving a reason.

Participation or withdrawal in this study will in no way affect your ongoing health care.

If you have any queries or concerns regarding your rights as a participant in this study you may wish to contact a health and Disability Advocate, telephone

- Northland to Franklin 0800 555 050
- Mid and lower North Island 0800 42 36 38 (4 ADNET)
- South Island except Christchurch 0800 377 766
- Christchurch 03 377 7501”

Please feel free to contact the researcher (see contact details above) if you have any questions about this study.

Thank you for agreeing to read about my research project.

I look forward to hearing from you.

Jean Patterson

Consent Form for women participants

Should we stay or should we go? A study looking at how women and midwives make decisions around transfer from rural maternity facilities to secondary care facilities in New Zealand Aotearoa.

Y

I have read and I understand the information sheet dated 00/00/00 for volunteers taking part in the study designed to explore how women and midwives make decisions around transfer from rural maternity facilities to secondary care facilities in New Zealand Aotearoa.

I have had the opportunity to use whānau or a friend to help me ask questions and understand the study

I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time and this will in no way affect my future health care

I understand that my participation in this study is confidential and that no material which could identify me will be used in any reports on this study

I have had time to consider whether to take part

I know who to contact if I have any questions about the study

I consent to my interview being audio-taped

I wish to receive a copy of the report

Request for an interpreter

English	I wish to have an interpreter.	Yes	No
Maori	E hiahia ana ahau ki tetahi kaiwhakamaori/kaiwhaka pakeha korero.	Ae	Kao
Cook Island	Ka inangaro au i tetahi tangata uri reo.	Ae	Kare
Fijian	Au gadreva me dua e vakadewa vosa vei au	Io	Sega

Niuean	Fia manako au ke fakaaoga e taha tagata fakahokohoko kupu.	E	Nakai
Samoan	Ou te mana'o ia i ai se fa'amatala upu.	Ioe	Leai
Tokelaun	Ko au e fofou ki he tino ke fakaliliu te gaga Peletania ki na gagana o na motu o te Pahef	Ioe	Leai
Tongan	Oku ou fiema'u ha fakatonulea.	Io	Ikai
Other languages to be added following consultation with relevant communities.			

I _____ (full name) hereby consent to take part in this study

Date

Signature

Contact details

Researcher

Jean Patterson

Email: jeanpat@tekotago.ac.nz

Supervisors

Dr. Joan Skinner and Dr. Maralyn Foureur

Graduate School of Nursing and Midwifery

Victoria University of Wellington

P.O. Box 600

Wellington

Phone: (04) 463 6654

Appendix E: Information letter and consent form for midwife participants



Information sheet for midwife participants

Contact details

Researcher

Jean Patterson

Email: jeanpat@tekotago.ac.nz

Supervisors

Dr. Joan Skinner and Dr. Maralyn Foureur

Graduate School of Nursing and Midwifery

Victoria University of Wellington

P.O. Box 600

Wellington

Phone: (04) 463 6654

About the study

Project title

Should we stay or should we go? A study looking at how women and midwives make decisions around transfer from rural maternity facilities to secondary care facilities in New Zealand Aotearoa.

Introduction

You are invited to take part in a study which looks at how women and midwives arrive at the decision to either stay at a primary/rural maternity facility, or, transfer to a secondary/ tertiary maternity facility in labour or post birth. For this research I plan to interview women and midwives.

My name is Jean Patterson. I am a midwife and currently teach in the Midwifery School at Otago Polytechnic in Dunedin. In 2005 I was awarded a Scholarship to complete my PhD at Victoria University of Wellington and I

have chosen to look at the decision making for women and midwives around the issue of transfer either in labour or post birth.

Women in New Zealand have historically had access to rural facilities for birth and I have had the privilege of giving birth to my children in my local area and subsequently sharing the birth experiences of many families as a rural midwife. Thus I have an enduring interest in birth in rural areas and the need for appropriate and well resourced services for the future.

What are the aims and objectives of the study?

- The primary aim of the study is to explore how women and midwives arrive at the decision to either stay at a primary rural facility, or transfer to a secondary or tertiary facility during labour or post birth. For this research women and midwives from a range of rural areas across New Zealand will be interviewed.
- To background the study, primary/ rural facilities, as defined by the Maternity Report (2004), will be surveyed with regard to the number and nature of transfers to secondary and tertiary care. In addition the survey will ask for some demographic and contextual information particular to that facility.
- It is envisaged that this study will provide useful information for women, midwives and organisations responsible for planning and resource allocation in rural areas; thus it may contribute to discussions of future viability.
- The study could also offer insights for midwifery education with regard to course content and the clinical experience appropriate for rural practice.

About the interviews

What questions will be asked?

The interviews will be an opportunity to explore your experience and opinions about the topic of transfer in maternity care

All who agree to an interview will be asked the following questions.

- What brought you to this area and to rural midwifery practice? And how long have you worked in this area?
- When considering the need for transfer in labour our post-birth, what are the issue for you?
- How do you and those you work with, contribute to the decision to transfer?
- Do you see any particular benefits and challenges to practising in the rural environment?

Note you do not have to answer all the questions in the interview and you may stop the interview at any time.

How long will the interviews take and where will they take place?

The interviews will take approximately 45 to 60 minutes depending on the discussion and the time you have available. The interviews may be recorded by phone if distance is an issue, or at a venue convenient to you. This may be your workplace or your home. If neither is convenient another venue can be arranged.

Can I have a support person or an interpreter?

You may have a colleague, friend or member of your whānau or family with you during the interview, and if you need an interpreter I will endeavour to provide one.

What expenses will be met?

Any reasonable expenses associated with attending the interview will be reimbursed. For example if you need to arrange child care or travel to the venue for the interview. Where the interview coincides with a meal or tea break, light refreshments will be offered.

What happens after the interview?

Following the interview if you wish to add, change or withdraw any comments this will be welcomed up until the point that the analysis is begun.

The content of the tapes and transcripts will be kept confidential to me and my supervisors and under lock and key and password protected for the duration of the study. Your name will not appear in the final thesis or any publication or presentation as the data will be merged in the process of analysis. Therefore there will not be any material that could personally identify you used in any reports on the study.

At the completion of my PhD I will offer you a copy of the research report. This report will be submitted for publication in peer reviewed Journals, and presented at conferences and/or seminars in the future.

What organisation has approved this study?

This study has received ethical approval from the Multi-Regional Ethics Committee.

Ethical approval has also been obtained from the Victoria University of Wellington Human Ethics Committee and forms part of my PhD study supervised by Drs Maralyn Foureur and Joan Skinner.

What are my rights if I agree to take part in this study?

Taking part in this study is voluntary and you have the right to decide not take part or withdraw at any time without giving a reason.

Participation or withdrawal in this study will in no way affect your ongoing employment or academic progress.

If you have any queries or concerns regarding your rights as a participant in this study you may wish to contact a health and Disability Advocate, telephone

- Northland to Franklin 0800 555 050
- Mid and lower North Island 0800 42 36 38 (4 ADNET)
- South Island except Christchurch 0800 377 766

- Christchurch

03 377 7501”

Please feel free to contact the researcher (see contact details above) if you have any questions about this study.

Thank you for agreeing to read about my research project. I look forward to hearing from you.

Jean Patterson

Consent Form for midwife participants

Should we stay or should we go? A study looking at how women and midwives make decisions around transfer from rural maternity facilities to secondary care facilities in New Zealand Aotearoa.

Yes No

I have read and I understand the information sheet dated 00/00/00 for volunteers taking part in the study designed to explore how women and midwives make decisions around transfer from rural maternity facilities to secondary care facilities in New Zealand Aotearoa.

I have had the opportunity to use a colleague, whanau or a friend help me ask questions and understand the study

I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time and this will in no way affect my future employment

I understand that my participation in this study is confidential and that no material which could identify me will be used in any report on this study

I have had time to consider whether to take part

I know who to contact if I have any questions about the study

I consent to my interview being audio-taped

I wish to receive a copy of the report

Request for An Interpreter

English I wish to have an interpreter. Yes No

Maori	E hiahia ana ahau ki tetahi kaiwhakamaori/kaiwhakapakeha korero.	Ae	Kac
Cook Island	Ka inangaro au i tetahi tangata uri reo.	Ae	Kar
Fijian	Au gadreva me dua e vakadewa vosa vei au	Io	Seg
Niuean	Fia manako au ke fakaaoga e taha ta fakahokohoko kupu.	E	Nak
Samoaan	Ou te mana'o ia i ai se fa'amatala upu.	Ioe	Lea
Tokelaun	Ko au e fofou ki he tino ke fakaliliu te gaḡ Peletania ki na gagana o na motu o te Pahefika	Ioe	Lea
Tongan	Oku ou fiema'u ha fakatonulea.	Io	Ikai

Other languages to be added following consulta
with relevant communities.

I _____ (full name) hereby consent to take part in this study

Date

Signature

Contact details

Researcher

Jean Patterson

Email: jeanpat@tekotago.ac.nz

Supervisors

Dr. Joan Skinner and Dr. Maralyn Foureur

Graduate School of Nursing and Midwifery

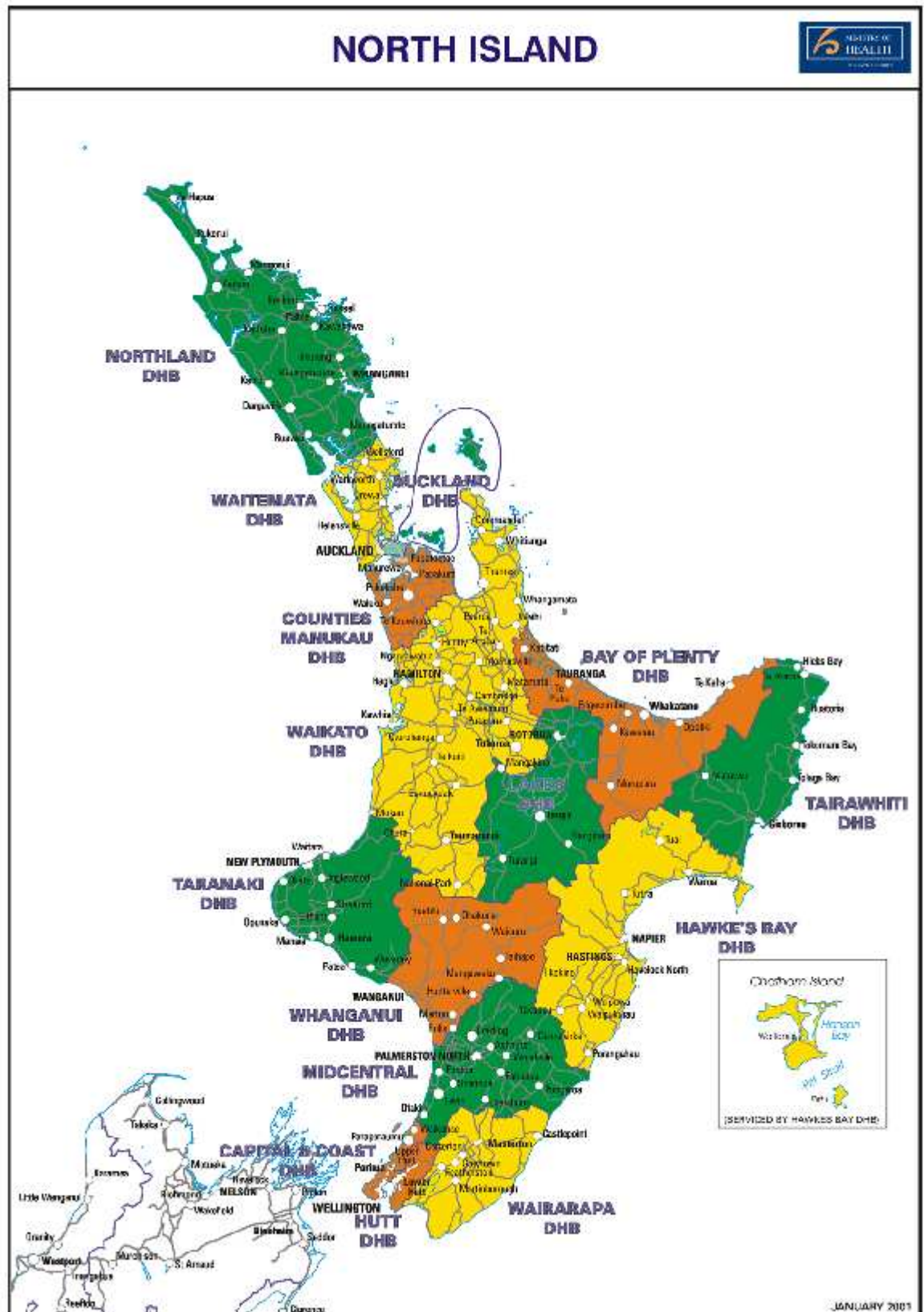
Victoria University of Wellington

P.O. Box 600

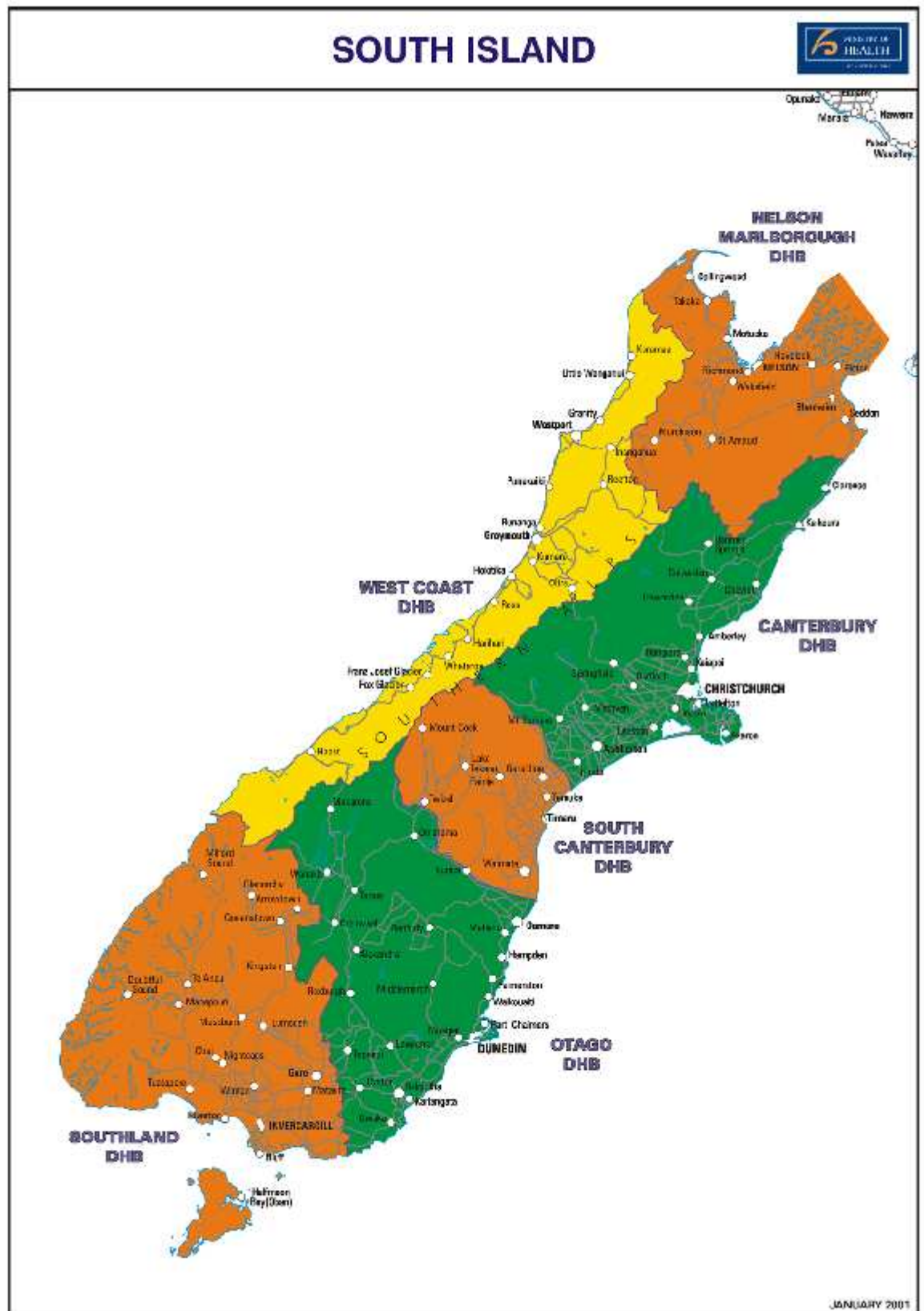
Wellington

Phone: (04) 463 6654

Appendix F. North Island DHB map



Appendix G. South Island DHB map



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