Maternity Waiting Homes and the Shaping of Maternal Health Policy in Timor-Leste

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Abstract

Timor-Leste’s independence in 1999 provided an opportunity for Timorese health leaders, in conjunction with donors and technical advisors, to direct the nation’s health policy agenda. Reducing the high rate of maternal mortality was a national priority. In 2005 a maternity waiting home policy was developed to improve access to care for women in rural and remote areas, and to facilitate a transition from birthing at home to birthing in hospital. By 2007 the concept had been incorporated into the Basic Services Package and was planned for every health post, health centre and hospital in the country.

Drawing on the anthropology of policy and mixed methods research, this project uses maternity waiting homes as a case study to examine the factors that influence the development of maternal health policy and use of maternity services in Timor-Leste. An analysis of the policy process revealed complex power relationships which favoured the role of national elites when setting the policy agenda. Solutions tended to be based on dominant ideology rather than evidence. Despite strong national leadership, maternity waiting homes were transformed during implementation indicating ‘street level bureaucrats’ such as health managers and midwives had more control over implementation than expected. The maternity waiting homes in Timor-Leste were used as postpartum care facilities, mostly by women who lived within 5km of the health centre. They were not used by women to ‘wait’ prior to labour and did not improve access to hospital birth for women in remote areas. A range of qualitative and quantitative data is used to illustrate the importance of other issues affecting access to care, including individual, sociocultural, societal and health system factors.

The failure of maternity waiting homes to meet national objectives highlights the need to invest in transport, decentralised birthing services and improved quality of care in hospitals. An alternative model of policy is presented, one which frames implementation as a process of adaptation. This model emphasises the need to re-evaluate the dominant approach to policy-making so that women’s needs and the health system context inform the development and implementation of policies. It advocates for the participation of street level bureaucrats and rural women in setting a rural health policy agenda.
Figure 1: Map of Timor-Leste. Source: http://upload.wikimedia.org/wikipedia/commons/7/7d/Un-timor-leste.png (accessed 17/09/09)
For birthing women...

Photo 1: Newborn baby, Same health centre
**Table of Contents**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF FIGURES</td>
<td>IX</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>IX</td>
</tr>
<tr>
<td>ABBREVIATIONS</td>
<td>XIII</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>XIV</td>
</tr>
<tr>
<td>CERTIFICATE OF AUTHORSHIP AND ORIGINALITY</td>
<td>XVI</td>
</tr>
<tr>
<td>PUBLICATIONS ARISING FROM THIS RESEARCH</td>
<td>XVII</td>
</tr>
<tr>
<td>Journal Articles</td>
<td>xvii</td>
</tr>
<tr>
<td>Unpublished Reports</td>
<td>xvii</td>
</tr>
<tr>
<td>Conference Presentations</td>
<td>xvii</td>
</tr>
<tr>
<td>CHAPTER 1: INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Maternal Health in Timor-Leste</td>
<td>1</td>
</tr>
<tr>
<td>Identifying the Issues</td>
<td>3</td>
</tr>
<tr>
<td>Thesis Overview</td>
<td>6</td>
</tr>
<tr>
<td>CHAPTER 2: HISTORICAL INFLUENCES AND FUTURE OPTIONS FOR MATERNAL HEALTH IN TIMOR-LESTE</td>
<td>10</td>
</tr>
<tr>
<td>Early Migration</td>
<td>11</td>
</tr>
<tr>
<td>Culture</td>
<td>13</td>
</tr>
<tr>
<td>Portuguese Colonisation</td>
<td>15</td>
</tr>
<tr>
<td>Indonesian Occupation</td>
<td>17</td>
</tr>
<tr>
<td>Independence</td>
<td>19</td>
</tr>
<tr>
<td>Maternal Mortality</td>
<td>21</td>
</tr>
<tr>
<td>Reconstructing the Maternal Health System</td>
<td>24</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Implementation as Adaptation</td>
<td>206</td>
</tr>
<tr>
<td>An Explanatory Framework</td>
<td>207</td>
</tr>
<tr>
<td>Anthropology of Health Policy</td>
<td>211</td>
</tr>
<tr>
<td>Implications for Maternal Health Policy in Timor-Leste</td>
<td>211</td>
</tr>
<tr>
<td>Women’s Participation in Policy</td>
<td>214</td>
</tr>
<tr>
<td>Conclusion</td>
<td>217</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>219</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>249</td>
</tr>
<tr>
<td>Appendix 1: Interview Schedule</td>
<td>249</td>
</tr>
<tr>
<td>Appendix 2: Information Sheet</td>
<td>255</td>
</tr>
<tr>
<td>Appendix 3: Consent Form</td>
<td>256</td>
</tr>
</tbody>
</table>
List of Tables

Table 1: Studies reporting maternal and perinatal mortality ratios for women using a maternity waiting home (MWH users) versus those admitted directly to hospital (non-users) 46

Table 2: Number of interviews with policy-makers in Dili, by organization 65

Table 3: Number of interviews with health staff, by district 66

Table 4: Number of interviews with women, husbands and group discussions, 67

Table 5: Population and health services data for Lautem and Manufahi Districts, 2007 Data 74

Table 6: Category, type, definition and location of 'maternity waiting homes' implemented in Timor-Leste 113

Table 7: Mean number of births per month before and after the maternity waiting home was implemented in Same, by place of birth 138

Table 8: Mean number of births per month before and after the maternity waiting home was implemented in Lospalos, by place of birth 142

Table 9: Number and percentage of facility-based births in Same, by distance between village of residence and the maternity waiting home 145

Table 10: Percentage of expected births in the population of Manufahi District which took place at Same health centre, by distance to the facility, 2007 146

Table 11: Number and percentage of facility-based births in Lospalos, by distance between village of residence and the maternity waiting home, 2007 147

Table 12: Percentage of expected births in Lautem district which took place at Lospalos health centre, by distance to the facility, 2007 148
Table 13: Mean number and percentage of referrals per month before and after the maternity waiting home was implemented, Same

Table 14: Percentage of midwives competent in the following knowledge and skills

Table 15: Mean number and percentage of referrals per month before and after the maternity waiting home was implemented, Lospalos

Table 16: Number and rate of perinatal deaths before and after the maternity waiting home was implemented and home birth versus facility-based birth, Same

Table 17: Number and rate of perinatal deaths before and after the maternity waiting home was implemented and home birth versus facility-based birth, Lospalos
List of Figures

Figure 1: Map of Timor-Leste iii

Figure 2: Language groups of Timor-Leste (Lewis 2009) 13

Figure 3: Conceptual framework for improving maternal health outcomes (Graham et al 2001) 31

Figure 4: The relationship between maternal health policy networks and policy communities in agenda setting 99

Figure 5: The policy process involved in the development of maternity waiting homes in Timor-Leste 125

Figure 6: Number of births by place of delivery, Same sub-district, 2006-2007 139

Figure 7: Number of births per month, Maliana hospital, 2005-2007 141

Figure 8: Number of births by place of delivery, Lospalos sub-district, 2004-2007 142

Figure 9: Number of births by place of delivery, Remixio sub-district, 2005-2007 143

Figure 10: Number of facility-based births, showing distance between village of residence and Same health centre, 2006-2007 144

Figure 11: Number of facility-based births, showing distance between village of residence and Lospalos health centre, 2004-2007 147

Figure 12: Number of referrals as a proportion of all facility-based births, Same health centre, 2006-2007 150

Figure 13: Number of referrals as a proportion of all facility-based births, Lospalos health centre, 2004-2007 153
Figure 14: Number of perinatal deaths as a proportion of facility-based births, Same health centre, 2006-2007

Figure 15: Number of perinatal deaths as a proportion of facility-based births, Lospalos health centre, 2004-2007

Figure 16: The individual, social, societal and health system factors that influenced utilisation of maternal health services in Timor-Leste

Figure 17: Factors influencing the policy-making process and use of maternal health services in Timor-Leste
Abbreviations

CAVR – Commission for Reception, Truth and Reconciliation in East Timor

ETHPWG – East Timor Health Professionals Working Group

HAI – Health Alliance International

IDP – Internally Displaced Person

MCH – Maternal and Child Health

MMR – Maternal Mortality Ratio

MoH – Ministry of Health (Timor-Leste)

MWH – Maternity Waiting Home

NGO – Non-government Organisation

NHMRC – National Health and Medical Research Council

OCHA – Office for the Coordination of Humanitarian Affairs

TAIS – Timor-Leste Asistensia Integradau Saude (Integrated Health Assistance)

UN – United Nations

UNDP – United Nations Development Programme

UNESCO – United Nations Educational, Scientific and Cultural Organization

UNFPA – United Nations Population Fund

UNICEF – United Nations Children’s Fund

UNITAR – United Nations Institute for Training and Research

UNTAET – United Nations Transitional Administration in East Timor

USAID – United States Agency for International Development

WHO – World Health Organisation
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Photo 2: Ben and Ruben working
Certificate of Authorship and Originality

I hereby declare that the work herein, now submitted as a thesis for the degree of Doctor of Philosophy at Charles Darwin University, is the result of my own investigations, and all references to ideas and work of other researchers have been specifically acknowledged. I hereby certify that the work contained in this thesis has not already been accepted in substance for any degree, and is not currently being submitted in candidature for any other degree.

Signature of the Candidate: ___________________ Date: ___________
(Kayli Janine Wild)

Photo 3: Kayli in Maliana
Publications Arising from this Research

Journal Articles

Unpublished Reports


Conference Presentations


![Photo 4: Mountains in Bobonaro](image)
Chapter 1: Introduction

Maternal Health in Timor-Leste

After 25 years of occupation by Indonesia, Timor-Leste voted for independence in a landslide referendum in August 1999. Decades of human rights abuses by the Indonesian military and local militia groups saw more than 100,000 people or 10% of the population killed (CAVR 2005). As the Indonesian military, and militias acting under their direction, exited the country they enacted a ‘scorched-earth’ policy. This resulted in the displacement of 550,000 people, destruction of 80% of the capital’s business district and widespread burning of homes, schools, health centres and essential infrastructure across the country (Fox & Soares 2000; CAVR 2005).

The Timorese people with assistance from a large number of non-government organisations (NGOs), United Nations (UN) agencies, bilateral partners and donors, then began to re-build their lives and achieved full independence in May 2002. Like most other populations recovering from long periods of conflict, Timor-Leste experienced a post-war baby boom. The annual population growth rate between 1990 and 2007 was estimated at 2.6% (UNICEF 2009). This growth rate resembles that of other war-torn countries in sub-Saharan Africa. The total fertility rate in Timor-Leste in 2007 was 6.6 children born per woman. This was higher than the rate in 1970 and three and a half times higher than the average fertility rate for the Asia-Pacific region (UNICEF 2009). Women, and particularly married couples, were and continue to be exposed to profound pro-natal sentiments due to the desire to replace those lost during the war and through the influence of Catholic values, to which 98% of the population ascribe (MoH et al 2004a).

The birth of a baby is therefore an important event in Timorese family and social life. It is an occasion to gather family together and celebrate. Most births take place at home, attended by senior female relatives experienced in birth (MoH et al 2004a; HAI 2004a). Medically trained midwives or doctors attend only 20% of births, half of which are
assisted in a woman’s home and half of which take place in a health facility (MoH et al 2004a; UNICEF 2009). While the vast majority of births are normal and do not require obstetric care, problems do arise. Timor-Leste is considered to have one of the highest maternal mortality ratios in Southeast Asia, with estimates ranging from 380/100,000 live births (UNICEF 2009) to more than 800/100,000 live births (Povey & Mercer 2002; MoH 2002a). The most commonly accepted estimate is 660/100,000 live births (WHO 2006a). This high maternal mortality rate, combined with the high fertility rate has resulted in a one in 35\(^1\) lifetime risk of maternal death for a woman in Timor-Leste. This was ten times higher than the average for the Asia-Pacific region, which was one in 350 (UNICEF 2009).

The factors leading to the increased risk of maternal death in Timor-Leste are multiple and complex. The history of war, famine and ongoing political instability interact with poor social determinants of health such as low levels of employment and education opportunities, lack of food security, poor transport infrastructure and widespread poverty. These socioeconomic and structural issues are particularly problematic in rural and remote areas. The medical discourse, on the other hand, tends to focus on individual causes such as haemorrhage, obstructed labour, sepsis, unsafe abortion and eclampsia which lead to disastrous outcomes when there is limited access to quality emergency obstetric care.

The vulnerability of both mother and baby is recognised in Timorese culture, particularly during birth and the postpartum period. This dangerous phase is dealt with through customary protective mechanisms such as the use of heat, seclusion and protection from the cold and wind (HAI 2004b; TAIS 2007; McWilliam 2002). The Timorese Ministry of Health, in its landmark Health Policy Framework (MoH 2002a), recognised the importance of social determinants and cultural values in health care. The discourse in these early policy documents centred on equity, cultural sensitivity, and quality and accessibility of health services (MoH 2002a; MoH 2002b).

\(^1\) This is a conservative estimate as it uses the lowest maternal mortality ratio of 380/100,000 live births (UNICEF 2009).
The Ministry of Health aims to provide quality health care to East Timorese by establishing and developing a cost-effective and needs-based health system which will specially [sic] address the health issues and problems of women, children and other vulnerable groups, particularly the poor, in a participatory way (MoH 2002a:25).

**Identifying the Issues**

Despite this commitment to develop a participatory health system unique to the Timorese context, leaders defaulted to known models, including the Western biomedical system (Carson & Martin 2003). From the establishment of the first Timorese Ministry of Health in 2002, the solutions to maternal health issues were framed within the universal Safe Motherhood initiative. This initiative has moved away from training traditional birth attendants and now aims to increase the number of births attended by medically trained personnel. The strategy of ‘skilled attendance’ applies to all births, whether they occur at home or hospital, and emphasises access to quality emergency obstetric care through efficient referral mechanisms (WHO et al 2004). The Ministry of Health shaped early maternal health policy around this notion of skilled attendance and encouraged midwives to assist in home births. The dominance of the Safe Motherhood strategy in the development of policy illustrates how policy-making in developing countries is, increasingly, a global endeavour.

Between 2002 and 2005 there was a greater focus on facility-based delivery in Timor-Leste’s maternal health policy debates. By 2007 the national shift to supporting only institutional delivery had been cemented in two important policy documents: the Basic Services Package (MoH 2007a) and the Health Sector Strategic Plan 2008-2012 (MoH 2007b). Both these documents outlined the plan to improve facility-based delivery rather than skilled attendance and recommended indicators only on the percentage of births taking place in a health facility. The Basic Services Package goes as far as to state that home births should be assisted only in an emergency (MoH 2007a:72).
The policy shift from skilled attendance to institutionalised birth in Timor-Leste coincided with the high profile 2006 Lancet Series on Maternal Survival, in which facility-based birth was proposed as the priority strategy to reduce maternal mortality (see for example Campbell et al 2006). Taking the perspective that policies contain implicit models of society, Shore and Wright (1997) highlight the importance of examining the underlying ideologies that guide particular policy decisions. Wedel (2001:10) suggests that ‘although aid agencies tend to promise neutral technical solutions, they nonetheless reflect political ideologies that have important unanticipated consequences for the recipients.’ Shifting place of birth from home to hospital codifies the social values embedded in the biomedical system and reflects the ideology of national decision-makers. There is very little accommodation of local women’s perspectives in health sector development (Inhorn 2006). This raises questions about the impact of maternal health policy on the reproductive lives of women in Timor-Leste.

In order to facilitate access to facility-based birth for women in remote areas a national maternity waiting home strategy was developed by the Ministry of Health and its technical advisors in 2005 (MoH 2005a). A maternity waiting home is essentially a residence or house, located near a hospital, where women with identified risk factors can wait prior to birthing in a health facility, and can rapidly access emergency obstetric care should a complication arise (WHO 1996a). The concept has been promoted as a strategy to ‘bridge the geographical gap’, and thus aims to improve access to obstetric services for women in rural and remote areas (WHO 1996a:1). The maternity waiting home
policy was based on a global model that had been implemented in various developing countries since the 1950s. The concept was brought to prominence in a World Health Organisation (WHO) review of maternity waiting homes in 1996 (WHO 1996a). The similarity between maternity waiting home policies in developing countries suggests that aid organisations and technical advisors heavily influence the policy agenda. Health policy is often construed as a conveyor where advice is simply transmitted from one side to another (Wedel 2001). However, little is known about the precise mechanisms by which actors influence the policy process, particularly in developing countries (Walt & Gilson 1994).

The Timorese Ministry of Health initially planned to pilot maternity waiting homes in three districts. By the time the maternity waiting home policy was developed in 2005 the pilot districts had increased to five (MoH 2005b). As enthusiasm for the strategy grew, policy-makers proposed they be established in each of the 65 sub-districts. The maternity waiting home concept appeared to take on a life of its own. In 2007 they were written into the Basic Services Package, which suggests they could be implemented in every health post, health centre and hospital in the country (MoH 2007a). The rapid uptake of the maternity waiting home concept in Timor-Leste raises questions surrounding the spread of global policy ideas. It calls for an examination of why certain policies are given priority over others and the political interests that influence those priorities. ‘Recipients can, actively or passively, frustrate, encourage, subvert, facilitate, or otherwise alter aid programs as they are conceived by the donors.’ (Wedel 2001:9).

**Research Questions**

When I began to examine maternal health in Timor-Leste, I was struck by the enthusiasm for the maternity waiting home policy within all levels of the Ministry of Health. As an outside observer, there appeared to be a *disconnection* between:

a) the ideology of universal institutional delivery and maternity waiting homes as a means to achieve this; and
b) the local realities women faced in Timor-Leste: that is, very few sub-district health centres and no health posts were capable of providing facility-based maternity care, rural women had very limited access to transport and 90% of births continued to occur at home.

This led to a number of research questions regarding the development of maternal health policy, the efficacy of different interventions, and Timorese women’s perspectives on appropriate maternity services. This research addresses three main research questions:

1. Why were maternity waiting homes such an attractive policy option? What had caused their rapid spread in development circles and throughout all levels of the Ministry of Health in Timor-Leste?
2. Would this strategy be successful in the context of Timor-Leste, a country with limited health infrastructure and a culture of home birth?
3. What other factors influence access to maternity care in Timor-Leste and what implications does this have for maternal health policy and system development in the country?

**Thesis Overview**

Chapter 2 begins with an in-depth description of the context of Timor-Leste and the factors that have influenced maternal health outcomes. It outlines the possible models of maternity care that could have shaped the reconstruction of the maternal health system. Given that maternity waiting homes were such a popular strategy within Timor-Leste’s national maternal health policy, Chapter 3 reviews the literature pertaining to maternity waiting homes internationally. It illustrates how the idea has become a popular yet informal global policy that is often promoted as part of WHO’s Safe Motherhood initiative. This chapter critically examines the evidence that has been used to advocate for the implementation of maternity waiting homes in developing countries.

Chapter 4 provides a conceptual grounding for analysis within the discipline of anthropology. Studying the policy process through the lens of anthropology offers
insights into the workings of power and can help explain policy as a cultural phenomenon. From this perspective it was important to combine the micro- and macro-levels of analysis to assess the impact of global level politics impact on peripheral services. Power encompasses the ways in which actors control or direct the actions of others but, importantly, it also includes the ways in which people are able to resist or subvert such control (Erasmus & Gilson 2008). The framework for analysis also draws on critical medical anthropology as it is concerned with the way health care is embedded within dominant relations, and how this plays out at the level of the health system, the community and the individual (Singer 1998).

The structure for this research is divided into three levels:

1. The *macrosocial* level of global political systems and influences;
2. The *intermediate* level of local and national health care systems;
3. The *individual* level of women’s experience.

Studying the maternity waiting home policy across these different levels provided a framework for understanding the localisation of global processes, how these were enacted in different settings, and what outcomes they produced for women. Qualitative research and anthropological field methods were vital to understanding the processes occurring at each level. Quantitative analysis of health service statistics was also employed at the level of the health care system to provide an additional perspective on whether the maternity waiting homes were improving access for women in remote areas.

The different frameworks for policy analysis are reviewed in Chapter 5, including diffusion of ideas, Kingdon’s (1984) policy streams, network analysis, Walt and Gilson’s (1994) policy triangle, and the ‘stages’ approach to policy, among others. The exploration of these different policy models reveals the complexity of policy transfer from the global to the local. It demonstrates that rather than being a neutral process, policy is embedded in theories of power. The ‘stages’ approach to policy is then used as an organising principle to conceptualise the policy process in terms of agenda setting, policy formulation, implementation and evaluation. Because using the ‘stages’ model tends to simplify the policy process, I also analyse the interrelationships between actors,
processes, context, and content at each of these stages (Walt & Gilson 1994). The chapter also explores such issues as the manner in which the maternity waiting home idea came to be on the agenda in Timor-Leste, the roles of different policy actors and their various interests, how the concept transferred to the district level and the implications for implementation.

Field visits were made to all sites where maternity waiting homes were said to have been implemented. This took me to eight of Timor-Leste’s 13 districts. Due to problems with equipment and delays, only two maternity waiting homes were functioning. Chapter 6 picks up at the fourth stage of the policy process and provides a mixed methods evaluation of the two maternity waiting homes in the district towns of Same and Lospalos. In this chapter the definition of ‘access’ is explored before assessing whether the maternity waiting homes increased skilled attendance at birth, improved accessibility for women living in rural and remote areas, increased access to emergency obstetric care, and whether this had an impact on perinatal mortality. This chapter illustrates the importance of analysing unintended consequences, in this case the withdrawal of home birth services and the decline in overall levels of skilled attendance in one of the sites. The failure of maternity waiting homes to improve access to health facilities for women in remote areas of Timor-Leste highlights the need to examine other factors that affect implementation and the use of maternity services.

The way in which target populations respond to policy is frequently overlooked. Women are often viewed as passive and voiceless. Chapter 7 completes the analysis by researching other factors that influence both decisions to seek care and access once a decision has been made. These factors span the individual level of lived experience; the sociocultural construction of birth and appropriate care; the societal level of status, power and resources; and specific health system issues. A comprehensive framework is then developed to illustrate the complexity of the problem of ‘access’ and the need for a combination of evidence-based strategies and social change.
Chapter 8 brings together the findings outlined in each level of analysis. Here I contrast common perceptions of the way policy ought to be developed with the findings from the maternity waiting home case study. I argue that applying universal policy models and implementing them in a rigid way discourages flexibility as well as innovation. The discussion then explores the trade-off between innovation and accountability. Drawing together the findings from policy analysis, health services research and sociocultural influences provides a conceptual framework to illustrate the complexity of interactions at all levels of the policy process; from agenda setting to policy formulation, implementation and the use of services.

It is intended that this case study of the maternity waiting home policy in Timor-Leste will shed light on the workings of power in policy-making as well as how and why policies are co-opted and adapted at the local level. By analysing the multiple levels on which policy operates I seek to contribute to an alternative, more holistic way of studying and making policy. The findings from this research draw attention to the importance of consulting with rural women in Timor-Leste so that policies and services support their need for different birthing options.
Chapter 2: Historical Influences and Future Options for Maternal Health in Timor-Leste

The Indonesian military have done the most terrible things against us, as women and as mothers. During the most difficult days back in the late seventies and early eighties, the Indonesian military used to kill husbands and children in front of the wives and mothers and literally asked them to smile and yell "viva Indonesia", and then bury their own husbands and children. Little unborn babies were dislodged from their pregnant mothers with a knife and in the fury of their "anti-communism" the Indonesian military would smash them against the rocks! It was and it is, and it remains the horror! We were even prohibited to cry! Would you believe it? Yes, it did happen! That is the price we paid and continue to pay for the liberation of the "land of the rising sun"! (Lighur 1995:1, extract from a message to the Beijing Conference from the women of East Timor)

This chapter introduces the long and politically charged history of Timor-Leste, from early migrations to the present. It is important to understand this history because it has profoundly influenced the health of the people, particularly women and children. It has also influenced the way in which health systems have been structured and services delivered, and has shaped people’s expectations and responses to these services. The politics between Timor-Leste and Indonesia over the past three decades, and predominantly during the turmoil leading up to independence, have been well documented. What follows is a brief overview of this history, drawing specific attention to issues that may affect the health and wellbeing of women in Timor-Leste, today and in the past. Ginsburg and Rapp (1991) suggest that no aspect of women’s reproduction can be understood separate from the larger social context that frames it. It is therefore necessary to start at the very beginning, before Portuguese colonisation in order to provide a greater understanding of the lived history of generations, of social organisation and culture.
The second part of this chapter examines what is known about reducing maternal mortality internationally and outlines the different options available to the Ministry of Health when developing its maternal health system. The dominant discourse in maternal health, particularly in relation to developing countries, gives rise to a certain set of acceptable solutions to both reducing maternal mortality and improving access to maternity care. This chapter demonstrates how global models have influenced the maternal health policy agenda in Timor-Leste. It concludes with an outline of the specific strategies the Ministry of Health has chosen to address maternal health in the country.

**Early Migration**

Timor-Leste is a small 14,874km² half island at the eastern end of the Indonesian archipelago, 718km northwest of Darwin, Australia. It is surrounded by 706km of spectacular coastline, with a rugged mountainous interior reaching 3000m above sea level at its highest point. There is a distinct wet and dry season and although much of the country is arid, the climate is tropical and humid. Temperatures vary considerably between the coastal lowlands (with an average of 25C) and the mountains (where temperatures can drop to 5C).

![Photo 6: East coast, view from Manatuto](image)

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2 This section on geography was sourced online (accessed 27/07/09):
http://www.timeanddate.com/worldclock/distances.html?n=72
In his book *Timor: A Nation Reborn*, Nicol (2002) outlines the early Indo-Malay migrations to Timor between 3000BC and 200BC, which were followed by Chinese and Muslim merchants and Hindu-Buddhists over the next 1500 years. The earliest known inhabitants of Timor were the Atoni, who resembled the Papuans (Nicol 2002). As more settlers arrived, they pushed inland forming tribes based on different ethnic backgrounds. These tribal groups accumulated wealth through the lucrative sandalwood trade, which enabled the formation of small kingdoms (Nicol 2002). Village social organisation centred on the tribal chief, known as the *liurai*. Settlements consisted of small villages of about 10 houses, which were often constructed in inaccessible areas because of the hostile relationships between kingdoms (Portuguese Foreign Office 1919). Eventually a Belunese empire emerged in the fertile region of south central Timor (Therik 1995). The Atoni were gradually displaced by the Belunese and now occupy West Timor. The Belunese are the main ethnic group in the central and eastern part of the island (Wray 1987). The most widely spoken language in Timor-Leste is Tetum, the language of the Belunese, which is spoken by roughly 80% of the population (MoH et al 2004a). There are, however, more than 15 other tribal languages, approximately 37 different dialects, and at least 30 ethnic or tribal groups (Anderson 1993). Language divisions generally follow ethnic boundaries, making Timor-Leste both linguistically and culturally diverse (Figure 2).
Culture

The Chinese, Muslim and Hindu merchants who traded with and settled in Timor-Leste did not significantly influence religion. Animism, intermingled with Christianity, remains the dominant belief system (Universidade de Coimbra 1997). A basic definition of animism is the symbolic attribution of souls to geographical features or manufactured objects. However, Harvey (2005:xii) argues for a more comprehensive understanding of animism as ‘a concern with knowing how to behave appropriately towards persons, not all of whom are human.’ Ancestral spirits (mate bein) feature strongly in Timorese cosmology and are important for maintaining health and fertility. The uma lulik is the sacred house of the lineage and is the site where important ceremonies are held. It is significant in reinforcing kinship obligations and identity, and for housing sacred ancestral objects. Failure to maintain the uma lulik, the neglect of kinship duties and customs (adat), or acting immorally can incur sanctions such as sickness and sterility (Hicks 2004). Problems stemming from within the family can often be solved by visiting...
the *uma lulik* and ancestral spirits can be appeased with sacrificial offerings. Social transgressions or sins can also be absolved through confession and prayer to both god and the ancestors (McWilliam 2002).

In addition to ancestral spirits there are also ‘free spirits’ who operate in the wilderness and have the power to impair human life and cause trouble between human beings (Hicks 2004). They tend to manifest themselves only to unaccompanied individuals, thus it is very important that women do not travel alone (Hicks 2004; HAI 2004b). Illness can also be caused by witchcraft or sorcery. Witches are invariably women as they are associated with the spiritual realm. Unlike spirits, there can never be a mutually beneficial relationship between a human and a witch, and witches cannot be appeased by sacrifice. ‘Witches offer a perpetual threat to life, health, and fertility, and so they arouse more constant trepidation than spirits’ (Hicks 2004:42). Witches are not the only source of malevolence in Timorese society, as anyone can wish harm upon another person and social jealousy is a common reason for inflicting ill-will.

Most descent groups in Timor-Leste are patrilineal. There are, however, some matrilineal descent groups such as the clans of Kamnasan in Suai and Bunak in Bobonaro (Oxfam & UNESCO 2004). When kinship follows the patriline a bride price (*barlake*), in the form of buffalo, traditional items and money, is paid to the wife’s family as part of the marriage exchange. Women from higher social classes (such as descendants of *liurai*) attract more bridewealth, and women from the eastern district of Lospalos are known to be particularly ‘expensive’. The marriage exchange system has historically been an important mechanism for forging alliances between families, ensuring protection and establishing peace and trade relationships between different groups. ‘Thus, even today, Timorese families must consider very carefully to whom their offspring are going to be connected through marriage’ (Ospina & Hohe 2002:23). The practice of bride price is, however, widely questioned within Timor-Leste, with prominent Timorese women’s organisations (such as *Rede Feto*) arguing that it equates to ‘purchasing’ women (UNITAR 2003). This can make them more vulnerable to
domestic violence, limit their ability to initiate divorce and infringe on their broader human rights.

Many East Timorese find the giving of bridewealth a heavy economic burden. Indeed, during 2001 in some public hearings and consultation towards the prospective constitution, a common theme that the villagers expressed was the wish to legally standardize or even abolish bridewealth. (Molnar 2005:online no page number available).

In the patrilineal kinship system a woman and the children she bears become part of her husband’s family after marriage. A woman will usually share a house with her husband’s kin, and important family decisions are traditionally made by the oldest male member of the patriline. Babies represent a gift of life from the ancestors (McWilliam 1994). Women’s roles in society generally emphasise their domestic and reproductive capabilities. Women occupy the sacred/domestic domain, while men belong to the secular/outside world. These deeply ingrained social roles tend to reinforce gender inequities, favour the education of boys and hinder women’s participation in political life. These factors are even more prominent in rural areas and for poor families who have limited choices.

**Portuguese Colonisation**

The Portuguese landed in Timor in the 1520s in search of sandalwood, and encountered great resistance when attempting to subdue the Timorese (Nicol 2002). In an attempt to overcome this resistance the Portuguese set out to forge alliances between Timorese *liurai* and Portuguese royalty through an ‘oath of blood’ (Nicol 2002). This entailed the gift of a Portuguese flag, a sword and armour, and served to increase the prestige of *liurai* among their own people. It also served to strengthen the powers of certain loyal chiefs. Portugal’s method of maintaining control was to keep Timor-Leste extremely isolated and turn Timorese tribes against each other. ‘Traditional rivalries have always existed just below the surface in the east, needing little provocation to erupt into outright
war’ (Nicol 2002:26). Another legacy of the Portuguese era was the deployment of Catholic missionaries to convert the chiefs, but few of their tactics were successful in controlling rebellious Timorese tribes, particularly in the rugged, mountainous interior (Nicol 2002).

The Portuguese split Timor-Leste into 13 administrative districts, which in turn have been divided into 65 sub-districts, 498 villages (sucos) and 2336 hamlets (aldeias) (Planning Commission 2002). Local hamlet chiefs (chefe de aldeia), village heads (chefe de suco) and kings (liurai) functioned alongside Portuguese structures such as district and sub-district administrators. The Portuguese did not invest much in the way of services or infrastructure for the local population. Education was in Portuguese and mostly provided by missionaries to the children of important liurai. By the early twentieth century there were only two roads in Timor-Leste, and the only telecommunications were between Dili and various military posts (Nicol 2002).

Health during the Portuguese era was poor for many local people, mainly due to the prevalence of malaria and dysentery, and exacerbated by the lack of access to clean water supplies. Documents that report on health in Timor-Leste in the early 1900s illustrates the colonisers’ concern with their ability to occupy the area:

> the low marshy ground on the coast is very unhealthy, and malaria is common...on the other hand, above 2,000 ft. the European is attacked by hill diarrhoea; and it appears...that the natives also suffer from ailments of a dysenteric kind, which
sometimes carry them off in large numbers...A few regions of the island...are said to be possible for colonization on a small scale by whites, but even this is uncertain. (Portuguese Foreign Office 1919:3).

Therefore education, employment and health services were out of reach for the majority of Timorese for the entire 400 year period of colonisation. Following a military coup in Lisbon in April 1974, Portugal began a rapid and disorganised decolonisation process in most of its overseas territories, including Timor-Leste.

**Indonesian Occupation**

When Portugal pulled out in 1975, three main political parties were formed in Timor-Leste: Timorese Popular Democratic Association (Apodeti) which favoured integration with Indonesia; Timorese Democratic Union (UTD) which had the support of Timorese elites and senior Portuguese administrators; and Revolutionary Front for an Independent East Timor (Fretilin) which was supported by younger Timorese and lower-level colonial officials (Burr & Evans 2001). Fretilin won 55% of the vote in local elections held in July 1975, but fighting between local parties and their supporters continued (Burr & Evans 2001). The Indonesian government provoked further civil unrest in the following months and launched a full scale invasion of Timor-Leste in December 1975.³

The Indonesian military used extreme methods of war including aerial bombardments, napalming villages and herding people into resettlement camps. This resulted in widespread famines from 1977 to 1980 (Anderson 1993). Torture and sexual abuse were used as weapons of war, and many families were deliberately parted in the transmigrations programs (Universidade de Coimbra 1997). Torture is a common way in which unstable regimes assert the ‘incontestable reality’ of their control over the

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³ There are many books that detail the politics in Timor-Leste during the three decades of Indonesian occupation. For a more detailed description on political parties and affiliations, the military and militia and the violence that occurred see Pinto and Jardine (1997), Fox and Soares (2000), Martinkus (2001), Cristalis (2002), Nevins (2005), among others.
population (Scheper-Hughes & Lock 1987:26). The use of torture in Timor-Leste was brutal, and women and children were vulnerable targets.

When we get closer we see it is the pregnant woman outside. She is naked. She holds herself, all her stomach is cut open, the baby and everything coming out, the blood has started to dry black. She is just alive and I think she knows us. She tries to speak but no sound comes out. Tears run from her eyes all over her face. We can do nothing for her. We cannot fix a wound like that. We try to take the baby out but it is dead, cut by the knife (Testimony in Turner 1992a:132).

As the war and oppression progressed so did the Timorese resistance to Indonesian occupation. Fretilin, under the leadership of Xanana Gusmao, headed the resistance movement and women played an important role, as activists and collaborators. Because the Catholic Church provided a measure of protection, adopted Tetum as its language and was a symbol of common suffering, it served as a unifying umbrella under which a sense of nationalism was forged (Anderson 1993). As a result the proportion of the population identifying as Catholic more than doubled in size between 1975 and 1995 (Anderson 1993).

By the late 1980s the Indonesian government had changed tactics and began to support programs to win the hearts and minds of the Timorese (Bureau of East Asian and Pacific Affairs 2005). The focus turned to economic development, building roads, electricity,
jobs and schools. For the first time in history children from the lower classes, both boys and girls, could obtain an education rather than only the descendants of liurai.

A network of community health and family planning centres was implemented by the Indonesian government, and staffed largely by newly graduated Indonesian doctors. Timorese nurses and traditional birth attendants were trained according to Indonesia’s national health policy. Throughout this development process, however, political repression and human right’s violations continued. The ‘promotion’ of family planning in Timor-Leste was often coercive. Covert sterilization has been widely documented and along with forced migration and murder, was seen as a form of genocide.

The military was used in programs which included deceptive recruitment into sterilization (said to be “vaccinations”) and forcing injectable contraceptives (Depo Provera) on girls in high schools. Families were limited to three children. Recruitment into birth control programs was around 60 per cent in East Timor, compared to 20 per cent in the rest of Indonesia (Anderson 2003:174).

This resulted in a deep mistrust of the Indonesian health system and very low utilisation of reproductive health services. Traditional medicine and culturally embedded protective measures were therefore important health resources throughout Timorese history.

**Independence**

In 1998 the new Indonesian president Habibie was elected to office. After being criticised for its horrific human rights abuses and under pressure from the international community, Indonesia signed an agreement to allow the people of Timor-Leste to vote for autonomy in a national referendum. The referendum was held on 30 August 1999, and the vote was overwhelmingly (78%) in favour of independence (Bureau of East Asian and Pacific Affairs 2005). When the vote was confirmed in early September Timorese militias, organised and supported by the Indonesian military, commenced their ‘scorched-earth’ campaign of retribution, killing approximately 1,300 Timorese and leading to the displacement of up to third of the population into West Timor (Bureau of
East Asian and Pacific Affairs 2005). The majority of the country's infrastructure, including homes, irrigation systems, water supply systems and schools, and nearly 100% of the country’s electrical grid were destroyed (Bureau of East Asian and Pacific Affairs 2005).

Photo 9: Burnt out building, Lospalos

Throughout the resistance, fertility was an important part of Timorese survival. In other areas with a history of war and genocide there is often pressure to reproduce a large number of children for the purposes of the national struggle, ‘comparative ethnic political arithmetics [sic] and the reproductive wars they spawn are features of many nationalisms around the world’ (Inhorn 2006:363). Thus independence for Timor-Leste coincided with a post-war baby boom. The annual population growth rate is estimated to be 2.6%, and one third of the population is under five years (UNICEF 2009). Children are associated with prosperity, and women accrue status by bearing and rearing children.

**Generally people in Timor-Leste want a lot of children. When you get married there is pressure from the family to have children and usually this is what the woman wants as well. There is especially pressure from the husband’s family because they have paid the money and now they want children to show for what they have invested. Families usually want a lot of girls because of the bride price, they will get money and gold and buffalo for them when they grow up.** – Male, Bobonaro district

There is a low acceptance of family planning in Timor-Leste. Less than 10% of women who have ever been married use any form of contraception (MoH et al 2004a). The
social construction of women as mothers thus serves the national cause. ‘In addition to controlling bodies in a time of crisis, societies regularly reproduce and socialize the kind of bodies that they need’ (Scheper-Hughes & Lock 1987:25). These pro-natal pressures are reinforced by strong Catholic values, with which 98% of the population identify (MoH et al 2004a). With an average of 6.6 children born per woman, Timor-Leste has the 7th highest fertility rate in the world, higher than many war-torn African countries (UNICEF 2009). Countries with high fertility rates tend to have young age structures and young age at first birth: ‘two well-established characteristics of maternal mortality are that it strikes young women and high parity women’ (Miller & Rosenfield 1996:373). Ironically, the values that promote survival in times of war and uncertainty are precisely the factors that put women most at risk of maternal death.

**Maternal Mortality**

Although maternal mortality is difficult to measure accurately, Timor-Leste is considered to have one of the highest maternal mortality ratios in Southeast Asia. Estimates range from 380/100,000 live births (UNICEF 2009) to more than 800/100,000 live births (Povey & Mercer 2002; MoH 2002a). Earlier estimates are higher, perhaps because of the funding and political implications of astronomical mortality ratios. The most commonly accepted maternal mortality estimate for Timor-Leste appears to be 660/100,000 live births (WHO 2006a). The elevated fertility rate combined with the high maternal mortality ratio has resulted in an excessive lifetime risk of maternal death. Timorese women have a one in 35 chance of dying from pregnancy-related causes in their lifetime, which is 10 times the regional average and 380 times the rate in Australia (UNICEF 2009). It is important to note that for every one maternal death, it is estimated that a further 100 women will suffer morbidity from obstetric complications, 250 women will contract a sexually transmitted disease, and 1000 women will suffer stunting and/or anaemia (Toole & Whittaker 1997). In addition, newborn outcomes are directly related to maternal health so it is not surprising that Timor-Leste also has a high perinatal mortality rate of 65/1000 live births, double the regional average (WHO 2006a).
The causes of maternal death in Timor-Leste are similar to those in other developing countries. Haemorrhage, sepsis, abortion and hypertensive disorders are the leading causes of maternal death worldwide (Khan et al 2006). A community survey of 800 women conducted in Aileu, Timor-Leste in 2002 found that postpartum haemorrhage and retained placenta were the most common causes of maternal death (Livermore 2002). A facility-based assessment in four districts in 2004 found that retained placenta, breech presentation and incomplete miscarriage were the most common obstetric complications (HAI 2004a). The rhetoric surrounding the causes of maternal mortality in Timor-Leste emphasises lack of skilled attendance at birth and the low rate of institutional deliveries. For example, the Timor-Leste Demographic Health Survey found that 60% of births were attended by a relative or friend, 20% by a traditional birth attendant and 20% were attended by medical personnel (MoH et al 2004a). Of those who were attended by medical personnel, about half took place in a health facility (MoH et al 2004a).

The aggregated statistics quoted above disguise gross inequalities between different groups in Timor-Leste. For example, the rate of skilled attendance was 48% for the richest households and only 7% for the poorest households (MoH et al 2004a). There were also regional differences where 40% of urban women birthed with a skilled attendant while only 11% of rural women did so (MoH et al 2004a). Approximately 10% of women birthed in a health facility in Timor-Leste, and there were similar differences between rich/poor and urban/rural. Women were more likely to birth at home without
skilled attendance if they were older, had more children, had no education or lived in mountainous areas (MoH et al 2004a). These inequalities are important to bear in mind when designing health services as many of the 1,155,000 people in Timor-Leste are poor and live in rural areas. After independence people who were displaced during the Indonesian occupation began moving back to their ancestral lands. The most recent data shows that 73% of the population live in rural or remote areas and 53% still live below the poverty line of US$1.24 per day (UNICEF 2009). Education levels are low for women in their reproductive years. More than half of women who have ever been married have no education at all (MoH et al 2004a).

It is important to note here that the vast majority of births in Timor-Leste occur at home without complications and that ‘women are often able to achieve very healthy pregnancies, deliveries, and well babies, even under dire conditions of poverty and social deprivation’ (Inhorn 2006:358). When an obstetric emergency does occur, however, it is often difficult for women to access the required level of care due to broader socio-structural factors. Despite its abundance of natural resources, including gold, petroleum and natural gas from which it receives substantial annual income, the population of Timor-Leste still rely largely on subsistence farming. Centuries of slash and burn agriculture and logging have led to deforestation and soil erosion, making floods and landslides common. The lack of transport infrastructure and poor maintenance of roads means some villages are completely inaccessible, particularly during the wet season.

Nutrition is an ongoing challenge, the outcomes of which are intimately linked with history. For example, the children who survived the famines and atrocities of war are now in their reproductive prime and are subject to the latent physical effects of childhood deprivation, as well as the psychological and emotional scars associated with such trauma. ‘The world has learned over and over again that the wounds of the ancestors make the children bleed’ (de Bernières 2005:6). Finally, despite the hope for lasting peace and prosperity that was evident during independence, Timor-Leste has
continued to experience cycles of internal conflict and population displacement which has severely hampered the development of services and access to quality health care.

Photo 11: *Timor Ida Deit 'Only One Timor', Dili*

**Reconstructing the Maternal Health System**

Following the vote for independence in 1999, a United Nations Transitional Administration for East Timor (UNTAET) was set up to govern the country until the first national elections in 2002. More than 80% of the medically qualified staff working in Timor-Leste returned to Indonesia and 77% of health facilities were either damaged or completely destroyed (Tulloch 2003). This left the central health administration defunct and the district health system in ruins. In response to the humanitarian emergency, a flood of NGOs entered the country and began providing ad-hoc services. This was followed by more than 200 Cuban medical doctors who were stationed at district health centres (Anderson 2008). The Timorese health leaders who remained in the country included 25 Timorese doctors and one specialist. They rapidly established the East Timor Health Professionals Working Group (ETHPWG) in order to inform plans for the development of health services throughout the country (Tulloch 2003). By mid 2000 a section of UNTAET had joined with ETHPWG to form the Interim Health Authority, which became the Ministry of Health in 2002.

The issue of maternal health and the problem of maternal mortality was recognised from the very beginning of the emergency response. The Ministry of Health’s first Health
Policy Framework considered maternal mortality ‘to be one of the greatest problems in the country’ (MoH 2002a:15). Since then, maternal mortality has been prioritised in every one of the Ministry of Health’s major policy documents (MoH et al 2004b; 2004c; 2005c; 2007a; 2007b). Women have been represented primarily as reproducers within national health policy documents as well as within broader Timorese society. The emphasis on women as pregnant and vulnerable thus serves to legitimise health interventions based on medical solutions.

When considering the different strategies to achieve health improvements, there was a sense amongst the international community that because the Indonesian administration had left, Timor-Leste was a ‘blank slate’ upon which best practice models could be implemented. The World Bank saw this as an advantage:

*The great advantage possessed by East Timor is that it is starting life with a clean slate…East Timor can learn from the successes and failures of other countries to put together a policy environment based on appropriate best practices from around the world* (Anderson 2003:177).

This same sentiment has been echoed in other post-conflict countries:

*In a sense, Afghanistan was starting with a ‘blank slate’, due to its lack of infrastructure and weakened institutions, and could choose the most effective strategies for addressing maternal mortality based on other countries’ experience and lessons learned, as well as avoid investments in ineffective strategies* (Currie et al 2007:227).

So what is best practice in maternal health and what are the most effective strategies for reducing maternal mortality? An analysis of the different models of maternity care, will indicate the multiple options available to the Ministry of Health as it restructured its health system.
Dominant Discourse in Maternal Health

The first high profile international conference devoted to maternal mortality took place in Nairobi in 1987 and was sponsored by the World Bank, WHO and United Nations Population Fund (UNFPA). This led to the launch of the Safe Motherhood initiative, which is now the dominant paradigm from which maternal health systems are developed and services delivered in many developing countries. The four pillars of Safe Motherhood are:

1. Family planning – information and services to reduce the number of high-risk and unwanted pregnancies;
2. Antenatal care – provide quality information and care to prevent and manage diseases during pregnancy and early detection of and management of complications;
3. Clean/safe delivery – ensure all women have access to delivery and postpartum care by a skilled attendant; and
4. Essential obstetric care – provide quality care to all women who need it, in order to reduce the case-fatality rate of women experiencing complications (WHO 1996b).

Statistics outlining the high rates of maternal and infant mortality in the developing world are the main justification for intervening in the reproductive lives of women and for introducing a way of birthing that is based on physical safety (El-Nemer et al 2006). Western models of maternity care and pregnancy outcomes are often used ‘as the benchmark against which to measure the situation of Third World women’ (Escobar 1995:8). Davis-Floyd (2000:4) points out that ‘because of the general global dominance of the West, the legacy of colonialism, and the dramatic successes of biomedicine, all developing countries do aspire to meet the standards set by Western medicine’. The structural dominance and prestige of the biomedical model has therefore resulted in financial support for medically designed programs implemented within the broader Safe Motherhood agenda (Apthorpe 1997). Women’s voices are largely absent from debates over appropriate models of care. Strategies are debated exclusively, and presently more pervasively, within the biomedical paradigm. The Safe Motherhood agenda appears to
be highly influenced by ‘technomedicine’ and has been fundamental in marketing the biomedical model of birthing to the developing world (Davis-Floyd 2001:S14).

![Photo 12: Birthing suite, Maliana hospital](image)

While Safe Motherhood is presently international best practice, it has not always been so. An analysis of the accepted solutions for maternal mortality reveals that global policy follows specific trends and tends to be cyclical. When WHO was founded in 1948 the main thrust of their program in maternal health was training health personnel (including domiciliary midwives to raise the standards of home births) and integrating maternal and child health services with national health systems (Campbell et al 2001). In the 1960s antenatal risk scoring was extrapolated from Europe to developing countries and soon became mainstream doctrine with WHO’s risk approach (Van Lerberghe & De Brouwere 2001). By the 1970s WHO, United Nations Children’s Fund (UNICEF), United States Agency for International Development (USAID) and the World Bank prioritised child health and family planning (Campbell et al 2001).

During the late 1970s and early 1980s a new primary health care ideology emerged, which focused on equity in access to health care and coincided with a growing interest in training traditional birth attendants. A WHO document from this period advocates for the training of traditional birth attendants for home deliveries rather that trying to persuade rural women to go to hospitals or trying to train enough professional midwives (WHO 1974). The economic concerns of the 1980s and early 1990s saw international donors pour large amounts of money into training traditional birth attendants, with the view that it would be the most cost-effective strategy to reduce maternal mortality and morbidity and they could assist in the distribution of family planning commodities.
(Campbell et al 2001). That strategy fell out of favour in the 1990s as it became apparent that maternal mortality rates were not declining, and that traditional birth attendants had limited ability to affect outcomes within dysfunctional health systems (Van Lerberghe & De Brouwere 2001).

Leading into the 1990s women’s health movements worked hard to put the issue of maternal mortality on the international policy agenda, and provided a balance to the focus on child health and family planning. High profile advocates called on obstetricians and the World Bank to take the lead in maternal health policy (Rosenfield & Maine 1985). At about this time the ‘globalisation’ of health policy was consolidated, largely through the increased influence of the World Bank, USAID and their consultants; the diminished autonomy of developing country government; and the increased use of cost-effectiveness methods for priority setting (Alvarez 2004). The Safe Motherhood initiative was highly influential because it was backed by five of the most prominent UN agencies (WHO, UNDP, World Bank, UNFPA and UNICEF). The increased influence and spread of humanitarian organisations, particularly in post-conflict situations, provided further policy space for the Safe Motherhood agenda (Currie et al 2007).

The risk scoring approach was dropped in early 1990s and it was accepted that screening was not sensitive enough to distinguish between women who would or would not require emergency medical care during birth and postpartum (Van Lerberghe & De Brouwere 2001). As a result the 1999 World Assembly adopted the goal of skilled attendance for all births, backed up with access to emergency obstetric care if required. The term ‘skilled attendant’, as defined in a joint statement by WHO/UNFPA/UNICEF/World Bank (1999:31), pertains to medical skills and explicitly excludes traditional midwives.

*The term “skilled attendant” refers exclusively to people with midwifery skills (for example, doctors, midwives, nurses) who have been trained to proficiency in the skills necessary to manage normal deliveries and diagnose or refer obstetric complications. Ideally, skilled attendants live in, and are part of, the community they serve. They must be able to manage normal labour and delivery, recognize the*
onset of complications, perform essential interventions, start treatment, and supervise the referral of mother and baby for interventions that are beyond their competence or not possible in the particular setting.

The emphasis on midwives as part of a system of care is reminiscent of the original approach taken by WHO in the 1950s. Although the idea of skilled attendance is logical and conceptually sound, no causal link has been established between skilled attendance at delivery and reduced maternal mortality (AbouZahr & Wardlaw 2001; Graham et al 2001; Buttiens et al 2004). In their study of the mix of professionals required to reduce maternal mortality in different countries, Graham et al (2001) suggest there may be a ‘threshold effect’ where ensuring all deliveries take place with a skilled attendant may not be the most effective or cost-effective way to reduce maternal mortality in the immediate term. Instead, it appears that the ease and speed with which skilled attendance has been promoted as a global priority is related to the need to provide feasible, discrete and intuitively effective interventions which attract donor support (Graham et al 2001).

In addition to skilled attendance at delivery, maternal health solutions focus on the need for emergency obstetric care. Van Lerberghe and De Brouwere (2001) outline how a strategic focus on emergency obstetric care is crucial in getting doctors to collaborate in the promotion of midwifery and primary health care. The dominance of the medical profession in maternal health policy has perhaps led to the recent shift emphasising facility-based birth. As Walt et al (2008) point out, medical interests still significantly influence the policy process. The ideological shift to facility-based care was illustrated in the influential Lancet Series on Maternal Survival, which stated that facility-based delivery should be the principal strategy to reduce maternal mortality in developing countries (Campbell et al 2006; Horton 2006). The policy of institutional delivery has been quick to catch on in development circles. Horton (2006:5) goes as far as to suggest that local context and political factors should be ignored because this could lead to an ‘unrealistic and ideological programme to reinvent the world…. Instead, all parties working towards child and maternal survival should encourage one another to focus on results and results alone. We should not let our wish for the ideal of a continuum of care
from mother to child in a perfect health system become an excuse for compromise and delay.’

The perspective put forth by Horton (2006) is a good example of how global priorities, expert opinion, science and predefined interventions are marketed and imposed on developing countries. Does this mean that resources, culture, capacity of the health system, and people's needs and preferences should not play a part in how health systems are supported and developed? Favouring the medical assistance model over women-centred care has resulted in some countries investing all their resources in institutionalisation and medicalisation of childbirth (Van Lerberghe & De Brouwere 2001). This is despite the fact that only 9-15% of women are expected to encounter complications requiring medical attention (Starrs 1997; Pittrof 2002; Krasovec 2004). In addition, the widespread use of institutions for deliveries does not ensure equity in access to care, or quality of care. Nor does it recognise the constraints in which women live their lives, or of their models of disease and illness (Apthorpe 1997).

The dangers associated with exporting the biomedical and facility-based model to developing countries have been widely documented. The crucial issues for maternal health systems in developing countries therefore need to move beyond the emphasis on place of birth to upgrading skills and supervision, improving quality and access to health facilities and providing the most appropriate types of care desired by women (Koblinsky et al 1999; Campbell et al 2001). Lukere and Jolly (2002) highlight an important point regarding the need to negotiate types of maternity care that promote wellbeing and not just survival.

A more comprehensive model for improving maternal health outcomes has been outlined by Graham et al (2001). This model emphasises the policy environment, sociocultural context, community involvement and staff attributes, in addition to health system factors (Figure 3).

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Figure 3: Conceptual framework for improving maternal health outcomes
(Graham et al 2001)\textsuperscript{5}

\textsuperscript{5} Sourced from:
#R0036 (accessed 02/08/09).
Once the crucial elements from this framework are in place, and quality emergency obstetric care is available, Koblinsky et al (1999) argue that delivery care can be organised in one of four ways:

1. Home birth with a ‘non-professional’ attendant;
2. Home birth with a medically-trained attendant;
3. Institutional delivery in lower-level health centres; or
4. Institutional delivery in tertiary hospitals.

Koblinsky et al (1999) reviewed the models of maternity care in different countries and demonstrated that when a professional (midwife or doctor) is linked with a strong referral system, maternal mortality ratios can be reduced to 50/100,000 or below, regardless of whether birth takes place at home, in a health centre or hospital. However, even when all births take place in a hospital, mortality is not necessarily reduced to less than 100/100,000 (Koblinsky et al 1999). ‘In the absence of quality of care, institutional delivery alone can reduce maternal mortality only up to a point. Governments in many countries are developing strategies to increase institutional delivery as means to reduce MMR, so this is an important limitation’ (Mavalankar 2003:107).

Research has demonstrated that when access to emergency obstetric care is available, home birth is as safe as hospital birth and can result in reduced medical intervention and maternal morbidity.6 ‘In Sri Lanka, Malaysia, and Tanzania improved referral systems have significantly reduced maternal deaths without the investment of enormous external resources’ (Krasovec 2004:S15). Thus confusion remains about the role of institutional delivery in reducing maternal deaths in developing countries (Miller et al 2003).

Taking into consideration the current international policy trend toward medical training and facility-based models, it is also important to keep in mind the political and social determinants of health that influence maternal wellbeing and outcomes. In countries that

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have achieved reductions in maternal mortality some of the most important factors were
social and gender equality, poverty reduction, water supply, access to safe abortion,
female education, community involvement and mobilisation, long term planning,
political will and efficient government-led coordination (Van Lerberghe & De Brouwere

In conclusion, there is no single factor or strategy that has led to reductions in maternal
mortality. Regardless of how care is organised, there appears to be consensus that any
program aimed at reducing maternal mortality must have a component of emergency
obstetric care (Paxton et al 2005). However, there is still insufficient evidence for
particular interventions that improve equity in access to life saving medical care for
women who need it. Because each country is unique in its geography, politics, social
organisation and cultural values, its solutions to health issues will be highly context-
specific.

I now turn to an analysis of Timor-Leste’s strategies for addressing maternal health and
reducing maternal and perinatal mortality.

**Timor-Leste’s Strategies**

Timor-Leste’s original Health Policy Framework (MoH 2002a) recognised that the low
utilisation of reproductive health services was due to the complex interaction of social,
cultural, physical accessibility and historical factors. This document identified the need
to develop a high quality maternal health system that was culturally sensitive,
participatory and accessible. Training traditional birth attendants was actively opposed
by Timorese policy-makers. The medical model was seen as the only rational choice for
birthing services, partly because of the trend toward skilled attendance in international
health policy, and partly because decision-makers were doctors and nurses educated in
the medical system. Early policy documents focused on primary health care and
increasing the number of births attended by medically trained personnel, regardless of
whether birth took place at home or hospital (MoH 2002a; 2004b; 2005c). There was a
tendency to stress the importance of facility-based delivery in informal conversations, workshops and unpublished reports (HAI 2005). Because there were virtually no birthing facilities, midwives attended home births upon request. Due to the high demand for home birth services, half of all births attended by midwives in Timor-Leste occurred at the woman’s home (MoH et al 2004a; UNICEF 2009).

In order to improve access to facility-based delivery, the Ministry of Health became interested in maternity waiting homes. In the international context a maternity waiting home is a house or accommodation service for women with risk factors, or those from remote areas, in which to wait in the weeks prior to delivery at a health facility capable of essential obstetric care (WHO 1996a). The logic was that a maternity waiting home would ‘bridge the geographical gap’ so that more women would have the opportunity to birth in a health facility and thus maternal and neonatal mortality would decrease. There were the additional benefits of being able to provide health education to women while they waited and it was seen as a strategy to strengthen the links between the community and the health system.

Technical meetings and national workshops, sponsored by UNFPA, were held from May to December 2005 to discuss the development of a National Maternity Waiting Home Strategy for Timor-Leste. In a large workshop attended by more than 100 people the Vice Minister for Health outlined how maternity waiting homes were a means of improving access to health facilities for remote populations and would ultimately increase the utilisation of facilities for birth (MoH 2005b). Representatives from UNFPA and UNICEF stressed the need for all elements of the maternal health system to be functioning and that referral, quality of care and outreach were equally important. The first draft strategy planned to pilot maternity waiting homes in four districts and ‘only if the results of the evaluation will show that the objectives have been achieved, will they be constructed countrywide’ (MoH 2005a:4). By the next meeting, the maternity waiting home policy had been finalised and the pilot plan had increased to five districts (MoH 2005b). Maternity waiting homes were then implemented in Lospalos
and Same, however the pilot projects planned for Manatuto, Ermera and Bobonaro districts never went ahead.

![Photo 13: The site chosen for the maternity waiting home in Bobonaro](image)

A brief four page evaluation of the maternity waiting home in Lospalos was produced in August 2005, seven months after it opened. The report demonstrated that the maternity waiting home did not accommodate any pregnant women before delivery, rather it functioned as a postnatal ward and was utilised mostly by women from Lospalos town (MoH 2005b). The report concluded that there was insufficient evidence to assess whether the maternity waiting home was increasing the number of institutional deliveries, and that further research should be conducted to understand why women from remote areas remained reluctant to birth in a health facility. Despite these findings, enthusiasm for the maternity waiting home strategy grew and by the end of 2006 there were national level discussions regarding their implementation in each of the 65 sub-districts.

A dramatic policy shift then took place with the development of the Basic Services Package in 2007. Home births would no longer be supported, and the focus turned to equipping the remaining health centres and health posts for institutional delivery (MoH 2007a). This meant building or refurbishing more than 200 new birthing facilities. In addition, the Basic Services Package included maternity waiting homes as part of every health centre and health post across the country. This was in direct opposition to the original maternity waiting home policy which affirmed they should be located near facilities capable of comprehensive emergency obstetric care. The subsequent 2008-
2012 Health Sector Strategic Plan also emphasised institutional delivery but was less clear on the maternity waiting home strategy, stating that it required further testing (MoH 2007b).

There appears to be a disconnect between earlier policy documents which emphasise primary health care, culturally appropriate services and community participation (MoH 2002a), and more recent strategies which recommend that all births should take place in a health facility. The confusion over the maternity waiting home policy is particularly apparent. This highlights the need for a comprehensive evaluation of the maternity waiting homes which have been implemented so far, both in Timor-Leste and elsewhere. This may provide insights into how they fit within the national health strategy and the most appropriate approach for the development of the maternal health system in Timor-Leste.

**Conclusion**

The incidence of war and human rights abuses in Timor-Leste has had profound and ongoing effects on the population’s health, and on reproductive health in particular. An examination of its history and culture reveals that post-conflict Timor-Leste was far from a ‘blank slate’. On the contrary, issues of marriage exchange, gender relations and cultural preferences profoundly influence the uptake of different health services. Fertility is highly valued in Timorese society, with Catholic morals and the history of conflict reinforcing those ideals. This illustrates the trade-off between group survival strategies and the increased risk of maternal death for individual women. The need to address the devastatingly high levels of maternal mortality has led to the prioritisation of medical interventions within a Safe Motherhood framework. The review of strategies leading to reductions in maternal mortality elsewhere revealed that health outcomes are significantly affected by social inequality. The consensus in the international health literature is that the most effective way to reduce maternal mortality is to improve access to high quality emergency obstetric care for those women who need it. The precise way in which services should be organised, however, continues to be debated.
In Timor-Leste the focus of maternal health policy has recently shifted from skilled attendance to facility-based birth. There has been much enthusiasm for maternity waiting homes as the way to achieve higher rates of institutional delivery for women in remote areas. The question remains as to whether the maternity waiting homes that have been implemented are achieving their objectives and the implications for maternal health policy into the future. The next chapter examines the extent to which maternity waiting homes have increased access to care and improved pregnancy outcomes in other developing countries.
Chapter 3: Maternity Waiting Homes – A Critical Review of the Evidence

Chapter 2 outlined the significant attention given to maternity waiting homes as a strategy to improve access to birth facilities in Timor-Leste. In light of the enthusiasm for this strategy within the Ministry of Health, a literature review was conducted to investigate what is already known about maternity waiting homes in other settings. This chapter defines maternity waiting homes in the international context and provides an historical analysis of their development in Africa and Latin America in the 1950s. It then reveals why they have become an increasingly popular strategy in the Asia-Pacific region in the last decade. Despite the growing number of maternity waiting homes implemented globally, very few authors have critically assessed the evidence for their ability to improve access to care or influence pregnancy outcome. The aim of this chapter, therefore, is to synthesise the evidence of the impact of maternity waiting homes on maternal and perinatal outcomes, identify gaps in the literature, and pinpoint potential benefits and risks of implementing them in under-resourced health systems.

Maternity Waiting Homes Defined

The aim of the maternity waiting home strategy in developing country health systems is to reduce maternal and perinatal mortality by improving access to a skilled birth attendant and emergency obstetric care (WHO 1996a). Maternity waiting homes are ‘residential facilities, located near a qualified medical facility, where women defined as “high risk” can await their delivery and be transferred to a nearby medical facility shortly before delivery, or earlier should complications arise’ (WHO 1996a:1). Women do not give birth at the maternity waiting home. They wait there in the weeks before they are due to give birth, and are transferred to the health facility when they go into labour. Originally, maternity waiting homes were developed for women identified as having ‘high risk’ pregnancies. More recently they have been promoted as a strategy for
increasing access to facility-based births for remote or dispersed populations (Koblinsky 2003). Some countries in Latin America also refer women with social risk factors, such as adolescent pregnancy and inadequate living conditions (Figa-Talamanca 1996; Krasovec 2004). In countries where maternity waiting homes are newly established and facility-based births are less common, there has been a move toward encouraging their use by all pregnant women (Chandramohan et al 1994; Eckermann 2005).

Women are referred to a maternity waiting home by health workers at peripheral facilities and mobile clinics and also by traditional birth attendants and people working for NGOs (Knowles 1988; Figa-Talamanca 1996; Tumwine & Dungare 1996; Wilson et al 1997; van der Marel 2005; Eckermann 2005). Women typically spend two weeks at the maternity waiting home, but this can vary from one day to three months (Stewart & Lawson 1967; Manshande et al 1987; Wessel 1990; Poovan et al 1990; Millard et al 1991; Spaans et al 1998; Otis 2001; van Geel 2005; van der Marel 2005). They are usually staffed by a manager and volunteers, with visits conducted by midwives or physicians from the affiliated health centre (Wessel 1990; Poovan et al 1990; Chandramohan et al 1995; Tumwine & Dungare 1996; Figa-Talamanca 1996; van Geel 2005; van der Marel 2005).

**Photo 14: Women receiving health education, Lospalos maternity waiting home**

Educational activities and health promotion are sometimes provided (Stewart & Lawson 1967; Chandramohan et al 1995; Figa-Talamanca 1996; Tumwine & Dungare 1996; van Lonkhuijzen et al 2003; van Geel 2005; van der Marel 2005). Other activities include
weaving, sewing, gardening and helping with the maintenance of the home (Wessel 1990). Some maternity waiting homes are initiated by the community and women’s groups (Wessel 1990), while many are established as vertical strategies by NGOs or organisations of health professionals (Sambe et al 1990; Chandramohan et al 1994; Wilson et al 1997). More recently they have become part of government health policy, often backed by UN agencies and other large donors (Greenwood et al 1987; Millard et al 1991; Figa-Talamanca 1996; Eckermann 2005).

**Diffusion of the Maternity Waiting Home Concept**

**Early Influences**

The early idea for maternity waiting homes or maternity villages in ‘tropical’ or ‘developing’ countries may have originated from similar strategies in Northern Europe, Canada and America used at the beginning of the twentieth century (WHO 1996a). They have been documented in the scientific literature since the 1960s. Doctors, particularly obstetricians and gynaecologists, took an early role in advocating for their establishment (Stewart & Lawson 1967; Cardoso 1986). In a widely cited textbook on the organisation of obstetric services in developing countries, Stewart and Lawson claimed that the maternity waiting home, also called a ‘maternity village’, in Nigeria was a factor in reducing the maternal mortality rate in the hospital from 10 to less than 1/1000, and the stillbirth rate from 116 to 20/1000 deliveries. The authors enthusiastically concluded that ‘the maternity village is a most important development which should be emulated by all maternity hospitals situated in rural areas where communications and transport are poor’ (Stewart & Lawson 1967:309).

Maternity waiting homes were also developed in Cuba in the 1960s. A frequently cited statistic is that Cuba’s use of the strategy helped to reduce the maternal mortality ratio from 118 to 31/100,000 live births between 1962 and 1984 (Cardoso 1986). Perhaps the most influential article was that citing a reduction in maternal mortality from an astronomical 2120/100,000 for women going directly to a hospital in rural Ethiopia to zero for women using the attached maternity waiting home (Poovan et al 1990). These
anecdotal success stories have since been quoted by a number of authors, without a concomitant critique of the primary data to support such conclusions (Harrison 1989; Ali et al 1992; Figa-Talamanca 1996; Koblinsky et al 2000; Stekelenburg et al 2006).

**The Role of WHO**

In 1986 WHO brought to prominence the lack of access to emergency obstetric services for women in rural areas, and included maternity waiting homes as one of eight strategies to address maternal mortality (WHO 1986). The strategy was part of a centralised approach whereby women were brought into higher-level care. It was seen as an alternative to providing emergency obstetric services in rural areas. WHO’s rationale for including maternity waiting homes as an essential component of obstetric services was that they provided a way of managing high risk pregnancy. They stated ‘unpublished reports indicate that maternity villages properly run and supervised, are very effective in preventing the complications of obstructed labour, especially uterine rupture and obstetric fistulae’ (WHO 1986:17). The importance of maternity waiting homes as part of a package of essential obstetric services was again reiterated almost word for word, by WHO in 1991. They added ‘More attention should be focused on this little publicized, but highly important, approach to obstetric care at first referral level in rural hospitals, and results should be evaluated and published’ (WHO 1991:32).

The maternity waiting home concept continued to spread. Up to the late 1980s they had been reported in:

- Latin America – Cuba (Cardoso 1986), Honduras (Koblinksy 2003) and Nicaragua (Wessel 1990)
• Asia and the Pacific – Mongolia (WHO 1996a) and Papua New Guinea (Barss & Blackford 1985).

Program Failure

Despite their popularity, by the 1980s many of the earliest maternity villages in Zaire had not proved successful (Manshande et al 1987). Another maternity waiting home that was subsequently implemented in northwestern Zaire in the late 1980s was rarely used because women had to stay alone, there was no food and the health care system had limited capacity to manage referrals. Therefore using the facility was perceived as a greater risk than staying home until labour started (Sambe et al 1990). There were similar reports across Africa. For example, women in Ghana indicated the maternity waiting home was not appropriate for their needs and they preferred to birth at home (Wilson et al 1997). The poor quality of the waiting facilities meant they were rarely used in rural Zimbabwe (van den Heuvel et al 1999). Reports from Malawi showed the maternity waiting home was not utilised even though it was widely promoted in the community (Krasovec 2004). Economic reforms and lack of financing were major obstacles elsewhere. In Nicaragua maternity waiting homes continued to open and close due to funding problems (Otis 2001). Similarly, most maternity waiting homes in Mongolia were closed in the 1990s due to neo-liberal economic reforms (Janes & Chuluundorj 2004)

The Safe Motherhood Era

In light of these issues, and because maternity waiting homes lacked any structured guidelines for implementation, WHO (1996a) released a review based on a paper by Figa-Talamanca (1996). The review provided selected examples of maternity waiting homes throughout the developing world. It included a list of requirements when establishing them as part of a national Safe Motherhood program. This time WHO’s conclusions were more cautious. It suggested that maternity waiting homes may be an intervention to consider, but emphasised the need for community involvement, a functioning referral system and access to qualified obstetric services. It also urged
documentation of all activities, and provided detailed evaluation criteria (WHO 1996a). The Safe Motherhood Action Agenda reinforced the need for further evaluation: ‘maternity waiting homes may have a role to play in safe motherhood strategies, especially in geographically remote areas; however a careful assessment needs to be made of whether they are culturally and economically feasible, and of what their impact is on maternal survival’ (Starrs 1997:42).

In the 1990s epidemiological studies on the effect of maternity waiting homes, mostly from Zimbabwe and other African countries, started to appear in scientific journals. The various authors introduced maternity waiting homes as a strategy recommended by WHO to improve access to hospital care or to reduce maternal morbidity and mortality.7 One author completely misinterprets the then Director-General of WHO. For example Spaans et al (1998:179) states ‘Maternity waiting homes (MWHs) have been suggested to be an adequate answer to improve the accessibility of hospital care for pregnant women’ and cites Mahler (1987). In the document they refer to, Mahler actually states ‘Health systems research (operational research, as it is sometimes termed) is essential to the evaluation of feasibility and effectiveness of many recent ideas and technologies. They cover a range as diverse as plasma substitutes, maternity waiting homes, detection of anaemia, delegation of clinical functions, improving the organization of existing health facilities, and improving the logistics of supply and blood transfusion services’ (Mahler 1987:669) – in fact the core of Mahler’s argument is that obstetric services should be brought much nearer to the women of rural and remote regions than they were at that time.

**Gaps in the Evidence**

The important point is that there have been very mixed reports on the achievement and failure of maternity waiting homes over the past 50 years. Some medical professionals as well as representatives from international aid organisations have promoted maternity waiting homes as an important strategy in the Safe Motherhood package. Positive

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findings and anecdote are often cited in guidelines and policy documents to support their position (Ali et al 1992; Oxaal & Baden 1996; Koblinsky et al 2000; 2003; Krasovec 2004). This is problematic because the findings from these very few studies (Cardoso 1986; Poovan et al 1990; Chandramohan et al 1995) are cited repeatedly in the literature, without any critical appraisal of the primary research or the validity of the conclusions. In fact, a recent review on the effect of maternity waiting homes on maternal and perinatal mortality (Stekelenburg et al 2006) failed to analyse the quality of evidence presented in the primary research papers, and did not consider the limitations in study design, the possibility of confounding factors and the role of selection bias. It was then concluded that the ‘Provision of MWHs might be a promising alternative to decentralisation of essential obstetric services’ (Stekelenburg et al 2006:238 my emphasis). By not taking into account the quality of primary research, there is a risk of drawing false conclusions about the ability of maternity waiting homes to improve access to care and their impact on maternal and perinatal outcomes.

The World Bank, WHO and/or UNFPA have recently supported maternity waiting home projects in countries as different as Mongolia, Timor-Leste, Sri Lanka, Cambodia, Laos, Nepal, Maldives, Afghanistan, Gambia, Morocco, Eritrea, Mozambique and Lesotho. Maternity waiting homes continue to be touted as the solution to improving access to emergency obstetric care. For example, the head of an NGO implementing 17 maternity waiting homes in Laos stated, ‘In countries such as Laos, with many people living in remote mountain areas, the MWH strategy is the only one that can provide medical assistance during the most crucial period of the reproduction.’ (personal email communication, 31/08/2006). There are reports of the strategy failing in the Maldives, Zaire, Ghana, Zimbabwe and Malawi (Manshande et al 1987; Sambe et al 1990; Wilson et al 1997; van den Heuval et al 1999; UNFPA 2003a; Krasovec 2004). Because of the proliferation of maternity waiting homes and their spread into Asia, a more detailed, systematic and critical review of the evidence is required.
Systematic Review

An initial database search was conducted in February 2007 using MEDLINE’s PubMed, CINAHL and Ingenta. Keywords, with relevant mesh terms where appropriate, were matern* (maternity/maternal) waiting ho* (house/home), antenatal village, matern* village, matern* ho*, matern* waiting shelter. The search was limited to low and middle income ‘developing’ countries. An electronic search of the World Wide Web using the same key words was also performed. The initial body of literature located enabled the identification of further references through the snowball technique, and requests for further reports were made to all primary authors and agencies known to be implementing maternity waiting homes. Searching ended when there were no new references being found in the reference lists, and the citation of references became circular. Forty three papers were identified that reported on maternity waiting homes.

Articles were included in this review if they were in English and were primary research papers and reported on access/distance, maternal or perinatal health outcomes. Acceptable study designs were prospective or retrospective before-and-after studies, or case-control studies that compared results with a group not using the maternity waiting homes. Published or unpublished studies that met these criteria were included. In line with conventional evidence for meta-synthesis or meta-analysis (NHMRC 1999), descriptive case studies, anecdote and expert opinion were excluded if they did not meet the criteria above (for anecdotal accounts see Stewart & Lawson 1967; Minkler 1972; Cardoso 1986; Knowles 1988; Wessel 1990).

After applying inclusion criteria to the 43 papers identified in the search, eight primary research papers, from seven separate studies, were included in this review (Table 1). Six papers were published in peer reviewed journals and two were unpublished research projects. All studies were conducted in Africa in the last two decades. Only one of these studies controlled for identified confounding factors. Because no randomised controlled trials have been conducted to assess the impact of maternity waiting homes on pregnancy outcome, a conventional synthesis of maternal and perinatal mortality rates alone would not reveal the strength of the evidence on which they are based. Rather, this
section reports a critical appraisal of each study that met the inclusion criteria in order to examine the level of evidence these collective studies provide.

Table 1: Studies reporting maternal and perinatal mortality ratios for women using a maternity waiting home (MWH users) versus those admitted directly to hospital (non-users)

<table>
<thead>
<tr>
<th>Reference</th>
<th>Setting</th>
<th>n=</th>
<th>Perinatal Mortality</th>
<th>Maternal Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>MWH users</td>
<td>non-users</td>
</tr>
<tr>
<td>Chandramohan et al 1994; 1995</td>
<td>Chipinge hospital, Zimbabwe, 1989-91</td>
<td>4488</td>
<td>21/1000</td>
<td>43/1000</td>
</tr>
<tr>
<td>Millard et al 1991</td>
<td>Pierce Hospital, Zimbabwe, 1987</td>
<td>854</td>
<td>35/1000</td>
<td>71/1000</td>
</tr>
<tr>
<td>Poovan et al 1990</td>
<td>Attat hospital, Ethiopia, 1987</td>
<td>777</td>
<td>28/1000</td>
<td>254/1000</td>
</tr>
<tr>
<td>van Lonkhuijzen et al 2003</td>
<td>Nyanje hospital, Zambia, 1994</td>
<td>510</td>
<td>53/1000</td>
<td>54/1000</td>
</tr>
<tr>
<td>van der Marel 2005</td>
<td>Kasulu and Kibondo district hospitals, Tanzania, 2005</td>
<td>114</td>
<td>80/1000</td>
<td>270/1000</td>
</tr>
<tr>
<td>van Geel 2005</td>
<td>Kasulu and Kibondo district hospitals, Tanzania, 2003</td>
<td>1362</td>
<td>37/1000</td>
<td>23/1000</td>
</tr>
</tbody>
</table>

* Statistically significant
† Perinatal mortality rate for women with known medical risk factors.

Maternal Mortality

No studies showed a significant difference in maternal mortality between women using a maternity waiting home and those going directly to hospital. Research conducted in a rural hospital in Ethiopia in 1987 compared the maternal mortality ratio for women going directly to hospital (n=635) with those using the maternity waiting home or tukul (n=142) (Poovan et al 1990). There were 13 maternal deaths among women admitted directly to hospital, and none among women who used the maternity waiting home.

While a statistical test was not performed in their study, a Fisher’s Exact Test showed
the results were not statistically significant. In addition, the authors failed to control for any confounding variables in the research design or analysis of the data.

In a large hospital-based cohort study of 4488 births in Zimbabwe, Chandramohan et al (1994) found no difference in maternal mortality between women staying in the maternity waiting home (1/1573) and those going directly to hospital (2/2915). Women who came directly to hospital were 16 times more likely to have obstructed labour. This indicates a possible selection bias, in that these women may only have come to hospital because they had prolonged labour. Similarly, the other four studies which assessed maternal mortality found no significant difference between maternity waiting home users and those going directly to hospital (Tumwine & Dungare 1996; van Lonkhuijzen et al 2003; van der Marel 2005; van Geel 2005). This illustrates the difficulties in interpreting differences in maternal mortality rates given this is a rare outcome even in high burden settings.

**Perinatal Mortality**

Four of the seven studies showed a significant difference in perinatal mortality for women using a maternity waiting home compared with women going directly to hospital (Table 1:46). However, three of these studies were of poor quality and did not control for confounding factors. Research in a rural hospital in Zimbabwe in 1987 recorded 502 women who used the maternity waiting home and 352 who were admitted directly to hospital (Millard et al 1991). The perinatal mortality rate for twin pregnancies was not significantly different for maternity waiting home users compared with non-users (156/1000 versus 194/1000). The perinatal mortality rate for all singleton births was lower for the maternity waiting home users (35/1000) than for those admitted directly to hospital (71/1000). An analysis of women with no risk factors, however, revealed no statistical significance between the two groups.

Chandramohan et al (1994) conducted a multivariate analysis on perinatal outcome in Zimbabwe and found that after adjusting for many of the possible confounding factors
(mother’s age, medical risk factors, height, history of past perinatal death, presentation, parity, history of past operative or complicated delivery, distance, antenatal care visits and birth weight) there was no significant difference in perinatal death between women who stayed at the maternity waiting home and those who came directly to hospital. However, when a separate analysis was conducted only on women who displayed risk factors, the relative risk of perinatal death was 1.9 (95% CI 1.1-3.4) times higher for women going directly to hospital. For women with no identified risk factors, there was no significant difference in perinatal death between maternity waiting home users and non-users.

A small case-control study conducted in two hospitals in Tanzania included only women with high risk pregnancies (7.6% of all deliveries during this period) (van der Marel 2005). There were 59 waiters and 55 non-waiters. Perinatal mortality was significantly higher for non-waiters (270/1000) than for women who used the maternity waiting home (80/1000). Non-waiters were also five times more likely to have obstructed labour (270/1000) than waiters (50/1000). In addition to the obvious problems associated with selection bias, there were other significant differences between the two groups: maternity waiting home users were more educated, had fewer complications and had more knowledge of their risk factors.

The research conducted by Poovan et al (1990) in Ethiopia showed the stillbirth rate for women going directly to hospital was 254/1000 compared with 28/1000 for women using the maternity waiting home. They admit that ‘many women among those directly admitted to hospital were selected by disaster’ (p.443) but nonetheless state ‘the maternity waiting home clearly had a favourable impact on the outcome of high-risk pregnancies’ (p.444). Observing an association between maternity waiting homes and lower perinatal mortality rates should not be confused with cause and effect. Other research has found that maternity waiting home users were more likely to have a higher level of education (van der Marel 2005) and produced more maize on their farms (van Lonkhuijzen et al 2003). This suggests that women who use maternity waiting homes
may have different characteristics than those who go directly to hospital, which could account for better pregnancy outcome.

Van Lonkhuijzen et al (2003) analysed all births in a rural hospital in Zambia. They compared maternal and perinatal outcomes for women using a maternity waiting home (n=218) against those who went directly to the hospital (n=292). They found that women using the maternity waiting home produced significantly more maize, and were more likely to display maternal, antenatal and intrapartum risk factors. The results showed no difference in maternal or perinatal mortality. However, because maternity waiting home users had more risk factors the authors suggest they may be beneficial for women with high risk pregnancies (van Lonkhuijzen et al 2003).

Tumwine and Dungare (1996) conducted a hospital-based, case-control study which examined perinatal outcomes for women using a maternity waiting home (n=280) compared with those admitted directly to hospital (n=773). The results showed no significant difference in perinatal mortality between maternity waiting home users (25/1000) and non-users (29.8/1000). There was no difference in level of education or parity between the two groups of women, however, the results may have been confounded by other variables such as gestational age and medical risk factors. Another study across two hospitals in Tanzania found that actual perinatal mortality was higher in women using the maternity waiting home (37/1000) compared with non-users (23/1000), although the difference was not statistically significant (van Geel 2005).

**Distance from Home**

Only two studies assessed whether women from remote areas were more likely to use a maternity waiting home. One study in Zambia showed the average distance to home for maternity waiting home users was 22km (range 2-80km) and 13km (range 0-66km) for those who went directly to hospital (van Lonkhuijzen et al 2003). In Zimbabwe women who used the maternity waiting home were more likely to live more than 40km away (48% versus 22%, p>0.001) than those who went directly to hospital (Chandramohan et
The above study designs provide no basis to infer whether women using the maternity waiting homes would have gone to hospital anyway. In addition, there were no studies which examined whether women from remote areas were more likely to use a hospital after a maternity waiting home had been implemented. It remains unclear to what extent maternity waiting homes improve access for women in remote areas.

**Discussion**

The popularity of the maternity waiting home strategy coincided with the ‘development era’, which came into existence in the 1950s. Escobar (1995) illustrates how the apparatus for producing knowledge and exercising power over the Third World has shaped new practices, theories and strategies that persist to this day. The spread of the maternity waiting home idea throughout the developing world may be a result of the global policy shift toward ensuring the provision of emergency obstetric care, the incorporation of maternity waiting homes into the Safe Motherhood strategy, and/or support from international funding agencies. It appears maternity waiting homes may be a strategy of growing importance in developing country maternal health systems because they are highly visible structures and may create opportunities for governments and aid organisations to act.

An analysis of whether maternity waiting homes reduce maternal mortality is inconclusive. With regard to perinatal mortality most studies did not control for confounding factors. Of the three studies which controlled for risk factors, all found that for women who attended a maternity waiting home perinatal mortality was only reduced in women with medical risk factors (Millard et al 1991; Chandramohan et al 1994; van der Marel 2005). While these studies provide a higher level of evidence, methodological problems remain. All studies were subject to selection bias in that women may only have come to hospital if they had complications. In addition, it has been known since the 1930s that the identification of antenatal risk factors does not predict which women will require emergency medical care for conditions such as sepsis and haemorrhage (Van Lerberghe & De Brouwere 2001).
Randomised control trials are said to provide the best level of evidence for health interventions (Manshande et al 1987; Higgins & Green 2009). However, this may not be feasible or ethical in this area of research (Millard et al 1991). More conclusive evidence about the impact of maternity waiting homes on pregnancy outcome may be gained from studies which include maternal and perinatal outcomes for three groups of women; those using the maternity waiting home, those going directly to hospital and women giving birth at home or elsewhere. Large district surveys in areas where maternity waiting homes operate have the potential to assess these three groups. It is important to control for confounding factors known to be associated with poor pregnancy outcome. This includes mother’s age, medical risk factors, height, history of past perinatal death, fetal presentation, parity, history of past operative or complicated delivery, distance from home, gestational age, antenatal care visits and birth weight, but also smoking, intention to birth in the hospital, socioeconomic status and education.

In addition to pregnancy outcome, other cultural and contextual factors need to be taken into account. This is particularly important in light of the failed implementation of maternity waiting homes in some settings. By far the most pervasive reason for women not wanting to use the maternity waiting home was their reluctance to leave their children at home. This has been reported in the literature repeatedly since the 1980s (Harrison 1989; Wessel 1990; Sambe et al 1990; WHO 1996a; Wilson et al 1997; Starrs 1997; van der Marel 2005; Stekelenburg et al 2006). Other reasons for women’s reluctance to use the maternity waiting home were time away from work, the lack of money and the costs involved in hospital delivery, travel and cooking, the long distance to the district hospital, being seen as weak, not being allowed by their husband, the long duration of stay required, being unsure of gestational age, fear of the hospital and having a caesarian section or symphysiotomy. Several authors have called for further research assessing the psychological effects and family issues which arise from separating women from their families and the effect on the life and health of siblings left at home (Millard et al 1991; Tumwine & Dungare 1996).
Health system factors such as the presence or absence of primary health care services and the quality of obstetric emergency support also will influence suitability of the setting for maternity waiting homes. Since their incorporation into the Safe Motherhood strategy, maternity waiting homes are being introduced into under-resourced health systems throughout the developing world. Health systems research in these settings frequently reveals shortages of equipment and supplies; lack of staff, training and support; poor referral networks; lack of ambulances; poor communication systems; and inadequate antenatal and outreach services. Most papers on the subject reiterate that maternity waiting homes must be supported by a functioning health system, antenatal care in peripheral health facilities or mobile clinics, and co-located with district and provincial hospitals capable of basic and comprehensive obstetric care (WHO 1986; 1991; 1996a; Figa-Talamanca 1996; Koblinsky et al 2000; Eckermann 2005). Maternity waiting homes also require adequate systems of communication, transport and referral between these levels of care. In addition, hospital delivery must be acceptable to women (Chandramohan et al 1994). It is ironic, then, that maternity waiting homes are being implemented in precisely the settings where these resources are often unavailable.

Considering these limitations, further research should analyse the unintended consequences associated with implementing maternity waiting homes. ‘One needs a serious evaluation of their efficacy because of the risk to spend [sic] too much neglecting other primary prevention interventions’ (Irene Figa-Talamanca, personal email communication, 07/02/2006). While maternity waiting homes have shown some benefit for women with antenatal risk factors, the low specificity of the risk approach has the potential to overwhelm the health system (Chandramohan et al 1994). The effect on equity in access to medical care for women in remote areas has not been adequately assessed. Others researching maternity waiting homes suggest that decentralised services and direct emergency referral from the primary health care level may be an alternative to the maternity waiting home strategy, and this requires further comparative studies (Millard et al 1991; Chandramohan et al 1994).
Conclusion

Maternity waiting homes are being implemented in many developing countries throughout Africa, Latin America, and the Asia-Pacific region. In recent decades they have gained momentum as part of the Safe Motherhood strategy. A critical analysis of the evidence for the impact of maternity waiting homes on maternal and perinatal outcomes has demonstrated there is insufficient data to show that maternity waiting homes improve outcomes for women with normal pregnancies. The best available evidence suggests that only women who have identified antenatal risk factors display improved perinatal outcomes as a result of staying in a maternity waiting home. However, randomised controlled trials would be required to show a cause and effect association.

This review suggests that maternity waiting homes may be useful for women with high risk pregnancies, when they are implemented within a functioning health system and when there is demand for hospital birth. However, policy-makers and practitioners should be cautious when establishing maternity waiting homes in poorly-resourced health systems due to:

- The limitations of this approach for normal pregnancies;
- Reported failure of many maternity waiting homes in the past;
- The risk of diverting resources from other evidence-based strategies; and
- The specific sociocultural, familial and economic circumstances which limit the ability of women to utilise maternity waiting homes.

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8 In July 2009, after this thesis was completed, a Cochrane systematic review of maternity waiting homes was released. The authors drew similar conclusions, stating that ‘There is insufficient evidence on which to base recommendations about the effectiveness of Maternity Waiting Homes, and well controlled trials are needed’ (van Lonkhuijzen et al 2009:2).
Chapter 4: Research Design

Medical anthropologists, one would expect, would have a particularly relevant perspective to bring to policy related health research in the underdeveloped countries (Gruenbaum 1981:47).

This research project aims to investigate the emergence of maternity waiting homes in Timor-Leste, from the level of policy analysis through to interactions with the wider health system and the community. This chapter outlines the rationale for research and the development of the specific research questions. The theoretical perspectives used in the analysis are grounded in two sub-disciplines of anthropology: critical medical anthropology and the anthropology of policy. A discussion of the methodology is followed by an in-depth description of the qualitative and quantitative methods used to evaluate the maternity waiting home strategy at different levels of inquiry. The chapter concludes with an overview of the limitations of the study and how district level data collection can be improved for future research.

Research Questions

Chapter 2 outlined how the history of war and ongoing social inequalities is contributing to the high rates of maternal mortality in Timor-Leste. While there are multiple ways in which maternal health systems can be organised, the Ministry of Health has chosen to focus on skilled attendants (MoH 2002a) and, more recently, on encouraging all women to birth in a health facility (MoH 2007a; 2007b). The main strategy to improve access to facility-based delivery, particularly for remote women, has been the concept of maternity waiting homes. Initially developed as a pilot project in selected districts, the idea has now been incorporated into the Basic Services Package, which proposes that maternity waiting homes be built at sub-district health centres and health posts throughout the country (MoH 2007a). This has major financial and human resource implications for the health system as well as for the types of birthing services women are able to access. The review of maternity waiting homes in Chapter 3 revealed the dearth
of evidence linking maternity waiting homes with improvements in perinatal outcomes for all women. In addition, the extent to which maternity waiting homes improve access to care for women in remote areas has not been assessed. This indicates the timeliness of research to evaluate the maternity waiting homes that have been established in the country, in order to inform the national policy debate on whether further resources should be invested in the strategy.

O’Toole (1997) outlines six types of research approaches which are needed in the development of sustainable, appropriate, cost-effective and gender, culture and client sensitive health services. These include:

1. Health problem or epidemiological research to measure the burden of illness in various settings;
2. Interventions and operational research to develop appropriate and effective interventions and to develop the means to deliver the interventions;
3. Health policy research to address appropriate frameworks and setting for health services;
4. Social science research to identify cultural models and approaches to illness and health, to gain an understanding of factors that may influence health and acceptance of services;
5. Health systems (management) research on issues such as cost-effectiveness, increasing utilisation, and improving quality of care; and
6. Biomedical and clinical research focusing on health problems facing the developing world and regions (O’Toole 1997).

To address the broader question of whether maternity waiting homes are an effective strategy for the development of maternal health systems in Timor-Leste, a health systems and intervention approach would be appropriate. This type of research can be used to test the hypothesis that maternity waiting homes increase access to facility-based delivery for women in remote areas and lead to improved pregnancy outcomes. It also provides a framework for evaluating whether maternity waiting homes are meeting the other health system objectives outlined in the national strategy.
Focusing only on the health system, however, would reveal little about the processes occurring at the policy level. Why, for example, were maternity waiting homes chosen over other options? What were the ideologies and power structures that led to support for this particular policy idea? McDonagh and Goodburn (2001) suggest that significant similarities between policy content and implementation plans between countries indicates that donor agendas are stronger than government leadership. From this perspective one could hypothesise that international organisations were driving the maternity waiting home agenda. However, there was widespread enthusiasm for the policy at both national and district level. Policy analysis then provides a focus for understanding how agendas are set, how ideas spread and the feasibility of developing different interventions in a particular policy climate.

In recognition that research priorities in women’s health have been defined largely by the public health and biomedical disciplines (Inhorn 2006), policy and health systems research would produce few insights as to whether maternity waiting homes were suitable in the sociocultural context of Timor-Leste. Social science research is therefore important for understanding the dynamics that shape the use of maternal health services and for informing models of care appropriate for women’s needs.

Analysing the maternity waiting home policy on multiple levels provides a framework for studying the localisation of global processes, how these are enacted in different settings, and why. This project therefore draws on three of O’Toole’s (1997) six approaches to achieve the overall goal of evaluating the maternity waiting home policy in Timor-Leste: health policy research; health systems research; and social sciences research. The specific research objectives relating to these three levels of analysis are to:

1. Analyse the process by which maternity waiting homes were placed on the policy agenda in Timor-Leste and how the idea was taken up at various levels within the Ministry of Health. Attention will be paid to issues of power and the influence of different actors;
2. Assess the implementation of maternity waiting homes against the policy objectives, with specific focus on whether they led to an increase in the number of facility deliveries for women in remote areas; and

3. Understand the factors that shape the use (and non-use) of maternity waiting homes and maternal health services generally, including the sociocultural context of birthing in Timor-Leste. Research will focus on rural women’s views of appropriate models of maternity care.

**Methodology**

The range of these objectives requires the application of theories and frameworks from different disciplines. The specific bodies of literature pertaining to each level of analysis will be addressed in the opening of Chapters 5, 6 and 7. In its totality, however, this research is a case study of the maternity waiting home policy on multiple levels and over time. For decades medical anthropologists have been studying the interaction between macro-level politics, the health care system, community beliefs and actions, and the micro-level of illness experience (Singer 1998). Wedel (2001) calls this *ethnography across levels and processes*. Anthropology is an important unifying discipline in that it specialises in studying how human relations structure social systems at each level.

The anthropological perspective is particularly useful in cross-cultural research settings, and for understanding interventions from an emic (insider’s) perspective. However, medical anthropologists have argued for a shift away from studying sociocultural conditions which serve to interpret ‘culture’ to policy-makers as it can be construed as passive support for dominant social systems (Gruenbaum 1981). The risk is that ‘cultural beliefs are regarded as the cause of ill health and of failure to accept “modern” remedies’ (Gruenbaum 1981:48). Subsequent advances in the field of critical medical anthropology and the anthropology of policy are therefore welcome shifts in the development of the discipline.
Critical praxis expands the context within which medical anthropology operates and seeks to work with struggling communities to create health systems that ‘serve the people’ (Baer, Singer & Susser 1997; Singer 1998; MacQueen 2002). The sub-discipline of critical medical anthropology aims not only to understand cultural systems but to change inappropriate, oppressive, and exploitive patterns in health, in policy development and in broader society (Singer 1998). Thus critical medical anthropology is the study of the way health care is embedded within dominant relations such as class, race and gender (MacQueen 2002). It attempts to understand and respond to issues and problems of health and illness in terms of the interaction between the macro-level of political economy, the national level of political and class structure, the institutional level of the health care system, the community level of popular and folk beliefs and actions, and the micro-level of illness experience, behaviour and meaning (Singer 1998). Critical medical anthropology therefore provides a useful conceptual framework for understanding the way in which the development of the maternity waiting home policy is embedded within dominant social relations, and how this plays out at the level of the health system, the community and the individual.

Shifting the analytical focus from ‘culture’ and medical problems to the role of power in policy-making can help illustrate the mechanisms by which global level politics impacts on people’s lives. ‘Policies of one kind or another now shape and regulate the conditions of our entire existence’ (Wedel et al 2005:37). Therefore it is important to examine not only whether policies are achieving their goals, but the underlying ideologies that inform those ideals. Policy can be viewed as a cultural phenomenon, constructed through the intersecting interests of states and other powerful institutions such as multinational corporations, international development agencies, Western medicine and religious groups (Ginsburg & Rapp 1991). The anthropology of policy is fundamentally concerned with knowledge, institutions, ideology, discourse, meaning and interpretation (Shore & Wright 1997). Central to this perspective is the analysis of power, which encompasses the ways in which actors control or direct the actions of others (Erasmus & Gilson 2008). Drawing on the concept of power provides an additional set of theoretical
tools with which to analyse the transfer of policy through global networks and funding incentives (MacQueen 2002; Ogden et al 2003).

It is increasingly clear that policy-oriented researchers must analyze not just what ought to be done according to some criteria of rationality or approximation of an ideal. Rather it is essential to see who is in control of key economic and political institutions, what the interests of these key social groups are, and what is the dynamic of their development. (Gruenbaum 1981:48).

The study of policy should not be limited to decision-makers. Analysis of macro-level politics as well as local experience can help illustrate how international medical institutions and externally generated solutions impact on women’s reproductive lives (Ginsburg & Rapp 1991; Singer 1998). The anthropological perspective can therefore contribute not only to understanding specific subjective consequences and local responses to policies (Ginsburg & Rapp 1991) but importantly, the way in which women are able to resist or subvert such control (Erasmus & Gilson 2008).

The philosophical assumption underpinning this research is that reality is constructed and situated in shared experience. From this perspective positivism is rejected and there is no one ‘objective’ truth. Foucault (1994) perceived medical knowledge as stemming from political, historical and social processes rather than as a product of rational, scientific progress. As such ‘constructionism’ and ‘postmodernism’ have largely been reactions against dominant perspectives and scientific certainty. The notion that truth is a cultural construct is a useful tool in critical theory. It helps to frame the existence of different worldviews as equally valid. In his discussion of constructionism within the sociology of knowledge, Turner (1992b) argues that certain ways of knowing are more ‘constructed’ than others. This provides a foundation for understanding why some knowledge is considered authoritative and others ignorant. Turner (1992b) argues that constructionism provides a lens with which to examine power and is particularly useful in studying contexts where there are a diversity of views, as in the development context,
or in cross-cultural interventions. Taking this perspective provides conceptual space for valuing diverse worldviews across different levels of inquiry.

**Methods**

Anderson et al (2005) highlight the need to use multiple lenses and perspectives, and to observe phenomenon over time. To achieve the objectives of this project a mixture of qualitative and quantitative research methods was required. A different set of methods was used at each level of analysis. For example, policy analysis relied heavily on formal in-depth interviews with high ranking decision-makers, attending meetings and national workshops, and reviewing policy documents and reports. The health system level evaluation required collection of primary quantitative data from health centre records, as well as interviews and focus group discussions with midwives and health managers, and observation at all project sites. In contrast, informal discussion, semi-structured interviews and living in the community was important for understanding the factors that shape the use of maternal health services from the perspectives of women and families.

The methods used in this project were largely qualitative. However, quantitative data was important in providing another way of understanding how maternity waiting homes were being used. Quantitative research originated from a positivist paradigm and tends to be reductionist. While qualitative and quantitative methods are sometimes set in opposition to one another, I do not agree with this position. Even with the most rigorous statistical research, objectivity and causality can never be determined with complete certainty (Goode 2007), particularly when interventions are implemented in complex social systems. The use of quantitative methods is therefore one way of constructing knowledge about what is occurring on a population-wide scale and provides an opportunity to triangulate the findings with qualitative data.

Triangulation is used to cross-check data from multiple sources and by using different research methods (Denzin & Lincoln 2005). It helps to verify the quality of data collected and to compare and contrast perspectives emerging from different groups of
informants or different modes of inquiry. In this research triangulation was achieved by using:

1. Multiple data sources – including state and non-state actors at the national level, health service providers at the site of implementation, and women and families using maternity waiting homes as well as those bypassing the system;
2. Multiple methods – including health service data and statistical analysis, in-depth interviews, informal discussion, direct observation, attending meetings and workshops, and document analysis.

Ethics approval was obtained from the Human Research Ethics Committee at Menzies School of Health Research, Darwin. The Ministry of Health in Dili provided written permission to carry out this research as well as support in accessing data, policy documents and key informants. This research began in July 2005, just as the maternity waiting home idea was gaining momentum. In the two years prior to this I had visited Timor-Leste numerous times and had an ongoing interest in maternal health in the country. Initially I made contact with key actors in maternal health through Timorese friends. These contacts were NGO representatives and technical advisors who worked in maternal health and had close relationships with the Ministry of Health, as well as senior managers within the maternal and child health and policy departments. This provided a way to keep up with developments in maternal health policy via email when I was based in Darwin, Australia. These contacts were valuable in that they sent me unpublished reports and key policy documents as they became available. I was then in a unique position to follow the policy process and implementation of the maternity waiting home strategy over a relatively long period of research.

Although fieldwork was intended to commence in April 2006, it had to be delayed due to severe civil unrest and displacement of more than half the population of Dili. Most foreigners were evacuated from the country and there was an influx of emergency assistance. I had the opportunity to work on another project which assessed the humanitarian response to reproductive health during the crisis (Wayte et al 2008). The interview data from that study helped to inform this thesis. Fieldwork for this doctorate
was due to commence once the situation had stabilised and I planned to fly to Dili in early February 2007. A few days before my flight, however, there was a shootout between rebel soldier Major Alfredo Reinado and Australian forces in Same, the district where I was to conduct the first maternity waiting home evaluation. As a result of strong anti-Australian sentiments my trip was once again postponed. Finally, in July 2007, I was able to commence fieldwork and I departed for Timor-Leste. Thus the bulk of research took place between July and December 2007, mostly in rural districts. The second national elections took place shortly after I arrived and the tension did hamper fieldwork. There were curfews at night, trouble spots that had to be avoided, and it was difficult to move freely around the country, especially as I was mostly using public transport. The ethnic tensions also affected the willingness of my interpreter to travel, particularly between eastern and western parts of the country. The situation of ongoing conflict and instability and the unpredictable way in which maternity waiting homes were implemented meant that the original research plan needed to be much more flexible than anticipated.

**Qualitative Methods**

Qualitative methods were used at all levels of the maternity waiting home evaluation to gain an in-depth understanding of the policy process, the dynamics involved with implementation within the health system and the perceptions of women and the community.

**Sampling**

The sample frame for interviews with policy-makers included people who had knowledge of the maternity waiting home policy or who were involved with maternal health policy development at the national level after the 1999 referendum. This included senior decision-makers within the Ministry of Health, department managers within Maternal and Child Health and Policy and Planning, and international NGOs, local NGOs and UN agencies involved with maternal health. The inclusion criteria for
informants at the health system level were staff who worked within health centres where
maternity waiting homes were implemented. This included nurses, midwives and health
centre managers as well as staff within the district health authority. At the community
level, the sample frame was broader and included any woman who had given birth (or
their family), any age or parity, and any education, cultural background or
socioeconomic status.

A purposive snowball sampling technique was used for policy-makers whereby an initial
small group of people involved with maternal health were identified and they were asked
to recommend others who would be knowledgeable about the study topic. Snowball
sampling was chosen for the policy level of analysis because informants were well-
networked, and some being national and international elites, were difficult to approach
directly. Within each sample I aimed for maximum variation. This meant talking to a
variety of people with different levels of organisational responsibility and education,
from diverse backgrounds and organisations, both men and women, Timorese and
foreigners. There were fewer possible informants at the district level. The director of the
district health office usually indicated the initial set of relevant people to talk to, which
often included the district head of maternal health and the midwives in charge of the
maternity waiting home. In turn, these informants pointed out others who were
knowledgeable or had an opinion about the maternity waiting home in their community.
At the community level the sampling technique was more opportunistic. I specifically
sought women who had used the maternity waiting home and those who bypassed the
system and chose to birth at home. Within this broad frame, I aimed to sample for
diversity including young women and grandmothers, remote or urban, women as well as
their husbands and other family members. I specifically sought unusual cases. For
example, I wanted to talk with women who lived very close to the facility but decided to
birth at home and those who lived very far and went to great lengths to get to the facility.

The main field site for the research on agenda setting and policy formulation was Dili as
this is the central hub of decision-making and influence in Timor-Leste. The sample
frame for an analysis of implementation was any district or sub-district in Timor-Leste.
which planned or had implemented a maternity waiting home. Initially I had expected this to be two districts, however the field sites rapidly expanded to eight districts because maternity waiting homes had been established in many other sub-districts. Studying the multiple sites of maternity waiting homes allowed for comparison between sites, and between local, national and global levels. Field visits and observations were made at all eight sub-districts that were said to have a maternity waiting home. It was important to be able to assess the implementation of the maternity waiting home strategy on a countrywide scale. It allowed an analysis of the social and political space that moved across these sites, the space in which power relations were articulated (Shore & Wright 1997). It also facilitated generalisations about what was happening during the implementation of maternity waiting homes at different sites within the country. Therefore direct observation as well as in-depth interviews were conducted in eight of Timor-Leste’s 13 districts: Bobonaro, Liquica, Manatuto, Manufahi, Dili, Lautem, Aileu and Ermera.

Data Collection

A semi-structured interview schedule was used which contained a set of open-ended questions for each level of analysis (Appendix 1). For the policy level, the questions related to when and how the maternity waiting home concept first appeared in Timor-Leste, the role of non-state actors in influencing the policy agenda, the informants’ perspective on the maternity waiting home policy and its implementation, the use of
research in influencing policy decisions and other priorities in maternal health. For the sites where maternity waiting homes were established, informants were asked about how the maternity waiting home functioned, their perspectives of the maternity waiting home strategy and the process of implementation, and health system factors such as staffing, referral, transport and communication. At the community level the interview questions provided a means to focus discussion topics around causes of illness, ways to keep pregnant and postpartum women healthy including traditional practices, decisions around place of birth, barriers to accessing care, enquiring about who decides, when, and how transport is arranged, and satisfaction with different aspects of maternity services.

One hundred and twenty four interviews were conducted with policy-makers, health workers, women and families to understand the development and implementation of maternity waiting homes, and how they were utilised. At the policy level, interviews were generally conducted at the respondent’s office in Dili. Some important informants had left the country and effort was made to contact these people and conduct telephone interviews or correspond via email. In-depth interviews were conducted with 31 key informants in Dili (Table 2). Informants occupied a variety of positions including local and international and UN agency representatives involved with maternal health, technical advisors, senior decision-makers in the Ministry of Health, and middle managers in the Maternal and Child Health and Policy and Planning departments. Some people were interviewed more than once.

Table 2: Number of interviews with policy-makers in Dili, by organization

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Transcript</th>
<th>Notes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health</td>
<td>7</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>UN Agency</td>
<td>7</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>International NGO</td>
<td>3</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Local NGO</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
<td>14</td>
<td>31</td>
</tr>
</tbody>
</table>

Interviews with health workers were conducted at the health centre or the district health office. In each field sites interviews were conducted with a wide variety of health staff including midwives and nurses, Cuban and Timorese doctors, district health directors and district maternal and child health officers, sub-district health centre managers,
district administrators, cleaners, ambulance drivers, and health centre security guards. A total of 58 interviews were conducted with health staff in eight of the 13 districts, including two out of the three largest districts (Table 3).

![Photo 16: Interview with Cuban doctors, Aileu](image)

**Table 3: Number of interviews with health staff, by district**

<table>
<thead>
<tr>
<th>District</th>
<th>Transcript</th>
<th>Notes</th>
<th>Feedback Sessions</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aileu</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Bobonaro</td>
<td>6</td>
<td>9</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Dili</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Ermera</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Lautem</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Liquica</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Manatuto</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Manufahi</td>
<td>5</td>
<td>9</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>28</td>
<td>4</td>
<td>58</td>
</tr>
</tbody>
</table>

Interviews with the community were conducted in a variety of different settings, including health centres and maternity waiting homes, as well as markets, in the street and in people’s homes. Thirty five interviews were conducted with women, as well as their husbands and their families, in six districts of Timor-Leste (Table 4). The majority of interviews were conducted with pregnant and postpartum women (ranging from their first pregnancy up to 10 children, and aged between 18 and 43), but I also spoke with their mothers and mother-in-laws, their husbands and grandmothers, as well as heads of villages. Eight group discussions occurred with groups of women or family units (which usually consisted of a pregnant or postpartum woman, her husband, her sister and her
mother or mother-in-law). The number of interviews carried out in each district generally reflects the amount of time spent in each site. I interviewed more people in Bobonaro and Manufahi as they were my two initial planned fieldwork sites. Just over half of the interviews were conducted at a health facility. Most of the interviews in Manufahi were done at the maternity waiting home. For the interviews conducted in Bobonaro all occurred in villages that had no maternity waiting home.

Table 4: Number of interviews with women, husbands and group discussions, by district

<table>
<thead>
<tr>
<th>District</th>
<th>Women</th>
<th>Men</th>
<th>Groups</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bobonaro</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Dili</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Ermera</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Lautem</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Liquica</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Manufahi</td>
<td>8</td>
<td>3</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>6</td>
<td>8</td>
<td>35</td>
</tr>
</tbody>
</table>

Translation

An interpreter accompanied me to interviews with informants for whom English was not their first language. At the policy level, 26 interviews were conducted in English, and in five cases the informant chose to speak in Tetum. In contrast, all interviews with health staff were conducted in Tetum. The majority of interviews with women and families were in Tetum (n=30), two were in Indonesian (as my interpreter did not speak their local dialect), and in three interviews the informant was confident speaking English.

It was difficult to employ female Timorese interpreters in rural areas because men were more likely to speak English. I initially used a female interpreter at my first field site in Bobonaro district. However, I sensed that she was interpreting more than was actually being said in the interviews, and there was a distinct social distance between her and some less-educated informants. In addition she could not travel outside of the town as
she had a small child. I then employed a male interpreter, but he was young and lacked confidence, particularly with regard to the high level of English and technical language required when interviewing health staff. My third interpreter (in two weeks) was a young Timorese man. He spoke good English, was personable and a fast learner. We worked so well together that he came with me to other districts and ended up being my interpreter for the rest of the fieldwork.

While I acknowledge the issue of gender is extremely important, I do not think using a male interpreter was detrimental to my research. Most interviews took place with families present, including other males, and my questions pertained to how families organised birthing care rather than of a deeply personal or sexual nature. I recognise the limitations of using a male interpreter, however, in this situation I found that it was more important for my interpreter to be able to build rapport with informants, be interested in the research and keen to learn. I subsequently re-visited taped interviews conducted with previous interpreters and had the new interpreter translate them to verify or amend the written transcripts.

Informed Consent

A plain language information sheet summarising the research project (Appendix 2) was translated into Tetum and included a copy of the consent form on the back (Appendix 3). Before each interview I introduced myself, where I was from, explained the research and the confidential nature of the interview, and provided a copy of the information sheet for the informant to keep. For formal interviews I asked permission to use a digital tape recorder. Signed consent was then requested after the interview was complete.

Tape recording provided much greater depth during analysis, however, it was not always appropriate during informal interviews and discussions. It was particularly problematic across language and cultural barriers at the village level. In some initial interviews with

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9 In his ethnography of Tetum society Hicks (2004:70) describes the concern that many Timorese have in travelling to distant, unknown areas: ‘travelling is, for the vast majority of Timorese, very much a male activity’. This issue was compounded because of the political unrest over the two years prior to my fieldwork and the elections that were occurring during my fieldwork.
families the process of tape recording, and even having notebook and pen in hand, was too formal and confronting. It set a particular power relationship between myself and the interviewee. After discussing this with my interpreter we decided to change our approach. We found a good method was to strike up a general conversation in which we casually introduced ourselves and the type of research we were doing. Having a general conversation around the topics of interest was a lot more relaxed and people were often more confident to talk. When I felt the person was comfortable, I asked if it was okay to take notes. Six of the 35 interviews were tape recorded, and notes were taken for the remaining 29. Using an interpreter for un-taped interviews allowed me to take very detailed notes both on my question and on their response as there were long pauses while the information was being translated. After finishing the conversation I then went through a more detailed explanation of the research, provided them with an information sheet, explained that the information was confidential and requested permission to use the data. Written or verbal consent was then requested. When verbal consent was given I noted their name and the date, and both myself and the interpreter signed the consent form.

For women with advanced pregnancy or those who were recovering after birth I kept the interview relatively brief and casual compared to the lengthy and formal interviews that were conducted with key women in the community and senior policy-makers or health managers. Therefore interviews lasted anywhere between 20 minutes and two hours. All interview data and field notes were recorded by hand in a notebook during the day, and
were then expanded upon and entered onto a laptop at night. As much as possible, transcription was done in the field. Priority was given to Tetum interviews so that issues could be clarified with the interpreter. English interviews were transcribed upon return to Australia.

**Data Analysis**

To assist with data analysis and organisation, all transcripts, interview notes and head notes were imported into the qualitative research software NVivo7©. Interviews were sorted according to the level of analysis to which they related: policy, health system, community. Each interview was tagged with attributes such as type of organisation, district, gender, and other relevant characteristics. Analysis of the interview data proceeded with broad categories in mind. Morse (2008) describes a ‘category’ as a collection of similar data sorted into the same place which enables the researcher to identify and describe the characteristics of that category. For example, the policy level was divided into the categories of agenda setting, policy formulation and implementation; the health system level was divided into facility-based birth, distance, referral and pregnancy outcome; and the community level was categorised into societal, social and individual factors that influenced access. These broad categories of enquiry were then populated by themes that emerged through coding each interview. A theme is the meaningful ‘essence’ that runs through the data (Morse 2008). When themes emerged that did not fit into an existing category, a ‘free’ category was created to house them. Common themes thus produced new categories, and some pre-determined categories were redundant. Through an iterative approach to data analysis, commonalities and repetitions were considered across interviews. The individual’s attributes that were linked to the interviews were then used to compare and contrast what different informants were saying in relation to specific topics, and to assess the strength and importance of different themes.
Limitations

The limitations associated with the research mainly related to my position as an outsider. Because I was not fluent in Tetum, not working in the Ministry of Health, nor based in Dili, I was not able to observe the policy process directly. With good contacts and regular visits I was able to follow the development of the policy prospectively over time, however, there were undoubtedly other power dynamics that were missed. For the community level research I spent a total of six months in the field, moving between different sub-districts and between urban centres and remote villages. This made it difficult to form relationships of trust, rapport and reciprocity so important for an in-depth understanding of culture and language. The limitations of this research from a deep, ethnographic perspective are obvious and I do not presume to provide a comprehensive account of Timorese cultural systems. My central concern, however, was to gain some insight into lay Timorese perspectives, and particularly the views of women on the important aspects that influence maternal health and how services should be delivered.

Another limitation was that confident women were more likely to talk with me, and the husbands or mothers of women who were moi (shy) often spoke on their behalf. I could only conduct interviews in areas accessible by car, therefore the views of very remote and marginalised women are likely to be under-represented. In addition, the interviews with women were unevenly distributed across districts. While I tried to capture a variety of perspectives, the findings from this research are not representative and should not be generalised to all women in Timor-Leste. Two people declined to participate in interviews, and both were dukuns (traditional birth attendants or healers). This may have been a consequence of me being an outsider as well as the negative perception of local healers by many health professionals. The language barrier, combined with the limited time spent in any one place meant that discussions with women and families were narrowly defined around birthing and decisions to seek care, and it is likely there were

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10 As distinct from the professional perspectives to which I, as a foreigner interested in maternal health, readily had access.
deeper concepts of health and illness and broader concerns for women and their families that were not explored.

**Quantitative Methods**

Quantitative methods were used to assess whether the maternity waiting homes implemented in Timor-Leste were meeting their objectives, as outlined in the Ministry of Health’s policy documents (MoH 2005a; 2005b). The specific objectives of the policy were:

1. Provide facilities for women to await delivery from 36-38 weeks gestation;
2. Increase the number of births in a health facility;
3. Increase the number of women birthing with a skilled attendant;
4. Improve access for women from rural and remote areas;
5. Target women with risk factors;
6. Increase the number of women with complications being transferred to a higher level facility; and
7. Reduce maternal and perinatal mortality.

The quantitative component was designed as a before-and-after study using routine data collected at health centres. The aim was to assess whether improved outcomes were achieved over each of the above objectives after the maternity waiting home was implemented at the health centre. All health centres that had implemented an intervention based on the maternity waiting home concept were eligible for inclusion. In order to have sufficient power to allow a meaningful comparison before and after the intervention, only those maternity waiting homes that had been functioning for longer than six months were included. Of the seven maternity waiting homes that were implemented as of December 2007, only the ones implemented in Same and Lospalos met the inclusion criteria.
Study Setting

At the beginning of 2008 there were six hospitals in Timor-Leste, many of which were being refurbished at the time of this research. Five were district referral hospitals, which had 24 to 120 inpatient beds and some capacity for emergency obstetric care. There was one national hospital in Dili with 230 beds. Each of the 65 sub-districts had a health centre. However, birth facilities and inpatient beds were usually only available in district capitals. There were 200 health posts, and approximately 160 mobile clinics which were meant to provide outreach services to villages on a monthly basis (MoH 2008). Most health centres and health posts were poorly equipped. They often lacked the essentials of water supply, electricity, radio communication and ambulatory transport (HAI 2004a). Health posts were staffed by a nurse or midwife, and there was an acute shortage of qualified personnel to meet the human resource demands. Since 2004 the Cuban Medical Brigade have been providing health services in conjunction with the Ministry of Health. In 2008 there were more than 200 Cuban doctors stationed in sub-district health centres throughout the country, and 600 Timorese medical students were studying in Cuba (Anderson 2008).

The first maternity waiting home was implemented in Lospalos, Lautem district and was named the Casa das Maes (House for Mothers). It was a top-down initiative built and managed by a Portuguese NGO, Medicos do Mundo. It began operating in January 2005 and was handed over to the Ministry’s health centre management in January 2007. The Casa das Maes was a separate structure or ‘wing’ connected to the health centre by a walkway. It consisted of one large room with eight beds, plus an office, a toilet, a kitchen and a common room where health education and cooking demonstrations were done. The Casa das Maes served as accommodation facilities for pregnant and postpartum women, but not their families, and birth took place in the health centre’s delivery room. Thus it operated primarily as a postpartum ward (MoH 2005b).

The bed is just for the woman. If our family comes they sleep outside or on the floor. – Mother of one, Casa das Maes, Lospalos
Lautem District is rugged and mountainous, with poor road conditions in the more remote areas. The furthest village from the capital, Lospalos, is 66km (or two to three hours by transport). At the time this study was conducted, there was one health centre in each of the five sub-districts (Table 5). Lospalos health centre was the only facility equipped for deliveries. In other sub-districts the vast majority of supervised deliveries occurred in the woman’s home, attended by the sub-district midwife or nurse. There was a midwife available at Lospalos health centre 24 hours a day, seven days a week. There was a generator which provided electricity to both the health centre and the Casa das Maes, but it did not function for 24 hours a day and candles were used at night. One ambulance served the whole district, and the shortage of referral transport was a problem cited by all health staff to whom I spoke. The health centre had a radio but it had not been functioning for the year prior to the research.

**Table 5: Population and health services data for Lautem and Manufahi Districts, 2007 Data**

<table>
<thead>
<tr>
<th>Population and Health Service Data</th>
<th>Lautem</th>
<th>Manufahi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area (km²)</td>
<td>1,702</td>
<td>1,325</td>
</tr>
<tr>
<td>District population</td>
<td>67,465</td>
<td>43,949</td>
</tr>
<tr>
<td>Annual expected births (4.55% of population)</td>
<td>3,070</td>
<td>2000</td>
</tr>
<tr>
<td>Number of sub-districts</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Number of villages</td>
<td>34</td>
<td>29</td>
</tr>
<tr>
<td>Number of health centres</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Number of health posts</td>
<td>16</td>
<td>13</td>
</tr>
<tr>
<td>Number of midwives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>District capital health centre</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Whole district (incl. capital)</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Number of doctors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>District capital health centre</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Whole district (incl. capital)</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>Number of nurses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>District capital health centre</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Whole district (incl. capital)</td>
<td>45</td>
<td>42</td>
</tr>
<tr>
<td>Travel time to nearest referral hospital (hrs)</td>
<td>2</td>
<td>4-6</td>
</tr>
<tr>
<td>Cost of MWH (building + equipment in US$)</td>
<td>$41,000</td>
<td>$60,000</td>
</tr>
<tr>
<td>Monthly running costs of MWH (US$)</td>
<td>$2,745</td>
<td>NA</td>
</tr>
</tbody>
</table>

Source: District Administration records
NA = Not available

The second maternity waiting home was built in Same, Manufahi District and was funded by the Monaco Red Cross. After the building was complete it was handed over to
the health centre staff for management, and running costs were taken from the health centre’s petty cash. The maternity waiting home in Same was a larger building and incorporated both accommodation and birthing facilities. In this sense it was more a birth centre than a maternity waiting home. It began operating in February 2007. There were two adjoining rooms for women to sleep, the larger room had four beds and the smaller room had one bed. Sometimes women’s husbands or mothers stayed the night, but there was often no room. Although there were four large cots for newborns, they were rarely used. The delivery room had two birthing beds, and an adjoining room had two sinks, baby scales and a neonatal resuscitation bed. There were three other rooms which were used as an office, a doctor’s room and a store room, as well as three toilets and an indoor and outdoor waiting area with chairs. There was also a kitchen, however, this was not for family use. There were no health education classes, and women were looked after and advised about nutrition and family planning on an individual basis.

![Photo 18: Maternity waiting home, Same](image)

Although it is a slightly smaller district than Lautem, Manufahi is more mountainous, with very poor road conditions in most areas. The furthest village from the district capital, Same, was 85km (2 to 2.5 hours by car) however some villages which were inaccessible by road were only 20-35km away but required a travel time of 6-10 hours. As at December 2007 the 13 health posts in the district (Table 5) were staffed by one or two nurses or midwives and all lacked essential equipment and services such as water, electricity, transport and supervision. While births could technically be conducted in other sub-district health centres, there were no adequate birthing facilities and district records indicated that all supervised deliveries were conducted at women’s homes in the
year prior to the research. After the maternity waiting home was opened, birthing and antenatal services were separated, so that five midwives were assigned to the maternity waiting home and two midwives remained at the health centre to carry out antenatal care. There were two ambulances in Same sub-district, the second ambulance was sponsored by UNFPA and had maternity transport as its priority function. All sub-district health centres in Manufahi had functioning radio communication, but health posts did not.

Data Collection
One month was spent in Same and two weeks in Lospalos. Upon arrival in the district, authorisation to carry out research was first gained from district authorities. This included permission to collect de-identified health service statistics. Visits were then made to midwives who worked at the maternity waiting home as well as health centre managers to introduce myself and organise a time to come back and collect data directly from the birth registration book. It was important to collect primary data from the health centre records as the statistics available at the district health office were aggregated to such a level that it made different types of analysis impossible. Information was also collected from district offices, UN agencies and local police stations, which were good sources of population figures, maps, distance data, and service targets. I worked with an interpreter to copy data from the health centre’s birth registration book directly onto a data collection table which aggregated individual data into monthly figures for number of births; place of birth; attendant; village of residence; maternal complications; intrauterine fetal deaths; neonatal deaths; and referrals. Where entries were ambiguous they were clarified with the midwife.

11 While the primary field sites were Lospalos and Same, I also collected health service statistics from other districts that had implemented different strategies (for example, HAI’s birth friendly facilities and Maliana’s maternity transport) in order to compare with the districts that had implemented a maternity waiting home.
An assessment of whether the intervention improved access to care for women in remote areas required an additional stage of data collection. For each month, the woman’s village of residence was recorded from the birth registration book. Fortunately, the precise distance to each village was available from UN police offices which were located in each district. UN staff had mapped distances by driving the routes and measuring distance on their odometer, and noting travel time and accessibility. It was important to get local information on actual distance that had to be travelled as roads labeled on maps were often inaccurate or impassable and detour routes provided a more accurate estimation of actual distance travelled. For the few villages that did not appear in UN distance calculations, I visited the local Timorese police station to find where on the map the village was located, and a discussion was held with the group of police officers until a consensus was reached on how far (in kilometers) the village was from the district capital. In order to test their accuracy I also had them estimate other distances for which I already had information. They proved to be very good at these distance estimations.

Data could not be collected on how long women stayed in the maternity waiting homes prior to labour. Only date of birth was recorded in health centre records and there was no information on date of admission or discharge. A question about when women came to the maternity waiting home was then added to the qualitative interview schedule. It was also impossible to assess whether women with risk factors were more likely to attend after the maternity waiting homes opened because the health centres only recorded maternal complications rather than antenatal risk factors. According to the Ministry of Health’s policy a woman has a high-risk pregnancy if she is younger than 16 or older.
than 40 years of age, less than 145cm tall, with transverse lie or other malpresentation, multiple pregnancy, documented third degree tear in the past, antepartum haemorrhage, with severe anaemia or pre-eclampsia in this pregnancy, prior delivery by caesarean, or desires tubal ligation immediately after delivery (MoH 2005a). While quantitative data could not be collected on risk factors, interviews with women who used the maternity waiting home and those who chose to deliver at home revealed insights about the role of previous pregnancy outcome on decisions to seek care.

**Data Analysis**

All data was imported into Excel spreadsheets. Graphs were generated to illustrate the monthly trend in overall level of skilled attendance, the number of facility-based births and home births, distance from home, number of referrals and number of perinatal deaths. Feedback workshops were then conducted with district health management and health centre staff so that they could help interpret trends in the data. Discussion was prompted on why there were specific trends at different points in time. These feedback sessions were invaluable, not only for helping me to understand the data, but for promoting discussion about issues of access, quality of care, and different maternal health strategies. Another advantage was that district health managers and clinicians could see how health centre data analysis and interpretation can be used to inform local decision-making.

*Photo 20: Feedback workshop, Dili*

Statistical analysis was later conducted using Kirkman’s (1996) statistical software which is freely available via the internet ([http://www.physics.csbsju.edu/stats/](http://www.physics.csbsju.edu/stats/), last
accessed 15/08/09). Because the maternity waiting homes were adapted during implementation (as discussed above), all women who birthed in the health facility also used the home. Thus a comparison could not be made between maternity waiting home users and those going directly to hospital. Instead, analysis was conducted to test whether more women were accessing skilled attendants, facility-based care and emergency referral after the maternity waiting homes were implemented. A two sided t-test was used to compare the mean number of births in the health facility, attended home birth, and overall births occurring with a skilled attendant before and after the maternity waiting home was put into operation. A two sided t-test was also used to compare the mean proportion of referrals before and after the intervention as an indicator of access to emergency obstetric care. A P-value of less than 0.05 was the cut-off for statistically significant differences.

Perinatal death refers to the death of a fetus at a gestational age equal to or more than 20 weeks and within seven days of live birth (WHO 2006b). To assess whether there were improvements in perinatal mortality after the intervention the number of intrauterine fetal deaths was combined with neonatal deaths. Intrauterine fetal deaths and neonatal deaths have similar obstetric causes and together they are an indicator of maternal health and nutrition as well as the quality of obstetric and paediatric care (WHO 2006b).

Because of the relatively low number of deaths recorded in health service statistics, The Fisher Exact Test was used to compare the mean proportion of perinatal deaths before and after the maternity waiting home was implemented. A P-value of less than 0.05 was the cut-off for statistically significant differences. Admissions for pregnancy loss before 20 weeks gestation were excluded from the analysis because the maternity waiting home strategy did not aim to reduce the incidence of miscarriage. Data on maternal mortality was also collected and reported, but the influence of the maternal waiting homes could not be assessed due to the very low numbers recorded.

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12 Because women rarely stayed in hospital for more than three days after birth, the perinatal mortality rate used in these calculations relates to hospital-based perinatal mortality and there may have been additional perinatal deaths once women returned home.
13 For a more detailed analysis of abortion in Timor-Leste see Belton et al (2009).
A distance analysis was conducted to assess whether women from remote areas were more likely to access facility-based birthing services after the maternity waiting home was implemented. For each month, the woman’s village of residence was substituted for the kilometer distance from the health centre. In Same, village of residence was not recorded for the whole of July, August and September 2006. Entries with missing village of residence were excluded from the analysis, therefore the number of births included in the distance calculations was less than total births. Distance categories were developed based on divisions present in the data, for example many villages were within 5km and only a few were more than 50km away. Rather than equal categories, it was more appropriate therefore to divide distance into 0-5km, 6-25km, 25-50km and more than 50km from the health centre. A chi-squared distribution test with three degrees of freedom was then used to measure the difference in the distribution of these categories before and after the intervention. Again, a P-value of less than 0.05 was the cut-off for statistically significant differences.

An additional analysis was done to calculate the expected number of births occurring in a health facility for each distance category. This was done to illustrate the coverage of facility-based birthing services for women in more remote areas. Population figures for each village were obtained from the district offices in Same and Lospalos. Each village was matched against its distance from the health centre to calculate the total population in each distance category. The expected number of births was then calculated by multiplying the population by 0.045 (as 4.55% is the accepted country estimate used by district health officials to calculate service targets). The observed number of facility-based births was divided by the expected number of births in the population to provide an estimate of the percentage of rural and remote women who were accessing facility-based care when there was a maternity waiting home in place. Because 2007 population figures were used, and these were only estimates, it was not appropriate to compare coverage before and after the intervention.
Limitations

The way in which data was aggregated at district health offices meant it was unsuitable for the purposes of research, particularly with regard to interventions at specific health centres. Therefore data had to be collected directly from health centre records. This was both time consuming and resource intensive. Within health centre records, individual entries were not always complete. For example, it would have been advantageous to conduct an analysis based on maternal complications, maternal deaths and birth weight and there was space to record this data in the birth registration books. However, this information was rarely recorded by health staff. For the purposes of analysing the impact of the maternity waiting home strategy it would also be important to conduct an analysis based on the presence of risk factors as well as length of stay (date of admission, date of birth, date of discharge). However, there was no space to record this data in the birth registration books. Incomplete data recording and reporting, and aggregated statistics were major problems hindering the quality and usefulness of the whole health information system in Timor-Leste. This is an issue which should be urgently addressed by the Ministry of Health at all levels.

Analysis of perinatal mortality was particularly problematic due to the very small numbers. The findings on perinatal mortality should be interpreted with caution as possible confounding factors were not controlled for during analysis. Selection bias may have played a role in the observed rates of perinatal mortality. For example, women may have presented at a health facility only after experiencing a complication. For the maternity waiting home in Same there was a relatively short period of time post-intervention (eight months). It is unclear whether trends seen in this data will be sustained over time. The ideal length of time for an intervention to show effect is three to five years (Ronsmans 2001b). Only the maternity waiting home in Lospalos fit within this time-frame. Assessing an intervention over such a long period, however, does provide more room for other factors to influence the utilisation of services. The retrospective nature of data collection meant that findings were limited to associations between the intervention and various outcomes, and causal mechanisms could not be assessed. The aim was not to conduct a randomised controlled trial or district survey, but
to evaluate the strategy as thoroughly as possible using the best data available. Careful collection of primary data combined with collaborative interpretation with health staff did, however, provide a picture of the possible impacts that these maternity establishments were having at the district level.

**Conclusion**

Timor-Leste’s investment in maternity waiting homes as a national strategy to improve access to facility-based birthing services has raised important questions about the efficacy of this intervention. The different approaches to research outlined by O’Toole (1997) guided the multiple levels of analysis required to evaluate this complex intervention. The methodology draws on critical medical anthropology as a framework for incorporating an analysis of the policy process, health system level implementation and factors that influenced the use of services. The anthropology of policy, health services research and elements of ethnography were also used as additional methodological tools. A mixed methods study design provided a way of incorporating the different perspectives included in these multiple levels of inquiry. Qualitative research methods were important for understanding the processes occurring at all levels while quantitative data provided another way of understanding what was occurring in relation to the use of services.

Using a structural framework from critical medical anthropology, and additional theoretical tools from the anthropology of policy, the following chapters present the findings of this research in relation to:

1. The *macrosocial* level of global political systems and influences;
2. The *intermediate* level of local and national health care systems; and
3. The *individual* level of women’s experience.
Chapter 5: Globalisation, Power and the Policy Process

Policy analysis is an established research and academic discipline in the industrialized world, yet its application to developing countries has been limited, and the health sector in particular appears to have been neglected (Walt & Gilson 1994:353).

As established in Chapter 3 there is a dearth of evidence indicating maternity waiting homes improve access to facility-based care or improve pregnancy outcome for all women. In addition, there are a number of accounts outlining their limitations and failed implementation. Despite this, maternity waiting homes are being implemented in a growing number of countries in the developing world, and most recently have been proposed as a solution in conflict settings. This poses the question of why maternity waiting homes keep appearing on the agenda in developing countries, and what factors influence policy formulation and implementation.

This chapter begins with an exploration of popular theories in the policy literature in order to provide a conceptual grounding for analysis of the policy process in Timor-Leste. For heuristic purposes, the results are divided into three stages: agenda setting, policy formulation and implementation. In agenda setting the role of global ideas and local actors is explored in relation to how the maternity waiting home concept was transferred to Timor-Leste and why it was taken up at the local level. Based on the similarity of maternity waiting home policies around the world, one hypothesis is that global policies and international actors are the main drivers behind the maternity waiting home agenda. At the stage of policy formulation, decision-making power and the role of consensus is examined. Contrary to what is expected in the implementation of policy, maternity waiting homes were systematically transformed in all sub-districts in which they were implemented. The reasons for this are discussed, with the aim of drawing attention to the power structures evident at each stage of the policy process. The chapter
concludes with a discussion of how the policy process enables international models and resources to be harnessed and adapted by local health systems.

**Analytical Frameworks**

Policy, in the context of health, is a loosely defined concept and can be thought of as a *set of decisions* or commitments to pursue courses of action aimed at achieving defined goals (Shariati et al 2005). Policy-making has also been defined, perhaps more appropriately, as a *process* by which governments translate their political vision into programs and actions to deliver outcomes (Davies et al 2000). The maternity waiting home concept in Timor-Leste can therefore be seen as a policy in that a precise course of action was agreed upon and a strategic policy document was developed, regardless of whether and how it was finally implemented. The maternity waiting home concept can also be seen as a strategy or method of approach. The closely linked concepts of policy and strategy are used interchangeably in this chapter.

While there are a large number of theories applicable to policy analysis, here I discuss those which have the most resonance to health policy and to the context of this study. Policy transfer theories provide a useful way to conceptualise policy in a globalised context. Policy transfer can occur through the diffusion of ideas, whereby policy ideas gradually spread over time. This perspective highlights the incremental nature of change which accompanies the spread of knowledge and awareness of different solutions (Stone 2001). Everett Rogers (1962) provided a seminal analysis of the way in which networks of people create and share ideas. Building on his earlier work, Rogers (2003) states that diffusion is the process by which an innovation is communicated through certain channels over time amongst the members of a social system, in this case the international development community.

Extending this idea to the notion of social epidemics, Gladwell (2002) popularised the concept of the ‘tipping point’ which occurs when a high proportion of people in a given population adopt the ideas advocated for by a trusted opinion leader. Policy
entrepreneurs are central to diffusion theory, and in the context of global health policy they are the nexus between government officials and international organisations in the ‘international spread of ideas and information’ (Stone 2001:1). A criticism of diffusion theory, however, is the lack of attention to content, the perception of ideas as neutral and the neglect of political dynamics (Stone 2001). As Wedel (2001:6) points out in her study of aid to Eastern Europe in the early 1990s, ‘transplanting know-how and ideas, from one setting into another is an inherently troublesome process’.

In addition to the concept of diffusion is the theory of punctuated-equilibrium. In this model policies undergo periods of stability, followed by bursts of rapid transformation (Walt et al 2008). Actors and institutions are central, and when new actors and ideas emerge rapid change is possible (Walt et al 2008). Wedel (2001:8) likens this to ‘a series of chemical reactions that begin with the donor’s policies, but are transformed by the agendas, interests, and interactions of the donor and recipient representatives at each stage of implementation and interface’.

Kingdon (1984) is one of the most influential theorists in the discipline of policy analysis. He defines policy as a set of processes, including agenda setting, the specification and exploration of alternatives, an authoritative choice based on an analysis of alternatives and the implementation of that decision. Kingdon’s multiple-streams model can be used to explain how particular policy ideas emerge on national agendas. In this model the policy process is made up of three streams:

1. Problems – issues identified through indicators, focusing events or feedback of research;
2. Policies – ideas or solutions generated by individuals within policy communities and most often by technical experts; and
3. Politics – has its own unique dynamics and is made up of three components: national mood, political interest and events in government.

These three streams of problems, policies and politics run independently from each other but at certain points in time they merge to create windows of opportunity for
governments to intervene. Not all ideas make it onto the agenda and some require a policy entrepreneur to act as an advocate. Kingdon asserts that policy entrepreneurs or policy champions act based on personal interests, either to protect their bureaucratic space or to promote their values. Their role is pivotal to the policy process. Kingdon’s theory is well articulated and is useful for an analysis of the agenda setting process. However, the research was based in America in the 1970s and is limited in the context of global policy ideas and implementation in developing countries.

One of the most common frameworks for policy analysis is the ‘policy network’, which attempts to understand the structure of social networks and the patterns of influence. Network analysis originated in the 1930s and has focused heavily on state-controlled policy development in industrialised countries. The central role of policy actors highlights the need for an analysis of networks of influence both in developing countries and globally. Networks fall into two broad groups: policy networks and policy communities. A policy network is a large group of actors, with interests in a certain policy field, which help to determine policy success or failure (Walt et al 2008). Policy communities are closer networks with fewer participants, and share basic values and resources (Walt et al 2008). While network analysis is limited in its explanatory ability, it is important to consider the way in which policy actors influence and are influenced by different individuals and groups.

Walt et al (2008) outline the ‘stages’ approach to policy analysis, which provides a logical framework and separates policy-making into four distinct stages:

1. Agenda setting – the stage whereby ideas rise to the attention of decision-makers;
2. Policy formulation – the development of policies and decisions to enact them;
3. Implementation – national and sub-national governments carry out the policy, sometimes in partnership with other organizations; and
4. Evaluation – the function and impact of the policy as well as any unintended consequences.
The ‘stages’ model is important and distinct from the theoretical models outlined above as it provides a focal point for implementation and measuring outcomes. This model does, however, falsely suggest that policy-making is a linear and sequential process.

Adding complexity to the ‘stages’ approach, but with a tighter focus on implementation, Grindle and Thomas (1991) propose an interactive model of policy analysis whereby: issues are put on the policy agenda from many sources, including policy elites; policy decisions are hard to determine precisely; the characteristics of the policy determines the reaction to the policy as well as the resources required; and implementation is affected by political, financial, managerial and technical resources. Walt and Gilson’s (1994) model for health policy analysis highlights the central role of actors in the policy process. They assert that actors are influenced by the context in which they live and work; context is affected by a multitude of factors including history, culture, politics and ideology; the process of policy-making is influenced by the position, power, values and expectations of actors; and that the content of policy reflects all of the above dimensions. Consequently, the analysis of policy must take into account the complexities and interrelationships of all these influences.

In the analysis that follows the ‘stages’ approach is used as an organising principle to examine the policy process in terms of agenda setting, policy formulation and implementation. Because this model tends to simplify what is in fact a complex process, attention is also paid to the role of actors, interests, context, ideology and power. The aim of this chapter is to understand how these elements combine to shape processes and outcomes at each stage of policy-making.

**Agenda Setting**

**Identifying the Solutions**

The crisis situation in Timor-Leste after 1999 resulted in a large influx of NGOs and UN agencies, which increased the number and type of ideas that were imported into the country. The health sector was receptive to policy innovations and influence from both
outside and within Timor-Leste. This influence was amplified because policy had very little existing structure. While there were institutional memories, much of the infrastructure had been destroyed and most of the Indonesian health workforce had left the country. This included all high and most middle ranking health managers. Thus the policy space for specific health issues was expanded by this new layer of providers, systems and ideologies. Policy options were largely based on the ideas of influential UN agency representatives and the remaining Timorese medical doctors, who formed the East Timorese Health Professionals Working Group (ETHPWG). This group became the foundation and advisory body for the first Timorese Ministry of Health.

As demonstrated in Chapter 2, the problem of high maternal mortality had been identified as a priority both by the government and by numerous NGOs and UN agencies involved in health. There were a number of policy options for addressing the issue of high maternal mortality and lack of access to health facilities. Different organisations, even different actors within organizations, all had conflicting opinions. The different strategies for addressing maternal health ranged from birth preparedness and cash incentives for facility-based births to transport, the village midwife strategy and birth friendly facilities. Different people actively promoted different ideas.

You know it is a matter of mentality and education and people don’t see the importance of having children in the hospital. But attracting them with something [cash incentive], that is already a good approach. – Advisor, UN agency, Dili

These multiple conflicting agendas left Ministry of Health staff confused and somewhat frustrated. It also meant a lot of time and money was wasted by not having clear and sustained policy directions.

With this current capacity of our staff we are relying on the advisors. If we have the good advice, we are thinking about the system, we are thinking about the good quality and then we implement the good program. But you can’t find many advisors that think like this…Sometimes you get one from Australia, and another
from Philippines. A short time from Australia and then next time from Philippines they change again, and every time change their protocols. [The department manager] will be the one who is confused. – Decision-maker, Ministry of Health, Dili

I serve as the counterpart. If I don’t have the really deep knowledge on what we developed together, when it comes to the implementation I’m still confused and I will meet another adviser who is different and says ‘this is not appropriate’ and things start again, you never move. – Department manager, Ministry of Health, Dili

In order to progress health system development the Ministry of Health published their first Health Policy Framework soon after the government was formed (MoH 2002a). This document identified the high burden of maternal mortality and access to health services as two key issues for development of the health system. They then prioritised a set of Safe Motherhood interventions which included midwifery training, upgrading hospitals to enable them to provide comprehensive emergency obstetric care, a network of health facilities linked by a referral system, and decentralisation of primary health care facilities.

At the same time the Health Policy Framework was released the UNFPA Country Programme for Timor-Leste prioritised maternal health and access to medical assistance (UNFPA 2002). This included equipment, supplies and motorbikes for midwives, posting obstetricians in hospitals, distributing contraceptives and piloting maternity waiting homes. The first written evidence of maternity waiting homes being placed on the agenda in Timor-Leste was through UNFPA documentation. Based on this, one could hypothesise that UNFPA were the main policy actors advocating the maternity waiting home concept. Interviews with key informants supported this hypothesis. The maternity waiting home idea initially came from UNFPA and was pursued by UNFPA representatives from 2002 to 2005. However, other informants cited a Portuguese NGO, Medicos do Mundo, as introducing the idea at the same time. Other sources of the idea
included USAID, UN Volunteers, the Malaysian military, the Brazilian government, other foreign country leaders, the WHO (1996a) review of maternity waiting homes, and the Ministry of Health itself. In this way, the maternity waiting home concept was imported multiple times between 2000 and 2004, by many independent actors at different levels of influence.

**Why Maternity Waiting Homes?**

While the first maternity waiting home was being implemented by Medicos do Mundo in the eastern district of Lospalos in 2005, the Ministry of Health’s Maternal and Child Health department, assisted by UNFPA, developed maternity waiting homes as a national strategy. There was recognition that maternity waiting homes were part of a broader system of care but they were, to a large extent, promoted as the solution. This strategy promised to bridge the gap between the community and the health system, to improve access to delivery care for women in remote areas and ultimately to reduce maternal and perinatal mortality.

*People had kind of read about it and thought this will be the solution to East Timor’s problems because they have trouble getting to the facilities.* – Manager, international NGO, Dili

*There was an incredible momentum, and this feeling of yes that is the answer to our problem.* – Manager, international NGO, Dili

The enthusiasm for this approach displayed by top Ministry of Health officials as well as the Maternal and Child Health department and the department of Policy and Planning meant that maternity waiting homes were firmly entrenched on the government’s agenda. So why was the Ministry of Health so enthusiastic about maternity waiting homes? Why was it pursued so vigorously over other possible options? The concept was an attractive idea for policy-makers, first and foremost because it was a logical solution to the problem of access to care for women living in remote areas.
If you are in an island and...you need a boat or you need a plane or something like that, that is logic that you may have a maternity waiting home. – Advisor, UN agency, Dili

I mean this is clearly one country where you would think of that type of maternal waiting homes. It offers itself quite naturally and logically. – Advisor, UN agency, Dili

Another reason why maternity waiting homes were an attractive policy option was they were technically feasible and more appealing than equipping health centres and training midwives in emergency obstetric care. An important factor was that unlike traditional birth attendant training, which was completely frowned upon by policy elites, maternity waiting homes fit comfortably with the medical model whereby all births should take place in a health facility. Maternity waiting homes were also seen as a safer policy option to promote over more controversial issues such as family planning.

My take is that the Ministry can get very passionate about non-controversial things...[Family planning] is really the issue here, but it’s too controversial so I think there is a tendency to go with something that is a bit neutral, maternity waiting homes being one of those. – Program officer, UN agency, Dili
Maternity waiting homes were a very tangible, visible strategy that funders and the community could see. This was particularly important in villages where there had been long term neglect of health infrastructure, compounded by the widespread destruction after the 1999 referendum. They were also a way of engaging with the community, and showing that achievements were being made in the provision of services. In this sense they were not only attractive for national policy-makers but also for district health managers and midwives.

*I think it felt very attractive, an idea that was very attractive and a possibility that it was not purely technical. It would probably mean the community is doing something for themselves, so in that sense a very strong political dimension. I mean, I don't mean party politics as such but I mean reaching out, connecting with the community.* – Advisor, UN agency, Dili

**Mobilising the Idea**

The Ministry of Health, having enthusiastically claimed maternity waiting homes as a national strategy, set about mobilising the idea in the districts. They held a series of national workshops, district planning meetings and ‘community’ consultations to agree on sites to pilot the first maternity waiting homes. Initially they were to be piloted in three districts, but this was soon increased to four, then five. Then in one dramatic up-scaling, they were to be implemented in every one of the 65 sub-districts in the country.

*Constructions came up or were proposed, it started to be talked about much more money available. So it came into the budget that there should be a possibility to build maternal waiting homes. A lot of groups made a lot of visits to the districts.* – Advisor, UN agency, Dili

The maternity waiting home concept was then rapidly adopted at the district level. The national Ministry of Health was so successful in socialising the idea in the districts that health managers, midwives and even local governments began to seek funding from
local NGOs to build their own maternity waiting homes. This marked a ‘tipping point’ for the maternity waiting home idea in Timor-Leste.

_Somehow it took on its own life. Part of it was during the course of 2005, something happened with this concept and it got its own dynamics, which I never fully understood. It was somehow, it went beyond the technical people and it started to be an idea that floated and there was far more interest in this concept than actually was meant to be…It just popped up out of nowhere that there will be waiting homes, waiting homes, waiting homes._ – Advisor, UN agency, Dili

_I think it just gets to be this kind of wave sort of thing where people hear about it and it’s like, ‘oh yeah that’s great’, without really looking at what does the literature say has been the history of these and how effective have they been._ – Manager, international NGO, Dili

There were a series of focusing events which generated interest in the maternity waiting home concept and facilitated rapid diffusion of the idea across the country. These were inaugurations and official visits to existing maternity waiting homes, the 2006 crisis in Dili, development of the Basic Services Package, the 2007 election, and the evaluation report from the first maternity waiting home in Lospalos.

The political crisis which began in April 2006 resulted in tens of thousands of people being displaced from their homes into makeshift camps around Dili. Because some pregnant women were giving birth in internally displaced person (IDP) camps, and transport was limited due to the security situation, the government, international agencies, health professionals and local NGOs felt they had to act to secure facility-based delivery for women in Dili.

_The whole health system is struggling with the access to services…especially when crises occur. That is clearly bringing on the agenda that something must be done._ – Advisor, UN agency, Dili
Soon after the 2006 crisis began the maternity waiting home concept was incorporated into the emergency response. By June 2006 UNFPA, in conjunction with the Maternal and Child Health department and a local NGO, had implemented an IDP camp at the hospital which acted as a maternity waiting home. The representation of maternity waiting homes as the ‘solution’ extended to the maternity waiting camp during the crisis.

*There is no other way, if the same crisis happened, because all the health facilities were closed, people ran away, the only place that was still open was the hospital.* – Department manager, Ministry of Health, Dili

![Photo 22: Maternity waiting camp, Dili](image)

Although the maternity waiting camp was, again, a logical solution to improve access, there were overriding issues of social jealousy and security that were not taken into account and which severely hampered use of the service.

*At the time it seemed like it was a good option. But now you would kind of look, I mean in retrospect you would look and you would think oh, they have an IDP camp at the hospital, maybe not an ideal situation.* – Program officer, UN agency, Dili

Just as the maternity waiting camp failed to improve access to birthing services for the majority of women during the crisis (Wayte et al 2008), the evaluation of the Lospalos
maternity waiting home found that it was rarely being used by women outside of Lospalos town (MoH 2005b). Despite these results, the maternity waiting home in Lospalos was used as a success story by some advocates of the policy.

The Role of Evidence

Rather than critically and objectively reviewing the available literature, evidence was constructed by citing authoritative documents in order to support pre-determined arguments. This was seen as the normal state of affairs when setting policy agendas.

*So if you can provide [the department manager] the evidence and back it up and explain how it will work, she can be a really good advocate. And at the same time, you know, just that tradition of using evidence to inform practice is not always there. But that’s normal, it’s really normal.* – Program officer, international NGO, Dili

The ability to persuade decision-makers was related to the lack of skills in being able to critically evaluate research evidence, as well as having common agendas. This point was illustrated during consultation for the development of the Basic Services Package. The decision to support only facility-based delivery was, in part, the result of the evidence presented by an international consultant.

*The consultant] was not willing to compromise on the intermediary phase of moving from home births… I just know that he sent out the chapters for consultation and the three delays and everything that he outlines, it was really beautifully sketched to help people understand the problems. But the solution was a facility-based solution that he proposed, and people accepted that.* – Program officer, international NGO, Dili

*We had quite a detailed discussion both with the policy-makers, and with the technical department. And it was quite a system of going through the whole range*
of, I mean, one exercise was going through those Lancet, that series of articles both on child mortality and maternal mortality, and extracting the international experience from these, and cross checking to what extent they applied here or they didn’t apply here. That was one active exercise that was done during this process, as part of the BSP [Basic Services Package] process. – Advisor, UN agency, Dili

Because maternity waiting homes fit within the framework for promoting facility-based delivery and there was a pre-existing agenda for them, they were officially incorporated into the Basic Services Package to be implemented in health facilities across the country. The local context and having a logical solution were seen as more important and relevant than research conducted elsewhere. Consequently international evidence was easily dismissed as not applicable locally.

*If you have evidence outside it doesn’t mean necessarily that it will apply here…it doesn’t mean that because in Nepal [maternity waiting homes] didn’t work that here it cannot work. You know. Because it depends on the, it’s a cultural matter, there is a huge component, cultural component.* – Advisor, UN agency, Dili

**Actors and Interests**

As emphasised in the policy models discussed at the beginning of this chapter, individual actors were central to the maternity waiting home policy being placed and staying on the agenda in Timor-Leste. Although there was widespread enthusiasm for the maternity waiting home policy coming from multiple levels within the Ministry of Health, one senior official acted as the policy champion for maternity waiting homes. The importance of this central figure in promoting the policy was raised in most interviews. There was universal recognition that he was an enthusiastic promoter of this policy and that he was responsible for the change from the small pilot to a countrywide strategy for every sub-district, even after the first evaluation concluded that the maternity waiting home in Lospalos was not meeting its objectives.
At first it appeared that policy champions were acting out of altruism and benevolence for the good of the population. While this was likely to be a large part of it, questions remain about the role vested interests in expanding the maternity waiting home strategy to every sub-district. A motivating factor may have been the political interests of the government. Building highly visible, community oriented structures in otherwise neglected areas was a way of establishing party loyalty.

*It was the [senior decision-maker’s] personal agenda. It had something to do with the election perhaps. It was a good campaign strategy.* – Manager, international NGO, Dili

*I was told that before elections, that can be the way to show they are doing something in the community.* – Advisor, UN agency, Dili

Another important interest was the professional background of decision-makers, which influenced the types of interventions that were likely to be supported. A strong example of this from both the Ministry of Health and external agencies was that doctors and other health professionals supported medical solutions to maternal health issues. Once individuals had a strong view about a policy, they became policy champions and sought to influence others to accept their views. Likewise, others became entrenched in opposition.

*Normally it will be the department who will act, it can be going both ways as well. I mean it can be that the Permanent Secretary, Planning, Vice-Minister, Minister, whoever, or an advisor, would have a strong view, but will ensure then that the department is on line for that.* – Advisor, UN agency, Dili

Maternity waiting homes were a highly contested policy in Timor-Leste. From one side there was enthusiastic ownership of the idea coming from multiple levels within the Ministry of Health. At the same time there was opposition to the policy by individuals within UN agencies and international NGOs.
So I don’t have that feeling that much right now, that it is going to be the one strategy. And I think pretty much from WHO, UNFPA, UNICEF, ourselves, I think everybody is aware, they are sceptical about whether or not that is the answer here. – Manager, international NGO, Dili.

I have some experience in maternity waiting homes. It doesn’t work very well and honestly, I find that it’s more effective if you have a subsidy. – Advisor, UN agency, Dili

I think that there will be changes jumping into the construction phase on the maternal waiting homes. We had that in the budget for 2007/8. I am not sure that will survive, and I would not be, I am happy if it didn’t survive. – Advisor, UN agency, Dili.

Networks of Influence

Gaining support for ideas involved influencing and persuading other important decision-makers and funders. The use of networks was one way in which actors influenced the policy agenda. The maternal health policy network in Timor-Leste consisted of a large group of actors with interests in maternal and child health, such as the Ministry of Health, UNFPA, UNICEF, WHO, international health NGOs such as HAI (Health Alliance International) and Medicos do Mundo, local NGOs such as Alola Foundation, Rede Feto, Timor-Leste Asistensia Integradu Saude (TAIS) and others (Figure 4). When working together on issues these organisations had an enormous amount of power and influence over policy. As demonstrated above, however, there were often conflicting agendas and UN agencies had more influence over agenda setting than NGOs.

The difference between NGOs and the UN system, including the World Bank, is that NGOs don’t make a dent in policies. – Advisor, UN agency, Dili
In addition to the large maternal health policy network, there was a smaller maternal health policy community (Figure 4). It was more cohesive and included senior Timorese government and Ministry of Health decision-makers, and Maternal and Child Health and Policy and Planning department managers. Ultimately it was the smaller policy community, and particularly senior decision-makers within the Ministry of Health who decided whether an issue was on the agenda. Non-state actors sought to influence this policy community in order to have their strategies prioritised. They did this predominantly through advocacy, engaging in official dialogue and informal discussion, and writing proposals.

*I am advocating. I was in Nepal for four years and a half and I hammer everybody, all the Prime Ministers that pass there, all the Health Ministers until they put the subsidy.* – Advisor, UN agency, Dili

*I have already started the discussion about that [providing a subsidy for women who birth in a health facility] . I have discussed with the former Minister for Health, the Minister of Finance, the former Prime Minister. I have talked with, to people in this country of maternity subsidy…I discuss with [the former Minister for Health] before and with all the people in the room, I told this to them, even to [the former Prime Minister] last time, I discuss with him. But I have this time, the government as the new one, I didn’t have much time to discuss about that. But I have intention to do it more officially.* – Advisor, UN agency, Dili
Approximately 60% of the entire 2006/2007 health budget in Timor-Leste was obtained from the non-government sector, which provided another avenue for large external agencies to influence the policy agenda. It is important to note that influence was reciprocal. The Ministry of Health at all levels actively lobbied external agencies for technical support in developing and funding their policy proposals.

*You deal with the different organisations that come in to support then you have to make sure that they will support the objectives and the activities that you want. Not to create another vertical program because any organisation, they may have their policies, their role and function, and they also, they are already committed to do something and you have to negotiate with our national leaders. If not then it can just increase the workload, you just start but never address the problem.* – Department manager, Ministry of Health, Dili

In the policy literature the emphasis has been placed on the role of networks in the policy process. I found, however, that relationships were equally important. In the maternal health policy environment in Timor-Leste the relationship between individuals was often more important than organisational affiliations. Good relationships depended on personalities, common goals and time spent in the country.

*I think the challenge here in East Timor is also because there has been such an incredible flow of expats and advisors and stuff throughout the last five years, I think that there is a fairly high level of resistance on the part of Timorese to outsiders coming in and trying to take over or control the situation. So I think that there is probably a tendency amongst the Timorese here even to just want to deal with the people that they were familiar with.* – Manager, international NGO, Dili

The close relationship built between advisors or NGO representatives and actors within the Ministry of Health meant that common policy agendas had more influence because one party had expertise and control of the funds and the other party had the legitimacy of the government.
Hierarchy and Power

While networks of actors and relationships were important, so was position and standing in the community and within the hierarchy of organisations. Power, therefore, was another way in which actors influenced the policy agenda. Authority largely rested with individuals within influential organisations. The most powerful positions in relation to the maternity waiting home policy in Timor-Leste were the Minister and Vice-Minister for Health. The decision-making power inherent in the position of Minister for Health was illustrated after the election of the new government in 2007. The Minister for Health had the ability to rapidly change policy directions, putting new issues and solutions on the agenda and taking others off.

It’s normal for a new leadership to come in and have some ideas. He [the Minister for Health] has been working in academia for a long time and he was probably exposed to the evidence, or the lack of, on maternity waiting homes. And he was just like ‘take it out’. – Project officer, international NGO, Dili

Department managers were highly malleable and compliant to new directions from their seniors. Even the most enthusiastic and committed champions of the maternity waiting home policy changed their view when the new government came into power and had different priorities. With the ongoing contestation of the maternity waiting home policy, I found my research becoming part of the policy process, opening it up to multiple interpretations.

It all depends on the evidence that you will present. If it’s good then we can support, but if it’s not good then I think we just forget, we have other things to do. – Department manager, Ministry of Health, Dili
If your research tells us that maternity waiting house is not the only way, or is not a good way to save women’s lives in this country we can see another way to start, to start the good strategy. – Department manager, Ministry of Health, Dili

This illustrates how power was exercised through hierarchy. The hierarchy in the policy process extended from the Minister and other high-level decision-makers right down to implementers, such as midwives who were rapidly adopting the new policy language on facility-based births that was expressed in the Basic Package of Services. Many midwives began telling pregnant women that they had to birth in the clinic and that they would no longer help them if they birthed at home.

The power that the Ministry of Health exercised through its organisational hierarchy did not extend to NGOs and UN agencies. They maintained a high level of autonomy, and in some cases resisted efforts to be accountable to the government or to be directed by it. Individuals within UN agencies positioned themselves as supporters of national, high-level initiatives which in turn gave them status and power and the freedom to pursue their own priorities as well as influence what happened within government. Actors within UN agencies confined themselves to policy elites in Dili, which reinforced the centralisation of power. In contrast, at lower levels of management there were often huge power differentials observed between advisors and counterparts because of the way knowledge was positioned and valued. While knowledge and expertise were influential, advisors still needed to work within the overall aims of the government for their advice to be accepted.

The ownership of ideas depends on the advisor and the counterpart. If the counterpart is good, or if the advisor...if the expert can introduce something that the counterpart can understand, can own what they are doing, then it will be easy. But if the advisor, his own personal character also comes into that process. – Department manager, Ministry of Health, Dili
Policy Formulation

Policy formulation is the stage in which legislatures and other decision-making bodies design and enact policies (Walt et al 2008). This is the stage in which the content of policy is decided and plans for implementation are developed. Once the maternity waiting home idea was taken up by key Ministry of Health actors, a draft policy document was formulated (MoH 2005a).

Policy Content

The policy content included guidelines on admission (priority was to be given to high risk women and risk criteria were defined), location (next to or within two hours drive of a referral hospital), waiting time (two weeks before due date and three or four days after delivery), equipment (the maternity waiting homes would not have any medical equipment and would be furnished as a house), rules (relatives would be allowed to stay, but must provide their own food), budget (additional budget would be provided by the government, users would not be charged), and indicators for monitoring and evaluation. The goals and expected outputs were defined, with the overall aim to reduce maternal and neonatal morbidity and mortality through an increase in the use of health facilities.

A piloting strategy was advocated by technical advisors, whereby maternity waiting homes would be trialed and evaluated in four districts selected by the technical group and ‘only if the results of the evaluation will show [sic] that the objectives have been achieved, will they be constructed countrywide’ (MoH 2005a:4). Therefore the draft policy was a charter for action, a highly structured way to theoretically improve access to care and reduce maternal and neonatal deaths.

The content of the maternity waiting home policy was comprehensive and was based on other international examples in the literature, specifically the WHO (1996a) review of maternity waiting homes. This review provided a virtual blueprint upon which the maternity waiting home strategy was developed for Timor-Leste. In turn, the maternity waiting home policy was then used to rapidly mobilise the maternity waiting camp during the 2006 crisis.
And of course once the policy had been drafted it could be used to work out how this maternity waiting camp would work. – Advisor, UN agency, Dili

Policy Formulation and Legitimacy

The process of formulating the maternity waiting home policy began with the establishment of a technical group, which drafted the national maternity waiting home strategy in May 2005. This group consisted of 16 people, most of whom were female midwives and doctors (12 females and four males). The technical group was a partnership between the Ministry of Health and international agencies: five people were staff from the Maternal and Child Health department, five people were from other Ministry of Health departments such as Policy and Planning, Administration, and Human Resources, and six were representatives of UN agencies and international NGOs. As a result, policy formulation was a collaborative approach largely dominated by females in a partnership between the Maternal and Child Health department and a core group of women from UNFPA, WHO, UNICEF and HAI. A national workshop was then convened, which included the original technical group plus almost 100 other participants from the intended pilot districts, local and international NGOs, UN agencies and the Ministry of Health.

It was a discussion involving different people in this country. And when it came to the workshop it was participated [sic] by the secretary of state, the original secretary of state and also most of, many important people came to that workshop, to feel that the concept is okay. – Department manager, Ministry of Health, Dili

The evaluation of the original maternity waiting home implemented in Lospalos was presented at the workshop. The conclusion from that evaluation, conducted one year after it was established, was that no women waited before birth and that the maternity waiting home ‘failed to show any improvement in access to essential and emergency obstetric care’ (MoH 2005b:7). Despite these findings, and presentations by both
UNFPA and UNICEF representatives highlighting the limitations of maternity waiting homes as an isolated strategy, another district was added to the piloting phase and the plan to implement four new maternity waiting homes was continued. Involving multiple stakeholders in a collaborative piloting process was seen as a safe way to trial the maternity waiting home strategy and to disperse accountability.

*And those ideas, before you adopt you have to discuss with different people because any idea will have implications, resource implications and you need to be very careful.* – Department manager, Ministry of Health, Dili

The formulation of the maternity waiting home policy occurred between the Ministry of Health and technical experts, exclusively at the national level. District health staff and the community had virtually no power or input in formulating the guidelines or choosing the districts in which they were to be piloted. Although district administrators, health managers and midwives were invited to the national meeting, were presented with the guidelines and had a chance to ask questions, this did not result in any modifications to the original draft policy. The involvement of district authorities in the national workshop was an avenue to build consensus, gain approval and decide on a site to build the maternity waiting home rather than to influence the policy content.

**Issues of Representation**

Community consultation on maternity waiting homes was conducted with mother support groups in two of the planned pilot districts during the policy formulation stage. The findings illustrated the concerns women had during pregnancy and delivery and concluded that both communities were enthusiastic about using a maternity waiting home (MoH 2005b).

*For the maternity waiting house, because it should come from community, we started to think about this maternity waiting house and we consulted with community and community agreed that they need, that they really need this*
maternity waiting house to save women’s lives. And they agree with this initiative, that’s why we want to go ahead with this program. – Department manager, Ministry of Health, Dili

Exactly who constitutes and represents ‘community’ has been and continues to be debated, but the important thing in the formulation of the maternity waiting home policy was that the illusion of community involvement and acceptance was created, which further legitimised the policy. The role of community consultation, therefore, appeared to be one of socialisation, where the idea was disseminated through this process, and interest and expectations were raised rather than the ‘community’ having any real power to modify the policy. The concept of socialisation (socialisasi) is common in Timor-Leste, and is used to describe top-down dissemination of new information, policies or programs, through face to face meetings or dialogue.

I went to the community meeting that was organised by the Ministry. They spoke to community leaders, it wasn’t the real community. They didn’t include pregnant women. I realise that I was part of that, but it was difficult to influence. We just advise but we did not feel that we could do it ourselves. Alola at that time were involved in the mother support groups, they asked pregnant women if they would go, I would doubt the quality of that particular discussion as well. I would re-do it again. – Advisor, UN agency, Dili

Decision-making Power

After agreeing upon a piloting process in five districts, a memorandum was sent to the Maternal and Child Health department from a high-level decision-maker in the Ministry of Health, indicating that maternity waiting homes were to be implemented in all 65 sub-districts of the country. This effectively circumvented the original approach that was carefully put together by the Maternal and Child Health department within the lower levels of the Ministry of Health. Basically it was decentralisation of a centralising
concept and a radical departure from both international guidelines and the Ministry of Health’s own policy plan.

The whole discussion since then and up until now, are we talking about district level, are we talking about health centre level? In the early time I think it was more a district level, but even then, if it was a pilot, it was starting on a smaller scale. But I mean logically it would go, the closer the better, the less disruptive the travel or visit. – Advisor, UN agency, Dili

Policy formulation depended not only on developing the content, but on a formal decision to enact the policy. The decision to approve maternity waiting homes for every sub-district was in the hands of one or two individuals. This authority was further enhanced as the Minister or Vice-Minister had to sign off on the proposal before it was submitted to parliament. Therefore there were multiple decision-making stages with regard to formally enacting policy.

The big decision is the Minister and Vice-Minister and Permanent Secretary, for maternal and child side. With UN agencies or NGOs we write the draft, but it’s not final. We can, even if it’s in a big workshop, but it’s not final yet. We can consult to Minister or Vice-Minister, if they agree we will put it as a strategy and they will sign for country side. But if they don’t sign it yet, it’s not final yet. – Department manager, Ministry of Health, Dili

In order to be implemented, the policy required funding. Influential individuals used their networks to attract funding through non-government sources, and this was the case for the first two maternity waiting home pilot projects. For large scale national strategies, however, the final decision regarding funding lies with the parliament. Ministers and other policy champions may have to argue why they have allocated the budget in a particular way. A proposal to fund all 65 maternity waiting homes was submitted as part of the budget. However, it was not passed by parliament, likely due to the massive cost of construction and maintenance.
We want to use the government money, that’s why it wasn’t approved by government because it was high cost. But maybe the result, maybe we cannot find the result that’s why they don’t agree yet. – Department manager, Ministry of Health, Dili

Even though maternity waiting homes were written into the Basic Services Package they never became official policy. The fluctuating commitment to the maternity waiting home strategy left both middle managers and district health authorities confused over the future of maternity waiting homes in Timor-Leste.

But I think, it is also not really the policy, yeah. It was a document, a working paper, just a discussion, just to agree with the piloting. And after the piloting we will come up with a clear idea about the waiting home policy. – Department manager, Ministry of Health, Dili

Implementation

Implementation is worth studying precisely because it is a struggle over the realization of ideas (Majone & Wildavsky 1984:180).

Implementation is the stage of the policy process where ideas are translated into action. The aims of the maternity waiting home policy in Timor-Leste were clearly articulated in the policy guidelines as well as in interviews. The four main aims put forward by respondents at the national level were that maternity waiting homes would:

1. Facilitate access to facility-based delivery for women in remote, mountainous areas;
2. Increase the overall number of women giving birth in the health facility;
3. Reduce maternal and perinatal mortality; and
4. Provide a space for women to wait prior to birth.
Other aims that were mentioned included providing a venue where women could receive education, improving the quality of services, providing a place for the family to accompany the pregnant woman, improving health infrastructure, facilitating transport of pregnant women, increasing birth weight of the baby and improving access to postnatal care. Similar to the way the maternity waiting home policy was seen as ‘logical’ in the agenda setting stage, the way in which these goals were to be achieved was simplistic.

The maternity waiting home is more an approach for the communities and the basic emergency obstetric care is more for the health workers. – Department manager, Ministry of Health, Dili

When it comes to the implementation that is something we need to see how this concept is working. But I think the concept is okay because Timorese, as a Timorese, I also feel that the concept, maybe it will benefit our people here. Because the people from far away come to stay near a health facility to deliver, for delivery and also giving them some health promotion. I think it is good. – Department manager, Ministry of Health, Dili

Promoting the Policy

After having a clear idea about implementation through a pilot process, the national Ministry of Health set about disseminating the idea to the districts. Decision-makers at the national level were adamant that the maternity waiting home policy should not change during implementation and in order to promote equity between districts it should be a uniform strategy across the country.

We have one design for all maternity waiting homes, one design, one type...We have to follow the type, we have to make uniform, uniform. Not two or three types. – Decision-maker, Ministry of Health, Dili
The implementation must not go out from the plans that we already have, the annual action plan and the budget for that...we have to prioritise what should come first. And always think nationally, not just for Lospalos or Ermera, but we have to, if we apply for one we have to apply for all. – Department manager, Ministry of Health, Dili.

Diffusion of the maternity waiting home idea occurred through national workshops and ‘socialisation’ of the draft maternity waiting home strategy. Through this process all important district authorities were invited to Dili or to large meetings in the districts. This included district health directors, health centre managers and midwives, but significantly, it also included influential district authorities such as district administrators, village chiefs, and state secretaries.

All Ministry of Health strategies, we always make, we invite all the relevant people, and also all the health authorities from different districts to be involved, to participate. And after that you need a campaign, health promotion to ensure that people can come to the place. – Department manager, Ministry of Health, Dili

The maternity waiting home idea was transferred to the proposed pilot sites by active socialisation and promotion of the strategy by the national level, including TV advertisements supported by UNFPA which promoted maternity waiting homes as a clean and safe place for mothers. The pilot process was a top-down approach where districts were chosen and mutual decision-making only occurred during the selection of the site to build the maternity waiting home.

They contacted us and asked the ideas from here, that is why we decided to build it in Same, because they said ‘now you have a maternity waiting home, where do you want to build it, in Same, Alas or Fatuberliu?’ – Health manager, Manufahi district
Appropriating the Concept

Implementing the four pilot projects was not an easy task, however, and only two maternity waiting homes were ever instigated through this process. Essentially implementation relied on NGO funding because the maternity waiting home policy was never passed in parliament and government funding was never released, resulting in delays and eventual abandonment of the piloting process by the national government.

*When it comes to the implementation...we just tried to test in four districts that I mentioned. But come to implementation it didn’t really go with the four districts, it came to another district...when it comes to the implementation it depends on the negotiation, who wants to support what.* – Department manager, Ministry of Health, Dili

Despite the limited success of the piloting process the maternity waiting home idea was transferred from district to district and from district to sub-district through passive diffusion, word of mouth, and attending inaugurations and community meetings. In this way the maternity waiting home idea was taken up at the district level and was implemented in four additional sub-districts. An example of the contagion of the maternity waiting home concept was illustrated in one district in the west of the country. One of the proposed pilot sites was Bobonaro sub-district, and although the national level Ministry of Health had several planning meetings with district authorities, the pilot never went ahead. Two other sub-districts in the region, however, heard about the maternity waiting home idea through a district level UN worker and health centre staff. The village chiefs decided to put a maternity waiting home as one option for which to allocate village funds. The other options were building a road, developing an irrigation system, providing furniture and equipment for the school, and developing a water supply system. Through a series of four community meetings and a complex process of decision-making, it was unanimously agreed to use the local government funds to build a maternity waiting home in both Cailaco and Atabae (in addition to irrigation and school equipment).
The promotion and diffusion of the maternity waiting home idea caused local people to think about the issue of safe birthing. This influenced the way in which people conceptualised pregnant women’s problems and the solutions to those problems. Thus the national policy influenced local leaders’ thoughts and ideas about how pregnancy care should be organised and how community resources should be spent.

Despite the enormous amount of effort that went into mobilising the community, securing funding and constructing the maternity waiting homes in both Cailaco and Atabae, the buildings remained empty at the time of this research (which was one year after construction in Cailaco and six months after construction in Atabae). Both the district and sub-district health managers requested equipment from the national Ministry of Health and UN agencies, but these requests were left unanswered.

*But community, they built a maternity waiting house in Cailaco and in Atabae. But when this head of district asked me to provide like beds, sheets, like this to put inside the maternity waiting house we don’t provide it yet because, um, maybe because there is no decentralisation of the budget or, I don’t know what is the process, that’s why until now this maternity waiting house doesn’t work yet.* – Department manager, Ministry of Health, Dili

**Implementation as Adaptation**

For the maternity waiting homes that could secure equipment and were functioning, what occurred was a dramatic transformation of the policy during implementation. This transformation took place regardless of whether they were pilot projects or initiated at the district level, and there were various manifestations of the policy in different sub-districts (Table 6). The four maternity establishments that were modelled on the maternity waiting home concept fell into two broad categories: accommodation services (Lospalos and Dili) and birth centres (Same, Laleia and Bazartete). There were also birth friendly facilities which were implemented by HAI, but were not based on the maternity waiting home idea.
When it came to the implementation, and also the waiting home is just a waiting home, accommodation for those pregnant women, not a birthing centre. But you know some of the examples, in Maubara [Liquica District], it’s a waiting home but also a delivery centre because the facility, the health facility has no condition for delivery. So they came up with another model that is not really according to, with the initial concept. – Department manager, Ministry of Health, Dili

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<th>Table 6: Category, type, definition and location of 'maternity waiting homes' implemented in Timor-Leste</th>
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International NGOs funded five maternity establishments in Lospalos, Same, Remixio, Maubara and the maternity waiting camp in Dili during the 2006 crisis. In contrast to this top-down approach, district health and community leaders were responsible for initiating and mobilising external support for the other four maternity establishments in Cailaco and Atabae (supported by local government funds), Bazartete and Laleia. Rather than dependent on the source of funding, the type of maternity establishment that was eventually implemented depended on who was responsible for its management. In Lospalos and Dili NGOs managed the maternity waiting home and these closely followed the maternity waiting home concept. In all other districts the health centre staff were responsible for management and these were converted to stand-alone birth facilities.
After the handover the National [Ministry of Health] sent the delivery equipment here and we didn’t know where to put the delivery equipment so we thought it would be better to put the equipment in the maternity waiting home and that’s why maybe the house changed to a birth centre. – Manager, Ministry of Health, Manufahi district

The original plan from the national level was a maternity waiting home, but because we didn’t have a proper room, that is why we combined the delivery room with the waiting home. When the Vice-Minister came here to hand over the key we argued because the Vice-Minister said it must be a maternity waiting home. We said ‘but where will the women give birth?’ If we used this as a maternity waiting home and women birthed over there they would be shamed, and they would say something bad and they and others would not come here. That is why we use it as both. We only divided the room. – Midwife, Manufahi district

During implementation different organisations and levels of the Ministry of Health had very different roles. The national level Ministry of Health was responsible for developing strategies and programs and supporting districts. UN agencies supported policy development and funding. District level Ministry of Health staff, particularly midwives, were responsible for implementing and managing the programs. In the draft maternity waiting home policy little attention was paid to the role of NGOs in implementation. As demonstrated during the during the 2006 crisis, NGOs were crucial
in providing transport, information and prevention services in Dili. This same level of support was not evident in the districts. Therefore, unlike the national level where various UN organisations were strategically placed to work alongside government departments in policy development, there was little support for lower levels of management during implementation. Because district health staff often had a clinical background, aspects of the maternity waiting home strategy that were put into practice tended to have a curative rather than preventive focus, and the lack of supervision and support allowed for more flexibility during implementation.

*How to solve the maternal health problem, it’s already okay. But when it comes to the implementation, a lot of principles we try to consider: integrated approach, sustainability, most of the good principles we try to apply. But when it comes to implementation there are many negotiations that should happen there.* – Department manager, Ministry of Health, Dili

**The Importance of Language**

Lospalos and Dili aside, what occurred during implementation of the maternity waiting home strategy was a rapid promotion and diffusion of the label, and an appropriation of the language at the district level without a concurrent adoption of how maternity waiting homes actually function. The appropriation of the maternity waiting home label allowed both district health leaders and NGO funders to work within the legitimate framework of the national Ministry of Health’s objectives while adapting to local needs.

*I mean in the districts where we are working people use the word uma hein tur ahi [literally, house to wait for birth], because that is one that was built in Lospalos. So people just hear that. So a lot of people, because it is new language, people just turn out what they hear, but they are actually talking about a birthing home, like I said, a place to birth.* – Program officer, international NGO, Dili
I think the difference is in the language as to the meaning of the house. When we first handed over the house the Vice-Minister came here and used the name maternity waiting home, so we understood the house would function as a waiting home for women to come here and stay at the house. But after that we thought that the house had better conditions for deliveries [than the health centre] so we changed it from a waiting home to a place where women could also deliver. – Health manager, Manufahi district

In addition to district leaders, NGOs also manipulated language and specific strategies to suit the policy environment of the time. When the decision was taken to not pursue the maternity waiting home policy after the 2007 election NGOs adapted their language rather than their implementation plans.

I guess we also have to cut, or figure out a way to create a house for families that doesn’t come off as a waiting home. – Program officer, international NGO, Dili

Health System Context

None of the maternity waiting homes that were implemented in the districts had the policy guidelines that were drafted in the national workshop. While this may have been one reason why maternity waiting homes took on multiple identities in the face of a clear policy document, the most likely reason was completely practical; the underlying structures on which maternity waiting homes depended were not present at the district or sub-district level.

I don’t really feel wholehearted about the maternity waiting home idea. There is a lot still that needs to be strengthened before we build another structure…That’s not going to solve the issue of maternal deaths. They can’t even do that yet with the referral system in place, with case-fatality rates at the facilities. – Program officer, UN Agency, Dili
The health system structures on which maternity waiting homes depended were water and electricity, human resources, adequate funding, 24 hour services, transport and referral systems, equipment, supplies and quality of care. Informants recognised that many of these conditions were not in place.

It is difficult to start anywhere because it all relies on things that we don’t have. So the question is where do we get the most bang for our buck? We shouldn’t try and make a western system work with what we currently have. – Manager, local NGO, Dili

While maternity waiting homes depended on a number of health system resources to function effectively, the most important factor that led to the transformation of the strategy during implementation was the lack of space to handle deliveries within health centres.

When talking about waiting homes we must be crystal clear that we have the relevant adequate delivery services. If we don’t it’s stupidity. – Advisor, UN agency, Dili

With the development of the Basic Services Package promoting universal facility-based delivery, and the election of the Coalition government in 2007, the Ministry of Health
recognised the need to first build and equip facilities for birth. They then set about planning a national construction campaign.

I visited all of the community health centres. What is really happening is there is no maternity, I mean the delivery room. And if the strategy is to try to improve the utilisation of the facilities, then this [maternity waiting home] is the wrong strategy. The right one is really to build the delivery room, give the midwife or the doctors in the community health centre a place, room for intervention. And then involve more community in taking care of themselves. – Decision-maker, Ministry of Health, Dili

Flexibility versus Control

Although maternity waiting homes were transformed during implementation, there was no accountability for their success or failure and responsibility did not lie with policy-makers, managers or midwives. Unlike more vague national policies (such as the Health Policy Framework and the National Reproductive Health Strategy) the draft maternity waiting home policy was very specific and directive; however, it was not used as an instrument to direct implementation or to hold national or district Ministry of Health staff accountable to agreed strategies. Instead, the emphasis was on obtaining support for the maternity waiting home idea and establishing them in the districts rather than considering whether they were meeting their objectives.

I think that the way that the system is set up sometimes lends itself to people who are not functioning well just to continue in that way and there doesn’t seem to be action taken or consequences for doing your job well or not doing your job well. – Manager, international NGO, Dili

Failure to implement the maternity waiting home strategy as outlined in the draft policy had enormous advantages. The lack of emphasis on accountability was precisely why maternity waiting homes were able to be adapted to local conditions and health system
constraints. Health centre managers and midwives had an enormous amount of control over the implementation process, and this allowed for local knowledge and context to shape the way in which services functioned.

_In the past we did not have any specific room for pregnant women and the delivery of babies in the hospital. The hospital had one common room for pregnant mothers, mothers who had given birth and children under five years of age. This embarrassed the pregnant mothers when giving birth as the families of other patients would be nearby and seeing what she would be going through...The ex Vice-Minister for Health said that the house is to be a maternity waiting home and not a birth centre, but I said that according to the design of the house there is a delivery room, so the house functions according to the design._ – Senior midwife, Manufahi district

Flexibility and adaptation were therefore strengths of the implementation process. The ongoing difficulty is how to balance strategic direction and accountability with over-prescriptive implementation and reporting structures which can stifle innovation.

_They implement the strategy and in the implementation of the strategy is where you put the flavour of the country. The strategy is here, and not only the country, because there are national strategies that are copied, taken from things, but how the strategy is going to implement, that is the flavour of the country, they decide how to do it._ – Advisor, UN agency, Dili

**Sustainability**

Once maternity waiting homes were implemented they needed to be sustainable and little attention was paid during agenda setting and policy formulation to what would happen once NGO support ceased. For the districts which managed to acquire equipment to enable the maternity waiting homes to function, they received little additional budget from the national Ministry of Health to provide the extra services. Where the maternity
waiting homes were run by NGOs (as in Dili and Lospalos) services were provided at such a high level that they could not be maintained when they were handed back to the government.

*The one in Lospalos, they have made people accustomed to it so when they [Medicos do Mundo] get out, it could be difficult for us to maintain what they have provided. In Lospalos they provide cold and hot water, they provide soup everyday, the government could not afford this kind of service.* – Department manager, Ministry of Health, Dili

In order to achieve sustainability Ministry of Health informants emphasised the need to build capacity within the country, rather than relying on donors. Having skilled counterparts was seen as essential to follow through with implementation and assessment of outcomes. Altering programs during implementation was frustrating for national level staff, but this was only raised in relation to NGOs providing higher levels of service and creating expectations both within the health service and in the community.

*I think it was a little bit difficult, a little bit worrying because [they had] the initial idea and came up with another idea. And also the fear that it may be difficult for the Ministry of Health to continue. Because they promote nutrition, the cost is very, very substantial. It was regarding to the cost, that was something very difficult. But I just feel it was very difficult because before it was the idea to have a waiting home but it was not really a waiting home, it was postnatal care. And second, a lot of resources were going to using for that purpose. That is why I think it was more difficult. It was something that was out of what the Ministry of Health was regularly doing and also thinking.* – Department manager, Ministry of Health, Dili

Decision-makers in the new Ministry of Health questioned whether maternity waiting homes should be a uniform, countrywide strategy. There was recognition that a ‘one size fits all’ approach may not be appropriate across all districts, and that decentralisation of
both decision-making and funding was a crucial next step in the policy and health system development.

I am talking to you about this very emphasis on centralised, very emphasis on the superiority of the health system. But now we have a more, this government, we are different, because the decentralised model, we are talking, we start with the consultation, delegation of the power, and then engage more community. Involve them more in the decision-making and then in the implementation as well. And then I will put more resources into the implementation level. – Decision-maker, Ministry of Health, Dili

The maternity waiting home policy evolved and adapted as it spread across the policy landscape in Timor-Leste. An analysis of implementation highlights the malleable nature of policy. Fundamentally, the way in which policies are applied depends on the ideology, expertise and resources of the implementers. It also rests on the conditions of the health system. The adaptation of the maternity waiting home strategy to the unique circumstances in each district meant that, while the maternity waiting homes were not being used in the way they were intended at the national level, they served the needs of people working within the district health sector. The lack of accountability for implementation can be seen as either advantageous to the system or detrimental to the strategy, depending on whether one advocates for the maternity waiting home policy or not. Rather than capturing a clear picture of implementation, this analysis has illustrated the complexities and influences that contributed to the development of maternity waiting homes in their various forms in Timor-Leste.

Discussion

Agenda Setting

Through globalisation the frontiers of policy are expanding. The maternity waiting home idea was imported into Timor-Leste after the referendum and coincided with an influx of NGOs and UN agencies and the prioritisation of maternal health as a national issue.
Sketching the reconstruction of social institutions after independence, Carson and Martin (2003) assert that Timor-Leste defaulted to known systems, including the Western biomedical system, rather than innovative participatory practices in governance. The reasons for this institutional conservatism were ‘unfamiliarity with alternatives, influence and example of dominant systems, and the interests of East Timorese elites’ (Carson & Martin 2003:123).

The analysis of agenda setting demonstrated that policy operated through organisational structures that linked international experts with key decision-makers within the Ministry of Health. Thus the ideas of individuals were communicated directly down a channel of influence. This may result in newly established, poorly resourced or vulnerable states being more susceptible to outside influence of individuals, organisations and global policy trends. Steinberg and Baxter (1998) have pointed out that community structures and processes create barriers to entry for outsiders, and that outsiders encounter less resistance entering systems that lack clear leadership structures. This is an important factor behind the proliferation of NGOs and UN agencies in weak states.

The initial hypothesis, that international actors were driving agenda setting for maternity waiting homes in Timor-Leste was based on the significant similarities between maternity waiting home program content and implementation plans between different countries (McDonagh & Goodburn 2001). This international influence, however, was only part of the picture. What occurred was that international actors imported the idea but many were sceptical of its value in Timor-Leste. It was, in fact, national policy elites who put maternity waiting homes on the policy agenda. The relative coherence of the Ministry of Health and its strong leadership (Zwi et al 2007) led to greater autonomy and ownership of the policy, and a resistance to outside control. The World Bank (2005:10) found they had difficulties working with counterparts in Timor-Leste and ‘knowledge transfer did not occur as planned’; however, budgeting, policy and planning had more significant Timorese involvement than expected. The strength of the Ministry of Health as an organisation, and the leadership displayed by individuals, was therefore an important factor in being able to direct the policy agenda.
This makes the maternity waiting home policy a unique case study in that it appears to have worked in the opposite way to most other vertical policies that are introduced into developing countries through global networks and funding conditions. For example DOTS in tuberculosis treatment (Ogden et al 2003), the Safe Motherhood agenda (AbouZahr 2003) and HIV policy (Parkhurst & Lush 2002; Henderson 2008). In contrast to the widely held notion that UN agencies and donors have the most influence over agenda setting, the findings from the maternity waiting home policy in Timor-Leste concur with Shiffman’s (2007) conclusion on agenda setting for reducing maternal mortality in five countries. He found that while international donors played a role, effort by national leaders was the most important factor in whether maternal mortality made it onto the policy agenda.

Agenda setting in Timor-Leste was open to a wide variety of influences, from politicians and bureaucrats to international organisations and global movements. Service providers and users had limited influence over agenda setting. In discussing the anthropology of policy, Shore and Wright (1997:7) assert that ‘policies encapsulate the entire history and culture of the society that generated them.’ Rather than encompassing the history and culture of Timorese society, the maternity waiting home policy encapsulated the ideology of the Timorese elite and the medical model for birthing, and tended to ignore the widespread preference for home birth and the deficiency of adequate birthing facilities within health centres. Likewise, others have concluded that policy-makers act according to the script of ideological discourses (Howlett & Ramesh 2003), in this case the ideology encapsulated in the medical model. In a study of environmental policy reform in Asia, Frank et al (2007) found that policy changes were borne largely of the global regime and that NGOs in Asia were better seen as products of world society than as independent actors driving policy change. They concluded that ties to world society were stronger predictors of policy adoption than local contextual factors.

The importance of contextual factors and evidence is an interesting point. Lavis et al (2005) argue that policy-makers are non-experts who rely on division of power and
policy advice. There is often an assumption held within line departments that technical advisors have the expertise to provide informed recommendations. Rather than relying on evidence, decision-makers take into account advice, funding support, strategic fit, pressure from stakeholders and public opinion when making policy decisions (Lavis et al 2005). An analysis of the way in which evidence was used in the maternity waiting home policy was similar to that described by Howlett and Ramesh (2003:122) in that ‘symbols and statistics, both real and fabricated, are used to back up one’s preferred understanding of the causes of the problem’ and, I would add, the solutions to those problems. The notion of context, also linked with logic, was used in the same way as evidence in that certain aspects of the Timorese context were used to justify the policy. For example, the difficulties with transport and remoteness were used to validate the maternity waiting home policy while the lack of underlying requirements such as birth facilities were largely ignored.

Rather than being a single stage in the policy process that was governed by the global versus the national, agenda setting was made up of two distinct and mutually reinforcing components: the diffusion of ideas and the power of policy actors, including international advisors (Figure 5). The interaction between ideas and actors represented in this framework allows for a more nuanced understanding of agenda setting. Campbell et al (2001:435) asserts that ‘in developing countries, more exhaustive case-study reviews of the key players and policies are needed. Examples should be chosen from countries that developed their own policies as well as those that appeared to go along with international recommendations.’ The case study of maternity waiting homes in Timor-Leste has shown that there is no clear-cut distinction between national policies and international recommendations. Rather, policies are developed through an interaction between ideas and actors, mediated by complex relationships, interests, ideologies and power structures.
Maternal health policy-making in Timor-Leste very closely followed the *mobilisation model* (Cobb et al 1976) where issues were placed on the agenda by government decision-makers or people who had direct access to them. Decision-makers then promoted the idea and gathered support for implementation because they lacked institutional and financial resources. This is in contrast to the two other models outlined by Cobb and colleagues: the *outside initiation model* where issues are first raised by non-government actors then spread to the public, forcing the government to act, and the *inside initiation model* where issues are pushed on the agenda by privileged groups, but they are deliberately kept off the public agenda. The mobilisation model of policy-making is often found in countries where there is social distance between political leaders and the public, in terms of education, lifestyle and worldview, as well as in more hierarchical societies (Cobb et al 1976).

The mobilisation model is similar to the elite model, first described by C. Wright Mills (1956) where policy is a reflection of the interests of those individuals within society that have the most power, rather than the demands of society. I would extend this to
include not only the interests of the elite, but the broader global ideologies within which they function. For example, maternity waiting homes served an important community development function during the lead up to the 2007 elections and were promoted as a bridge between the community and the health centre. However, the aim of maternity waiting homes was ultimately surveillance - to have women birth in a controlled environment where they can be closely monitored. By promoting a non-medical setting as an entry point into the medical system, the politics of medical dominance was masked under a cloak of benevolence, community development and neutrality. This echoes Foucault’s (1980:86) sentiment that ‘power is tolerable only on condition that it mask a substantial part of itself. Its success is proportional to its ability to hide its own mechanisms.’

Grindle and Thomas (1991) take the perspective that the desire for power and control is a product of uncertainty and risk. This resonates with the discourse surrounding post-referendum Timor-Leste as well as the development of maternal health policy.

*Characteristics of the policy-making environment mean that decision makers and implementers act in a context of great uncertainty, risk and vulnerability. As a consequence, their concerns frequently go far beyond the substance of any particular policy problem to embrace issues of power and control over often conflict-ridden societies* (Grindle & Thomas 1991:13).

This desire for control and stability during the 2006 crisis was acted out through the public health and medical sector. Large teams of doctors set up permanent or mobile clinics in all IDP camps and NGOs focused on water and sanitation. Pregnant women were identified and persuaded to move to a maternity waiting camp at the hospital. The displacement of pregnant women served as a focusing event, making the plight of pregnant women more noticeable and brought the issue to the attention of both national and international actors. The maternity waiting camp was a highly visible way to show the media, the displaced Timorese and the international community that action was being taken. Despite their conclusion that decision-making during crisis situations tends
to emphasise major changes from pre-existing policies, Grindle and Thomas do acknowledge that in some cases crises lead to the reformation of existing policy, but ‘innovation rather than incrementalism is likely to result’ (Grindle & Thomas 1991:79). During the crisis the maternity waiting camp was formulated largely because the maternity waiting home idea was already at the forefront of people’s minds, it was on the policy agenda and there were written documents that outlined how to proceed.

The crisis also altered the dynamics of decision-making resulting in department managers, technical advisors and local NGOs being responsible for agenda setting, policy formulation and implementation during the crisis. The decision-makers visible in agenda setting during politics-as-usual were largely absent from decisions surrounding the maternity waiting home policy. The emergency response during the crisis was based on health system strengths and existing policies (Wayte et al 2008), resulting in action being driven by the preferences of health professionals, middle managers and international humanitarian agencies.

During both crisis situations and politics-as-usual, policy champions act in their own personal interests or to protect their bureaucratic space (Kingdon 1984). The most important outward factor in the maternity waiting home policy was the promotion of common values and the public good. Community values, however, can be used as a hook to garner support for initiatives that ultimately serve the self-interests of different constituencies (Steinberg & Baxter 1998). The political maneuvering associated with the development of maternity waiting homes was also seen in Laos, where local political leaders adopted external strategies as their own, thereby gaining good publicity. ‘This home is part of the Ministry of Health’s development strategy. It will bring health and happiness to our people living in remote areas, who can now access and make use of good facilities.’ – District Governor, Laos (Vientiane Times, January 2008).

While policy champions are important, it would be misleading to conclude that agenda setting depends on single policy actors driving their agendas. Rather, policy elites act to link problems, solutions and political opportunities (Kingdon 1984). Because policies
need approval at the highest levels they often need to have high-level advocates in order to be successful. Therefore decision-makers give accepted policies momentum, or conversely they have the power to dismiss waning policies. In this sense policy ‘image’ is important (Baumgartner & Jones 1993). One of the reasons maternity waiting homes fell out of favour was that they were associated with the previous, centralised government. Therefore ideas not only need to be technically feasible and acceptable (Kingdon 1984), they require enthusiastic and powerful policy actors who are supported by interests and ideology, legitimate institutions and good timing (Hansen & King 2001).

Policy Formulation

While agenda setting was subject to conflict and uncertainty, policy formulation was characterised primarily by consensus. Walt and Gilson (1994) observed that when states play a central role in development, policy is decided on consensual grounds, largely because it is controlled by the medical elite. The maternity waiting home policy was formulated by groups of middle managers and technical advisors. The networks they developed, particularly between expert advisors and less senior bureaucrats, shaped the way in which the content of policy was developed (Bowen & Zwi 2005). This resulted in a default to, if not an exact replication of, WHO guidelines. The working groups and national meetings associated with policy formulation were venues to clarify the policy content and to build support (Cobb et al 1976). District health and village leaders were mobilized during policy formulation and acted as a bridge between the national agenda, peripheral services and communities.

The central importance of policy documents is to hold governments accountable to strategic directions. Written statements also aid transparency of institutions and can help to guide decision-making for both internal and external actors. However, the presence of a policy does not always guide if and how it will be implemented. The maternity waiting home policy appeared to be associated more with ideology than implementation. The formulation of policy can have three main functions: as rhetorical commentary that
either justifies or condemns; as a charter for action; or as a focus for allegiance (Shore & Wright 1997). The maternity waiting home policy was a charter for action, it clearly outlined the implementation process in precise terms, including how maternity waiting homes should function and for whom. This is in stark contrast to the National Reproductive Health Policy (MoH 2004b), which is written in language intended to please and persuade, a set of goals rather than a prescriptive document. The difference in the style of language and content, however, did little to influence the outcomes of implementation. Instead, the formulation of the maternity waiting home policy served as a focus of allegiance around a common, Ministry of Health owned agenda and a venue to promote the idea to the districts.

Outlining a piloting process in the draft policy allowed maternity waiting homes to be treated as an experiment. The piloting process acted as a middle ground between enthusiastic Ministry of Health staff and cautious international advisors. Thus maternity waiting homes were subject to a higher level of scrutiny than other policies such as skilled attendance at birth, emergency obstetric care and the promotion of exclusive facility-based delivery which was implemented across the country without question. ‘New countries such as East Timor continue to provide promising opportunities for testing social alternatives, but this will come to naught so long as thinking remains restricted to the dominant options’ (Carson & Martin 2003:135-6).

Although the ‘stages’ model of policy suggests a linear approach to the policy process, this framework is more useful as a conceptual tool rather than a representation of the actual process. In the case of the maternity waiting home policy in Timor-Leste, policy formulation was a side process, linked to ideas and actors but not directly feeding into implementation (Figure 5:125). Policy formulation and implementation were long, drawn-out processes, largely due to the fact that they relied on building consensus and gaining and sustaining support, but also on training people, building structures and mobilising the community. The national policy agenda for maternity waiting homes changed several times, and at a faster rate than they could be implemented. The waxing and waning of support for the maternity waiting home policy adds credence to the
punctuated-equilibrium theory of policy development (Baumgartner & Jones 1993), and the issue-attention cycle put forth by Downs (1998).

**Implementation**

During implementation of the maternity waiting home policy there was a programmatic shift from the national level to district health professionals. An important part of implementation was the co-opting of local leaders, and this was achieved through dissemination of the activities surrounding the formulation of policy discussed above. For the Ministry of Health, implementation equated to the dissemination or ‘socialisation’ of the maternity waiting home idea rather than ongoing funding, support and monitoring. Therefore implementation was a set of methods to encourage others to adopt the policy idea (Fixsen et al 2005).

In the mobilisation model of implementation the issue is either taken up in the public agenda, or it is ignored and the program is effectively killed off (Cobb et al 1976). Implementation, then, is a process of collective negotiation (Lloyd 2008) which depends on clarity of the policy, local action, public support and changes in behaviour. However, ideas are often political rather than technical and when one acts to implement a policy, one acts to change it (Majone & Wildavsky 1984). Because the ideas embodied in innovative social programs are not self-executing, Petersilia (1990) calls for a focus on the actions of the actors who are responsible for implementation.

In all cases the actors responsible for implementing the maternity waiting home policy and managing the program were district health staff or locally-based NGOs. The delegation of power during implementation allowed ‘street level bureaucrats’, or district health managers, to significantly change policies at this stage (Walt et al 2008). This corresponds with street level bureaucracy theory which asserts that implementers use their discretionary power in implementation, and this is a way of coping with challenging environments (Erasmus & Gilson 2008). Here the importance of the power, interests and ideology of district health staff should be emphasised. Because local
mobilisation of maternity waiting homes allowed district health services to gain resources, maternity waiting homes were seen to be in the interests of health workers. The maternity waiting home strategy was effectively co-opted by district level health service providers as a means to harness funding and improve their infrastructure. This, in turn, led to further resource requirements and created a cycle where development spurred development.

The way in which policies are implemented depends on provider commitment and gain, as well as health system context. Therefore policies that do not address the organisational, professional and social contexts are unlikely to achieve successful implementation (Watt et al 2005). Rather than being unusual, the transformation of policy during implementation is typical. Erasmus and Gilson (2008:364) point out that ‘in the organisational contexts of policy implementation these less obvious ways of influencing or subverting the implementation processes and outcomes of health policies might be more prevalent and important than very organized, direct and instrumental resistance.’ Having recognised the significance of district actors it is important to understand the specific health system factors that influence implementation.

Many authors warn that policies are likely to fail if contextual factors are not taken into account (Walt & Gilson 1994; Van Lerberghe & De Brouwere 2001; Watt et al 2005). While Grindle and Thomas’ (1991) conclude that contextual factors ‘loom large’ in the process of agenda setting and decision-making, it appears that in relation to the maternity waiting home policy the limitations of the Timorese context were considered only during implementation. For example the availability of adequate birthing facilities, quality emergency obstetric care, functioning referral systems and demand for hospital birth were taken for granted in the formulation of policy. This resulted in the necessity to alter the way in which maternity waiting homes functioned during implementation.

Implementation of policy requires political commitment, an analysis of local needs and technical support, but also sustained financial support, both externally and more significantly in the long term, internally generated (AbouZahr 2001). Although the short
term nature of funding maternity waiting homes by both Medicos do Mundo in Lospalos and UNFPA in Dili limited sustainability, this external support at least allowed for initial implementation and adaptation to the local context. The fact that all maternity waiting homes were externally funded and two were left empty due to lack of equipment highlights the limitations of relying on national government support. Funding predicted whether or not the program functioned, but not the way in which it functioned. Therefore, it did not matter from where funding was sourced, so long as it was adequate and sustained.

**Conclusion**

An analysis of the maternity waiting home policy in Timor-Leste revealed that agenda setting was driven by ideas and actors. Attractive ideas were those which provided a logical solution to priority problems, were visible and non-controversial, and fitted within the dominant ideological and political model of the time. Policy actors were influential in setting the agenda if they were ‘experts’ or if they occupied a high position in government or the UN sector. Policy actors used their power to influence policies that were in their bureaucratic interests and broader value system. Where hierarchy and structural boundaries were weaker, networks and personal relationships became more important. Those networks and relationships were essential for both influencing the agenda and formulating policy. Because there were multiple actors and ideas, agenda setting was characterised by conflict and competing interests, and occurred at the top level of government. The development of policy content, however, required consensus building between mid-level managers and international interest groups. In this case, the main function of policy formulation was to mobilise support for the policy. Surprisingly, the implementation of policy relied less on policy formulation, and more on the successful promotion of the idea. While funding was critical to whether a maternity waiting home was implemented or not, the way in which it functioned was dependent on both health system context and by whom it was managed.
When looking at the policy process in relation to the frameworks described at the beginning of this chapter, the development and implementation of the maternity waiting home strategy had elements of all of them and most closely followed the *mobilisation model* outlined by Cobb and colleagues decades ago (Cobb et al 1976). Actors, context, power, politics and complexity were all important elements; however, none of them provide a clear representation of how the policy process actually occurred. In this sense, my framework (Figure 5:125) provides a visual model of the unique policy process as it related to the development of the maternity waiting home policy in Timor-Leste. This framework may be useful in future policy analysis, particularly to further clarify the role between policy formulation and implementation in other settings.

The adaptation of the maternity waiting home policy can be seen as a process of ‘glocalisation’ where global ideas are mediated by local contexts and processes (Gabardi 2000; O'Reilly et al 2005). In contrast to the notion of globalisation which presumes a one-way influence on local cultures and communities, the maternity waiting home policy has demonstrated that international models are enthusiastically taken up by health leaders and shaped by implementation. In light of what has occurred with the maternity waiting home policy in Timor-Leste, flexibility in implementation was a crucial strength. The local ownership that was created through the Ministry of Health’s socialisation process was a remarkable feat. What was lacking, though, was a sustained vision and support for local health systems that were trying to implement these fleeting policies.

The analysis of implementation presented here has been conducted around process outcomes, or whether the program was functioning as intended. Blasé et al (1984) distinguish between implementation outcomes and effectiveness outcomes, or whether the project is achieving its objectives. The ‘stages’ approach to policy analysis also emphasises evaluation as the fourth stage of policy analysis. Therefore, the next chapter focuses on whether the implementation of the maternity waiting home policy, as accommodation facilities or birth centres, succeeded in improving access to health facilities for remote women.
Chapter 6: Evaluation of Maternity Waiting Homes in Same and Lospalos

The aim of the maternity waiting home strategy in Timor-Leste was to provide facilities for women, particularly those from rural and remote areas or with identified risk factors, to await delivery in a health facility. ‘Improved access to essential obstetric care will increase the utilization of skilled birth attendants during labor and will result in decreasing levels of maternal and neonatal mortality’ (MoH 2005b:5). The main goal of the strategy, therefore, was to improve access to maternal health services, particularly for women in rural and remote areas, with the aim of reducing maternal and neonatal deaths. To effectively monitor programs aimed at improving maternal health, outcomes should be measured against the objectives of the program (Ronsmans 2001b).

The specific objectives gleaned from the Ministry of Health’s maternity waiting home policy documents (MoH 2005a; 2005b) were:

1. Provide facilities for women to await delivery from 36-38 weeks gestation;
2. Increase the number of births in a health facility;
3. Increase the number of women birthing with a skilled attendant;
4. Improve access to facility-based birth for women from rural and remote areas;
5. Target women with risk factors;
6. Increase the number of women with complications being transferred to a higher level facility; and
7. Reduce maternal and perinatal mortality.

Drawing on these objectives, this chapter uses health service statistics and in-depth interviews with health service providers to evaluate the maternity waiting homes that were implemented in two districts. Particular attention is paid to whether the interventions improved access for women from rural and remote areas. The implications
of these findings are then discussed in relation to national maternal health policy and system development in Timor-Leste.

**Framework for Research**

Access is a common term in health services research and can have multiple meanings. In their seminal article exploring access to health care, Penchansky and Thomas (1981:128) define access as a ‘general concept which summarizes a set of more specific areas of fit between the patient and the health care system’. These specific areas relate to:

- **Availability** – the type and volume of services in relation to need, that is number of midwives, specialists and facilities, equipment and supplies;
- **Accessibility** – physical distance between facility and clients, that is transport, travel time and resources required;
- **Accommodation** – how clients are brought into the system, that is appointment procedure, hours of operation, ability to walk-in without an appointment;
- **Affordability** – the relationship between cost of services and client’s ability to pay; and
- **Acceptability** – the preferred attributes of the provider by the client and *vice versa*, that is age, sex, ethnicity, religious affiliation, socioeconomic status.

The above areas relating to access (with the exception of acceptability factors) were also recognised as important in the Ministry of Health’s (2005a) draft maternity waiting home policy (that is, the number and skills of midwives; staff, transport and communication available 24 hours, seven days a week; availability of equipment and supplies for emergency obstetric care; operating costs; and ensuring free services). While the maternity waiting home policy outlined these conditions the consensus between those responsible for implementing the strategy was they would result in improved access for women in remote, mountainous areas. According to district health staff, maternity waiting homes specifically addressed **accessibility** by reducing the distance between the client and the health facility prior to labour.
The maternity waiting home is a house that mostly people who come are from the rural places and far places, for example from sub-districts that are far from Same, so they come to get prepared before giving birth. – Health manager, Manufahi district

A vast amount of research has been conducted which documents the effect of distance on the utilisation of health facilities. For example, decreasing rates of utilisation are correlated with increasing distance from a health facility (van den Broek et al 2003; Tanser et al 2006; Baker et al 2008). Others have found that women who live close to health facilities are more likely to use them (Rose et al 2001), and that long distances and lack of transport discourages the use of health facilities (Thaddeus & Maine 1994; Jenkins 2003; Mills & Bertrand 2005). While the evidence is fairly conclusive that distance affects the use of health services, much less is known about strategies which improve accessibility. Maternity waiting homes have been consistently proposed as a solution to improve access to maternal health services for women in rural and remote areas (WHO 1996a; Spaans et al 1998; Stekelenburg et al 2004). Stekelenburg et al (2004:396) have even gone as far as to state that 'the construction of MWHs is an internationally accepted tool to increase the accessibility and the use of maternal health services and to improve pregnancy outcome.’ As demonstrated in Chapter 3, however, their impact on accessibility is rarely examined, and evidence is largely anecdotal. This highlights the importance of examining whether maternity waiting homes in Same and Lospalos resulted in increased utilisation of birthing facilities for women in remote areas.

Waiting for Birth

Objective 1: Provide facilities for women to await delivery from 36-38 weeks gestation

There was no data available on length of stay at the maternity waiting home, either before or after birth. The only information collected in health centre records was date of
birth. It was therefore impossible to conduct a quantitative analysis of how long women were waiting prior to labour. Interviews with families and health centre staff, however, revealed that women were not using the maternity waiting homes to wait prior to the onset of labour.

F: They don’t wait here. During antenatal care we identify some women as high risk so we try and get them to come and stay at the Casa das Maes. For example if she has eight children, is older, already has a baby that was born dead. We say that we have a bed for you with the health centre nearby.

KW: Do they ever come?

F: Sometimes they come, but mostly they don’t. Because for Timorese women it is very important to have family with them when they are giving birth. When we were at Iliomar we told a woman in this situation, but immediately she said ‘no, I live here, I don’t have family in Lospalos, I don’t want to go, I want to stay here.’ – Manager, international NGO, Lospalos

The maternity waiting home in Same had waiting facilities incorporated with delivery facilities, and women were encouraged by midwives to attend prior to labour. However, only one of the 14 women interviewed at the maternity waiting home in Same attended prior to delivery. She and her husband were farmers and lived 11km away. She had two children and her last baby had died in-utero at home, so she was very anxious with this baby. She came to the maternity waiting home near her due date and waited there for one month. Another couple and their two children had come from 70km away a month prior to her due date because there was no midwife in their village. They did not utilise the waiting facilities, but opted to rent a room in a house in town for $1.50 a day. They were able to do this because her husband had a government job (in the police force, earning $100 a month) and had flexible working arrangements.

There were similar results for Lospalos in that women usually attended the Casa das Maes only after they went into labour. The advantage of having additional
accommodation facilities, however, was that women could stay from three to seven days after delivery to receive postpartum care.

**Births in a Health Facility**

**Objective 2:** Increase the number of births in a health facility  
**Objective 3:** Increase the number of women birthing with a skilled attendant

**Same**

The number of facility-based deliveries significantly increased from a mean of 13 births per month to 17 births per month after the maternity waiting home in Same opened in February 2007 (Table 7). There was no significant difference in the overall level of skilled attendance, or in the number of midwife-assisted home births (Table 7).

Table 7: Mean number of births per month before and after the maternity waiting home was implemented in Same, by place of birth

<table>
<thead>
<tr>
<th>Mean Number of Births per Month</th>
<th>Before MWH</th>
<th>After MWH</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled Attendance</td>
<td>16</td>
<td>20</td>
<td>0.07</td>
</tr>
<tr>
<td>Facility-based Birth</td>
<td>13</td>
<td>17</td>
<td>0.03</td>
</tr>
<tr>
<td>Assisted home birth</td>
<td>4</td>
<td>4</td>
<td>0.97</td>
</tr>
</tbody>
</table>

There were a number of factors that were likely to have influenced the utilisation of services in the seven months of 2007 after the maternity waiting home opened. One important influence appears to be a maternity ambulance, funded by UNFPA, and responsible for transporting pregnant women, which was available from April 2007 (Figure 6). For example, the mean number of facility-based births before the maternity waiting home was implemented was 13 per month. After the maternity waiting home the mean number of births remained 13 per month. However, with the maternity waiting home plus the maternity ambulance, the mean number of births increased to 18 per month.
Other factors that may have contributed to the differences in the number of facility-based births in Same might have been a health promotion film (Women’s War) about the importance of facility-based delivery. This was screened throughout the district beginning in June 2007. In addition, the ambulance driver got a new mobile phone and people started to call him directly rather than send someone to his house on a motorbike. On the other hand, the shootout and failed attempt to capture Major Alfredo Reinado occurred in Same in March 2007, and the national elections took place in June 2007. These posed security problems and likely reduced access to services. All of these factors, singly or in combination, may have influenced the utilisation of services. Although it is impossible to tease out cause and effect associations, the data from Same suggests that improved facilities, transport and communication services, and health promotion all played a role in the increased utilisation of health facilities for birth. This highlights the value of introducing a package of health services to be jointly implemented.

Figure 6: Number of births by place of delivery, Same sub-district, 2006-2007
Comparison with Transport Services

Maliana health centre also had a maternity ambulance implemented from July 2007, but no maternity waiting home or improvements in birthing facilities. This therefore provides a useful comparison. Data from Maliana showed a steady increase in the number of facility deliveries from 2005 to 2007 (Figure 7). After the maternity ambulance service began there was a significant increase in the mean number of facility-based births from 26.5 to 35 births per month (p=0.008). This occurred in the absence of any maternity waiting home in the sub-district.

![Photo 25: Maternity ambulance, Same](image)

Health staff also concluded that the main reason for the increased number of facility-based deliveries was a specialised maternity ambulance, fully funded by the Rotary Club of Australia.

*Now we have an ambulance to pick up every pregnant woman and drop her off after the birth. We give her the ambulance number on her antenatal care card. This is a mobile phone number which reaches the ambulance directly. If she doesn’t have a phone she can ask the family or the neighbour or the police to call for help.* – Health manager, Bobonaro district
Figure 7: Number of births per month, Maliana hospital, 2005-2007

Photo 26: Maliana Hospital, Bobonaro District

Lospalos

After the Casa das Maes was implemented in Lospalos, the overall level of skilled attendance at birth (midwife assisted home plus facility-based deliveries) declined significantly from 56 to 45 births per month (Table 8). There was no significant increase in the number of facility-based births after the Casa das Maes opened. However, the major reduction in home birthing services from 16 to 2 births per month, reveals that the overall decline in skilled attendance was due to the concomitant reduction in outreach birthing services (Figure 8).
Table 8: Mean number of births per month before and after the maternity waiting home was implemented in Lospalos, by place of birth

<table>
<thead>
<tr>
<th>Mean Number of Births per Month</th>
<th>Before MWH</th>
<th>After MWH</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled Attendance</td>
<td>56</td>
<td>45</td>
<td>0.003</td>
</tr>
<tr>
<td>Facility-based Birth</td>
<td>40</td>
<td>43</td>
<td>0.317</td>
</tr>
<tr>
<td>Home birth</td>
<td>16</td>
<td>2</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Figure 8: Number of births by place of delivery, Lospalos sub-district, 2004-2007

We do also consultation to community, we ask them and they answer that they really need space to deliver in the health facility and they think better if our midwives provide services to them. That’s why we provide services in Maubara [Liquica District], space for delivery. But when the space, the delivery space is already there, still the community deliver at their house. – Department manager, Ministry of Health, Dili

Comparison of Outreach Birthing Services

A birth friendly facility (also known as a birth house or uma partu) was implemented in Remixio (Aileu district) in February 2007. The birth friendly facility was similar to a birth centre, but was smaller and incorporated some traditional technologies such as a low bamboo birthing bed and a rope suspended from a roof beam. There was no change
in the overall level of skilled attendance after the birth friendly facility opened (from a mean of 4.3 births per month to 4.4 births per month, p=0.94) (Figure 9). There was, however, a significant increase in the number of facility-based births from a 0.33 to 2.86 births per month (p=<0.001). Similar to Lospalos, there was also a significant decrease in the number of midwife assisted home births from 4 to 1.6 births per month (p=0.04).

![Figure 9: Number of births by place of delivery, Remixio sub-district, 2005-2007](image)

A consequence of building new waiting and birthing facilities was that midwives promoted only facility-based delivery. Midwives with whom I spoke said that once the new facility was open they would tell the women that they must come to the facility for birth and convince them to do so by saying they would not provide assistance at home.

*After the house is ready we have to pass the information to the people and they will understand what this house is used for, to prevent the mother’s death. I think the nurses won’t go to the house to give support anymore, to help the mother with the baby, no.* – Midwife, Bobonaro district

*I think that what is perhaps scarier is the idea that you are just promoting facility-based births and you say, the midwife uses the language that I will not go to your home.* – Program officer, international NGO, Dili
**Distance from the Health Facility**

Objective 4: Improve access to facility-based birth for women from rural and remote areas

**Same**

An assessment of whether women from rural and remote areas were accessing facility-based delivery in Same showed the vast majority (80%) of women attending the facility for birth lived within 5km (Figure 10). There were no admissions for women from inaccessible villages (that is, those from very remote or mountainous areas not accessible by vehicle all year round).

![Figure 10: Number of facility-based births, showing distance between village of residence and Same health centre, 2006-2007](image)

Examine the relationship between distance to the health centre and number of facility-based births showed that there was no significant difference in the distribution between distance categories before and after the maternity waiting home was implemented.

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14 Village of residence was missing in health centre records for all births from July to September 2006 so these were excluded from the analysis.
\( \chi^2(\text{df}=3, \ n=249) = 2.97, \ p=0.397 \) (Table 9). This means that women from remote areas were no more likely to have a facility-based birth once the maternity waiting home was functioning. Although not statistically significant, there was a higher proportion of women in the 5-25km category who accessed facility-based delivery after the maternity waiting home was established. Most of the women who were interviewed at the maternity waiting home in Same during September and October 2007 said they had been transported there by the maternity ambulance; hence this may have been a contributing factor to the increase in use for this group.

Table 9: Number and percentage of facility-based births in Same, by distance between village of residence and the maternity waiting home

<table>
<thead>
<tr>
<th>Distance from MWH</th>
<th>Before MWH</th>
<th>After MWH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>0-5km</td>
<td>95</td>
<td>83%</td>
<td>103</td>
</tr>
<tr>
<td>5-25km</td>
<td>12</td>
<td>10%</td>
<td>24</td>
</tr>
<tr>
<td>26-50km</td>
<td>1</td>
<td>1%</td>
<td>1</td>
</tr>
<tr>
<td>&gt;50km</td>
<td>7</td>
<td>6%</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>115</td>
<td>100%</td>
<td>134</td>
</tr>
</tbody>
</table>

With the implementation of the maternity waiting home, the maternity ambulance, and the district-wide screening of Women’s War all occurring in a similar timeframe, it was surprising that these factors did not have an effect on the number of remote women accessing facility-based care. This indicates the importance of other variables.

*The major reason they don’t want to come here is that they are too far away from the hospital to deliver here. The people don’t want to have to return from the hospital and have to climb a mountain with their baby without an ambulance. They have to return to their homes by themselves and are afraid to take their baby out from the house. This may be why they prefer to stay at home and deliver there because they always stay in the house until three months after the delivery.* – Health manager, Manufahi district

Using 2007 population figures for Manufahi district, the expected number of births for the district in that year was 2000 and the total number of facility-based births was 175
for the year (Table 10). This means that in 2007 approximately 9% of all births occurring in the district took place in a health facility. An analysis by distance category showed that for the women who lived within 5km, 23% of expected births took place at the health centre. The percentage of estimated births in the population that occurred in the health facility was much less as women lived further from the health centre (Table 10).

Table 10: Percentage of expected births in the population of Manufahi District which took place at Same health centre, by distance to the facility, 2007

<table>
<thead>
<tr>
<th>Distance from MWH</th>
<th>No. Facility Births</th>
<th>Expected No. Births</th>
<th>% Facility Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5km</td>
<td>137</td>
<td>592</td>
<td>23%</td>
</tr>
<tr>
<td>5-25km</td>
<td>29</td>
<td>574</td>
<td>5%</td>
</tr>
<tr>
<td>26-50km</td>
<td>1</td>
<td>237</td>
<td>0%</td>
</tr>
<tr>
<td>&gt;50km</td>
<td>8</td>
<td>596</td>
<td>1%</td>
</tr>
<tr>
<td>Total</td>
<td>175</td>
<td>2000</td>
<td>9%</td>
</tr>
</tbody>
</table>

Lospalos

Analysing the use of birth facilities by distance in Lospalos revealed similar results to Same in that most women who used the maternity waiting home lived within 5km of the facility (Figure 11). The spike in facility-based deliveries in mid 2006 was likely due to the crisis which occurred in Dili during this time. This resulted in a large proportion of the population displaced to the districts. Similarly, the slight increase in mid 2007 may have been a result of the national elections, which took place at the end of June.
The majority (62%) of all facility-based births were to women who lived within 5km of the facility, and 84% to women who lived within 25km (Table 11). As with Same, there was no significant difference in the distribution between distance categories before and after the maternity waiting home was implemented, $\chi^2$ (df=3, $n=1986$) = 4.03, $p=0.258$. This is an important finding in that the maternity waiting home concept in Timor-Leste did not meet its objective of improving access to facility-based birth for women in remote areas.

Table 11: Number and percentage of facility-based births in Lospalos, by distance between village of residence and the maternity waiting home, 2007

<table>
<thead>
<tr>
<th>Distance from MWH</th>
<th>Before MWH</th>
<th>After MWH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>0-5km</td>
<td>291</td>
<td>61%</td>
<td>948</td>
</tr>
<tr>
<td>5-25km</td>
<td>98</td>
<td>20%</td>
<td>329</td>
</tr>
<tr>
<td>26-50km</td>
<td>80</td>
<td>17%</td>
<td>205</td>
</tr>
<tr>
<td>&gt;50km</td>
<td>11</td>
<td>2%</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>480</td>
<td>100%</td>
<td>1506</td>
</tr>
</tbody>
</table>

The number of expected births in Lautem in 2007 was 3069, and there were 532 facility-based births recorded for the year (Table 12). This illustrates that approximately 17% of all births in Lautem district took place in a health facility. As with Same, there was an
inverse relationship between facility-based delivery and distance to the health centre. Taking the accepted estimate that 15% of birthing women will require facility based care (UNICEF et al 1997), this data demonstrates that those women who lived more than 25km away from Lospalos health centre and those who lived more than 5km away from the health facility in Same were grossly underserved.

Table 12: Percentage of expected births in Lautem district which took place at Lospalos health centre, by distance to the facility, 2007

<table>
<thead>
<tr>
<th>Distance from MWH</th>
<th>No. Facility Births</th>
<th>Expected No. Births</th>
<th>% Facility Births</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5km</td>
<td>316</td>
<td>682</td>
<td>46%</td>
</tr>
<tr>
<td>5-25km</td>
<td>124</td>
<td>720</td>
<td>17%</td>
</tr>
<tr>
<td>26-50km</td>
<td>82</td>
<td>1209</td>
<td>7%</td>
</tr>
<tr>
<td>&gt;50km</td>
<td>10</td>
<td>458</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>532</td>
<td>3069</td>
<td>17%</td>
</tr>
</tbody>
</table>

It’s a problem with transport. They want to come here with the public transport but they only have that once per day. So when the transport is already here there is no other way to get here. It will cost a lot to bring them here if they must hire a car. – Health manager, Manufahi district

Emergency Obstetric Care and Referrals

Objective 5: Target women with risk factors

Objective 6: Increase the number of women with complications being transferred to a higher level facility

There was no systematic referral mechanism for women with identified risk factors to be referred to the maternity waiting homes. Both of the maternity waiting homes in Same and Lospalos catered to all women regardless of their risk status and they served all women who birthed at the health centre. There were very few referrals from peripheral
health centres and health posts to district hospitals. For example, district records\textsuperscript{15} for Manufahi indicate that the referral rate for attended home births in the sub-districts was 1.8\% for 2007, while the referral rate for all births in Same (assisted home plus facility-based births) was 9.4\%. The presumption was that referrals were for complications in pregnancy or birth, but entries in the birth registration book were often incomplete and the attendant simply recorded that the woman was referred to Dili.

**Same**

The monthly referral rate from Same health centre to Dili was 14.6\% of all births (Figure 12). Before the maternity waiting home was implemented the monthly referral rate was 12.5\% of all facility-based births. This increased to 17.2\% after the intervention (Table 13). However, this difference was not statistically significant (p=0.41).

**Table 13: Mean number and percentage of referrals per month before and after the maternity waiting home was implemented, Same**

<table>
<thead>
<tr>
<th>District</th>
<th>Before MWH</th>
<th>After MWH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Referrals/</td>
<td>Referrals/</td>
<td>Referrals/</td>
</tr>
<tr>
<td></td>
<td>Births</td>
<td>Births</td>
<td>Births</td>
</tr>
<tr>
<td>Same</td>
<td>21/168</td>
<td>23/134</td>
<td>44/302</td>
</tr>
<tr>
<td></td>
<td>12.5%</td>
<td>17.2%</td>
<td>14.6%</td>
</tr>
</tbody>
</table>

This referral rate reflects the lack of comprehensive and even basic emergency obstetric care at the health facility. Some midwives reported they were reprimanded by staff at the referral hospital, because many of the patients they referred ended up having normal, uncomplicated deliveries. The midwives then became more reluctant to refer women to Dili. For example there was one woman who had a stillbirth at term during her last pregnancy and came to the maternity waiting home when she was due, at nine months gestation. After waiting for one month, the midwives and doctors were contemplating

\textsuperscript{15} While district records do provide some indication of the coverage of services they were not a reliable source of data. As such, these figures should be interpreted with caution.
whether she should be referred, but they held off. At ten months and five days gestation she gave birth to a big, healthy baby boy at the health centre, without any complications.

_I think maybe [the patient] made a mistake counting the date from her last period. We don’t want to refer her to Dili in case we get into trouble and the people in Dili think we can’t handle a normal birth. We are afraid that if we send her to Dili the people there will think we can’t handle this sort of pregnancy. The head of the baby is not ready [engaged]. We had planned to refer her but not now, we are still observing her._ – Midwife, Manufahi district

![Graph: Number of referrals as a proportion of all facility-based births, Same health centre, 2006-2007]

_Figure 12: Number of referrals as a proportion of all facility-based births, Same health centre, 2006-2007_

Other important reasons for the referral rate from Same to Dili were the absence of an obstetric specialist, lack of ongoing education and training opportunities to support the knowledge and skills of midwives, as well as periodic shortages in essential medicine and equipment (Table 14).
Table 14: Percentage of midwives competent in the following knowledge and skills

<table>
<thead>
<tr>
<th>Knowledge of:</th>
<th>Manufahi</th>
<th>Lospalos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection prevention</td>
<td>57%</td>
<td>71%</td>
</tr>
<tr>
<td>Partograph</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Postpartum haemorrhage</td>
<td>43%</td>
<td>29%</td>
</tr>
<tr>
<td>Antenatal care</td>
<td>14%</td>
<td>9%</td>
</tr>
<tr>
<td>Normal delivery</td>
<td>0%</td>
<td>14%</td>
</tr>
<tr>
<td>Skills in:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparing for delivery</td>
<td>14%</td>
<td>17%</td>
</tr>
<tr>
<td>Delivery</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td>Newborn care</td>
<td>14%</td>
<td>83%</td>
</tr>
<tr>
<td>Active management of third stage labour or PPH</td>
<td>14%</td>
<td>50%</td>
</tr>
<tr>
<td>Post-delivery</td>
<td>29%</td>
<td>50%</td>
</tr>
<tr>
<td>Infection prevention</td>
<td>14%</td>
<td>67%</td>
</tr>
</tbody>
</table>

Most Cuban doctors were general practitioners and were not involved in the national emergency obstetric care training in Timor-Leste, hence they may have had fewer obstetric skills than Timorese midwives. Although midwives throughout Timor-Leste have undergone emergency obstetric training, there were problems putting these skills into practice and gaining confidence with new technology.  

We need a specialist doctor to handle the vacuum extraction for the baby. We attended training on how to handle it but it was only the theory. We only used puppets so we don’t have the courage to use the vacuum without a doctor. If there was a doctor here we could practice with five or 10 patients and then we could use the vacuum ourselves. This is the same with forceps. Also the specialist doctor can handle the ruptured uterus. We can’t handle that complication so we must refer the patient to Dili. – Midwife, Manufahi district

The people here don’t have much equipment. That’s why, people in Australia have a lot of equipment and they must use all the equipment. When we finish our

---

16 Table adapted from data in Timor-Leste’s Safe Motherhood Evaluation (UNICEF 2006). Seven midwives from each district were sampled. Competency was defined as the percentage of midwives who scored 70% or more on the test.

17 This has been documented elsewhere with WHO Safe Motherhood modules (O’Heir 1997).
training we don’t have the equipment, so it is a challenge for us to do it. – Midwife, Manufahi district

**Lospalos**

The overall percentage of referrals per month was similar in Lospalos, with 11.4% of all facility-based births referred to the tertiary hospitals in Baucau or Dili (Figure 13). There was a significant increase in referrals after the Casa das Maes opened, from 5.2% to 13.4% of facility-based births (p=0.002) (Table 15).

**Table 15: Mean number and percentage of referrals per month before and after the maternity waiting home was implemented, Lospalos**

<table>
<thead>
<tr>
<th>District</th>
<th>Before MWH</th>
<th>After MWH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Referrals/</td>
<td>Referrals/</td>
<td>Referrals/</td>
</tr>
<tr>
<td></td>
<td>Births</td>
<td>Births</td>
<td>Births</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Lospalos</td>
<td>25/480</td>
<td>202/1506</td>
<td>227/1986</td>
</tr>
<tr>
<td></td>
<td>5.2%</td>
<td>13.4%</td>
<td>11.4%</td>
</tr>
</tbody>
</table>

Factors contributing to the higher rate of referral may have been the addition of transport services provided by the NGO running the Casa das Maes as well as limited capacity of the service to handle obstetric complications. A Cuban obstetrician was, however, posted at Lospalos health centre from the end of 2005 to the end of 2006 and this did not significantly reduce the referral rate. For example, the referral rate for the year after the maternity waiting home was implemented was 14% and remained at 13% for the year the obstetrician was posted at the hospital. Health staff attributed the referral rates to intermittent absence of the doctor as well as the lack of specialist equipment and supplies to provide higher levels of care, for example there was no ultrasound, caesarean section, or blood transfusion.
Maternal and Perinatal Mortality

Objective 7: Reduce maternal and perinatal mortality

It is extremely difficult to measure the effect of any intervention on maternal and perinatal mortality. Because death is a relatively rare event maternal and even perinatal mortality are not recommended as reliable indicators in program evaluation (Ronsmans 2001b). Even in large-scale, case-control studies it is difficult to prove causal associations. However, it was important to present mortality data that was available, in order to illustrate where possible improvements could be made in both data collection and health system development.

Very little was known about maternal deaths that occurred in the community as there was no mechanism to collect this information at the village level. In fact, village-based data collection had deteriorated since the Indonesian period.

*We used to record all the births and deaths at the village level, during Indonesian time. The head of the village would collect all the information, but they don’t do...*
that now. Maybe some do but we don’t have that information. It’s not my job to follow that up or collect that information. – Health manager, Bobonaro district

Even in the health centre, known maternal deaths were often not documented because the case notes indicated a referral and no outcome was subsequently recorded. For example, after one maternity waiting home was implemented I heard anecdotally that a woman and her baby had died in labour. However, this was not recorded anywhere in either the district records or the health centre records because the death occurred in the ambulance on the way to the referral hospital. Because of the small numbers and problems with reporting maternal deaths, only perinatal deaths are presented here as perinatal mortality is also considered an important indicator of quality of care.

**Same**

For all facility-based births in Same, the perinatal mortality rate was 50/1000 births (Table 16). There was no significant difference in the mean perinatal mortality rate before (54/1000 births) or after (45/1000 births) the maternity waiting home was opened (OR=1.2, 95% CI 0.4-4.2, p=0.8) (Figure 14). Similarly, there was no statistically significant difference in the perinatal mortality rate between assisted home births (29/1000 births) and facility deliveries (50/1000 births) (OR=0.6, 95% CI 0.1-2.6, p=0.75).

**Table 16: Number and rate of perinatal deaths before and after the maternity waiting home was implemented and home birth versus facility-based birth, Same**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Before MWH</th>
<th>After MWH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perinatal Death</td>
<td>9</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Live Birth</td>
<td>159</td>
<td>128</td>
<td>287</td>
</tr>
<tr>
<td>Total</td>
<td>168</td>
<td>134</td>
<td>302</td>
</tr>
<tr>
<td>Perinatal Mortality Rate</td>
<td>54/1000</td>
<td>45/1000</td>
<td>50/1000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Home Birth</th>
<th>Facility Birth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perinatal Death</td>
<td>2</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Live Birth</td>
<td>66</td>
<td>287</td>
<td>353</td>
</tr>
<tr>
<td>Total</td>
<td>68</td>
<td>302</td>
<td>370</td>
</tr>
<tr>
<td>Perinatal Mortality Rate</td>
<td>29/1000</td>
<td>50/1000</td>
<td>46/1000</td>
</tr>
</tbody>
</table>
This data should be interpreted with caution due to the small numbers and the possibility of confounding variables. For example, women birthing in the health facility may have had different characteristics than those calling a midwife to their house. This data does suggest, however, that it was difficult to prevent perinatal mortality, even when birth took place in a health facility.

![Figure 14: Number of perinatal deaths as a proportion of facility-based births, Same health centre, 2006-2007](image)

**Lospalos**

The perinatal mortality rate for Lospalos health centre was 24/1000 births (Table 17). There was no significant difference in the perinatal mortality rate before (27/1000 births) or after (23/1000 births) the Casa das Maes opened, (OR=1.2, 95% CI 0.6-2.3, p=0.61). The perinatal mortality rate for assisted home births in Lospalos (19/1000) was not significantly different to that of facility-based births (24/1000).
Table 17: Number and rate of perinatal deaths before and after the maternity waiting home was implemented and home birth versus facility-based birth, Lospalos

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Before MWH</th>
<th>After MWH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perinatal Death</td>
<td>13</td>
<td>35</td>
<td>48</td>
</tr>
<tr>
<td>Live Birth</td>
<td>467</td>
<td>147</td>
<td>1938</td>
</tr>
<tr>
<td>Total</td>
<td>480</td>
<td>1506</td>
<td>1986</td>
</tr>
<tr>
<td></td>
<td>27/1000</td>
<td>23/1000</td>
<td>24/1000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Home Birth</th>
<th>Facility Birth</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perinatal Death</td>
<td>5</td>
<td>48</td>
<td>53</td>
</tr>
<tr>
<td>Live Birth</td>
<td>257</td>
<td>1938</td>
<td>2195</td>
</tr>
<tr>
<td>Total</td>
<td>262</td>
<td>1986</td>
<td>2248</td>
</tr>
<tr>
<td></td>
<td>19/1000</td>
<td>24/1000</td>
<td>24/1000</td>
</tr>
</tbody>
</table>

An analysis of the difference in perinatal mortality before the intervention (in 2004), with the Casa das Maes (in 2005), with an obstetrician (in 2006) and with a paediatrician (in 2007) showed no significant difference between these categories, $\chi^2(3, n = 48) = 0.61, p=0.89$ (Figure 15).

Figure 15: Number of perinatal deaths as a proportion of facility-based births, Lospalos health centre, 2004-2007

While one of the major objectives of the maternity waiting home strategy was to improve pregnancy outcome, it was not surprising that accommodation facilities alone
did not have a significant impact on perinatal death. This data illustrates the complexity involved in reducing perinatal mortality even when specialist doctors were available. This could be due to the ongoing problems with adequate and comprehensive emergency obstetric care, limited transport options for remote women and poor social determinants of health.

_They have midwives that are not trained in emergency obstetric care, who didn’t recognise eclampsia. And they have doctors who are GPs who are not trained in obstetrics. So you are going to have bad outcomes._ – Manager, international NGO, Dili

**Discussion**

**Births in a Health Facility**

There was a significant 30% increase in facility-based births in Same after the maternity waiting home was implemented. Other authors have been quick to attribute increased institutional deliveries to maternity waiting homes. For example, Cardoso (1986) states that in Cuba, the proportion of deliveries in health institutions increased from 63% in 1963 to 99% in 1984 because of maternity waiting homes. In Laos, Eckermann (2005) concludes that the number of births per month in a health facility doubled largely due to the establishment and promotion of a maternity waiting home. Because cause and effect cannot be established, conclusions should be drawn cautiously. This research demonstrated other possible factors influencing the use of services, such the maternity ambulance, health promotion, political (in)stability and improvements in the condition of the facility. As Thaddeus and Maine (1994) have pointed out, more people utilise services when they perceive them to be of good quality.

The fact that Lospalos did not show an increase in facility-based deliveries after the maternity waiting home was implemented illustrates that improved accommodation facilities, on their own, are unlikely to have a major impact on the use of services. In contrast to this, data from the two health centres which had a designated maternity
ambulance (Same and Maliana) both showed an increase in the number of facility-based deliveries. Stekelenburg et al (2006) may have been correct in concluding that maternity waiting homes will only be used if transportation to the facilities is made available. Other authors discussing the maternity waiting home strategy state ‘a combination of approaches may be most effective to overcoming obstacles to care’ (Starrrs 1997:42). UNFPA (2003b) have also cautioned against maternity waiting homes as a stand-alone intervention, rather they should link communities in a continuum of care.

The stagnation in the overall levels of skilled attendance and the decline in assisted home births in some areas was a major concern, particularly in Lospalos. This illustrates the importance of assessing unintended consequences in any evaluation. Wedel (2001:77) found in her study of aid to Eastern Europe that ‘although development agencies purport to offer impartial solutions and the expertise they provide is presented as neutral and technical, development ideologies have unintended consequences’. Because half of all births attended by a midwife in Timor-Leste occur at home (MoH et al 2004a; UNICEF 2009), the withdrawal of home birth services has the potential to dramatically reduce overall rates of skilled attendance. The recent policy shift to only supporting institutional delivery is particularly worrying. According to the Basic Services Package, national indicators should only report on the percentage of births assisted in a health facility (MoH 2007a). This is problematic as it will mask any declines in overall rates of skilled attendance occurring across the country. ‘When we measure one aspect of matter, other aspects are less observable’ (Anderson et al 2005:676).

Mavalankar (2003) argues that services are produced by the interaction between patients and staff, so matching the demand for services with the organisation of care is crucial. Because 90% of women do birth at home in Timor-Leste, there is a high demand for home birth services. Research in many parts of Indonesia has also highlighted the demand for home birth. With the implementation of the village midwife strategy in south Kalimantan the number of women birthing with a skilled attendant at home almost doubled, while the number of births with a skilled attendant in a health facility only
increased slightly from 1996 to 1999 (Ronsmans et al 2001a). Importantly, Indonesia has shown that the greatest increase in skilled attendance occurred for the poorest women (Hatt et al 2007). In India, Baqui et al (2008) found that improvements in equity in maternal and neonatal health programs were most pronounced for home visits. For maternity waiting homes to be successful, however, there must be demand for hospital delivery (Koblinky et al 2000). As the Ministry of Health, local and international NGOs and UN agencies target facility-based delivery and embark on a major program building maternity waiting homes, issues of equity, choice around place of birth and precisely who has access to services, need to be carefully assessed.

**Distance from the Health Facility**

The maternity waiting home strategy was designed to overcome the problem of distance for women in remote areas. Krasovec (2004) asserts that available evidence shows maternity waiting homes provide the greatest assistance to women from remote areas and women with poor access to transport. However, this research has demonstrated that the ability of maternity waiting homes to overcome problems of distance has been overestimated. The analysis of utilisation based on area of residence showed that women who lived within 5km were the most likely group to use the maternity waiting homes in both Same and Lospalos. Utilisation of health facilities for birth did not increase for women who lived more than 25km away in either site. Therefore, the hypothesis that maternity waiting homes improve access to facility-based birth for women in remote areas of Timor-Leste was rejected. This is not surprising given that in the Demographic Health Survey 65% of Timorese said the major reason for not using health services was because they were too far away, and 43% said they had difficulty with transport (MoH et al 2004a). As maternity waiting homes did not bring services closer to women or improve transport, major barriers to accessing care persisted despite the ‘logic’ behind their implementation.
Consistent with the findings presented here, the association between distance to a health facility and the utilisation of services has been widely documented.\textsuperscript{18} Distance to a health facility has also been linked with pregnancy outcome. In a community-based prospective survey of 15,000 women in rural Guinea-Bissau, Hoj et al (2002) found that distance to the health facility was the main predictor for maternal mortality. Using the same distance categories reported here, they found women who lived more than 25km from the hospital were 7.4 times more likely to die of maternal related causes than those who lived within 5km.

\textbf{Emergency Obstetric Care and Referral}

There were important improvements to be made in the capacity for and quality of emergency obstetric care at district and sub-district health centres. If improvements in quality of care were being made, referral should decrease, as they have done elsewhere after new facilities were opened (Maine 1997). Referral rates in Lospalos and Same, however, did not decline. On the contrary, referral significantly increased in Lospalos once the maternity waiting home was implemented. This could indicate more women with obstetric complications were accessing the facility. However, it more likely reflects better ambulatory transport services provided by the NGO managing the maternity waiting home.

This research demonstrated how some midwives at the study sites became more reluctant to refer patients after they were reprimanded by referral hospital staff for transferring women who ended up having normal deliveries. Research in Niger also found that nurses were averse to referring patients because they feared it would lead to excessive referral, would demonstrate their lack of competence, and they would lose credibility in the eyes of the patient and their families (Bossyns & van Lerberghe 2004). A study on emergency obstetric care and referral from midwife-led health centres in rural India found that ongoing supervision and feedback on the outcome of referred

patients gave midwives a better understanding of when to refer (Iyengar & Iyengar 2009). This feedback and recording of the outcome of referrals was an important component missing at the study sites in Timor-Leste. Iyengar and Iyengar (2009:18) concluded that ‘effective training, supervision and feedback can enable nurse-midwives to successfully manage a significant proportion of maternal complications without referral.’

The literature indicates that only around 1% of pregnant women are expected to have a life-threatening complication requiring a major obstetric intervention (Ronsmans et al 2001a; Jahn & De Brouwere 2001; Guindo et al 2004). The referral rate of 15% in Same and 11% in Lospalos was closer to the 15% that are expected to require some form of facility-based care (UNICEF et al 1997). The 15% referral rate from the district level health centre reinforces the need to focus on improving the capacity for emergency obstetric care at these health centres. ‘Access and availability of institutional delivery alone is not enough to decrease MMR [maternal mortality rates], it is also the quality of emergency obstetric care that saves lives’ (Miller et al 2003:89).

The international guidelines for maternity waiting homes (WHO 1996a), as well as Timor-Leste’s own national strategy (MoH 2005a) stress the importance of locating maternity waiting homes next to hospitals capable of emergency obstetric care. Policy developments over time, however, have led to them being proposed for every sub-district, and even every health post (MoH 2007a). As Maine (1997:S262) points out ‘it is illogical (even unethical) to encourage people to seek treatment for problems related to pregnancy until you have made sure that the obstetric services exist and are functioning properly.’ In this sense, maternity waiting homes at the sub-district level are ‘illogical’ as they precede the necessary conditions on which they depend to be successful (namely adequate birthing facilities, transport and communication, and quality emergency obstetric care). Institutional delivery, therefore, should not be confused with emergency obstetric care and universal facility-based delivery should never be promoted or enacted in policy prior to meeting accepted standards in quality of care.
Maternal and Perinatal Mortality

The lack of reduction in facility-based perinatal mortality after the maternity waiting home was implemented also reinforces the need to focus on improving the quality of emergency obstetric care. It was interesting to note that there was no difference in perinatal mortality between facility-based births and midwifery assisted home births in either Lospalos or Same. Spaans et al (1998) conducted a community-based survey of all births occurring in a district in Zimbabwe that had four maternity waiting homes. They found there was no difference in the perinatal mortality rate between hospital births and home births. Considering the prominence of place of birth in many of Timor-Leste's health policies, further research should be conducted to inform national policy on exactly what models of care increase coverage and produce the best outcomes for women and babies.

Recording maternal deaths needs to be strengthened at the facility level, across the health system and extended to the community. Simply recording the institutional maternal mortality ratio is much less effective for generating corrective action than confidential maternal death audits (Van Lerberghe & De Brouwere 2001; Ronsmans et al 2001a). A common misconception is that maternal deaths are primarily a result of not being able to access health services. However, research assessing the avoidable factors that led to the 31 maternal deaths in Nepal found that only 13.1% were due to patient/family related factors and 78.6% were attributed to medical service factors (Pathak et al 2000). Maternal death audits and local level analysis of health data are more likely to promote ownership by authorities, create an understanding of the magnitude of the problem as well as why deaths are occurring, and allow the disaggregated analysis necessary for planning, priority setting and improving clinical practice.

Conclusion

Evaluating the implementation of the first two maternity waiting homes in Timor-Leste demonstrated that, contrary to its objectives, the strategy was not improving access to
facility-based delivery for women in remote areas. There were a number of factors associated with the utilisation of birthing services, the most prominent being proximity to the facility, availability of transport, promotion to the community and the condition of facilities. These were more important factors than having somewhere to wait for a long period of time prior to labour. The findings from this research emphasise the proposition that ‘there is no single intervention that is the answer – no silver bullet. This is important to remember when considering policies’ (Maine 1997:S261).

Once maternity waiting homes were implemented midwives became more reluctant to provide assistance to the vast number of women who birthed at home. This withdrawal of outreach birthing services was compounded by the ideology of institutionalised delivery promoted from the national level. ‘Policies do not always achieve the goals intended by their proponents; and, even if they do, they may bring with them unintended and unwelcome consequences’ (Grindle & Thomas 1991:16). Thus the consequences of shifting place of birth from the home to the hospital should be monitored. UNFPA representatives in Bangladesh have cautioned ‘shifting care from home to institution level might lead to increased inequities in access’ (Ahmed & Jakaria 2009:49).

The type of health information and indicators that are collected at facility level is extremely important for both improving quality of care and directing national policy. Contrary to the performance indicators recommended in the Basic Services Package, it is crucial for Timor-Leste to continue to collect information on overall rates of skilled attendance (in line with the Millenium Development Goals), disaggregated by facility or home birth. This is required to monitor overall levels of skilled attendance and to ensure new policies do not result in a decline in access to health services for certain sections of the population. A focus on increasing access to a skilled attendant should be combined with improvements in the quality and capacity for emergency obstetric care in district hospitals, and connections between levels of care. There are, however, other important social and cultural dimensions that influence access to care which have not been explored. In the next chapter the analytical focus shifts from an assessment of how the maternity waiting homes were used, to understanding why women utilised services in
different ways, and the meanings women gave in seeking different types of care for childbirth.
Chapter 7: A Transdisciplinary Framework for Understanding the Use of Maternal Health Services

In the final analysis, the local level is the most important for understanding health change: policies and programs are utterly ineffectual unless local level actors decide to take action... we must also view these questions from the bottom-up, an analytic angle that offers important opportunities to understand the agency of rural women as it articulates with national and international policy. (Jenkins 2003:1907)

Chapter 6 demonstrated that women were not using maternity waiting homes as intended by national policy-makers. Rural women were underrepresented in the use of facility-based birthing services, and the vast majority of women did not wait prior to labour. These patterns in the utilisation of services require further exploration as they have profound implications for the development of effective policies and programs. This chapter investigates the complex interactions that shaped the way in which maternity waiting homes were used by women and their families in Timor-Leste. It begins with an exploration of the major theoretical concepts that have been used in anthropology and health social science. Phenomenology, symbolic interactionism and critical theory are then applied to explore the individual, social, societal and health system factors that affect access to maternal health services in Timor-Leste. In bringing together the theory and literature surrounding health seeking behaviour, the anthropology of health and illness, the social determinants of health, and health services research, this chapter extends current theory pertaining to ‘access’. The chapter concludes with a transdisciplinary framework which summarises and illustrates the complex factors that influence women’s choices around place of birth, and the implications for the development of maternal health systems and national policies in Timor-Leste and elsewhere.
Theoretical Perspectives

Much of the literature on the use of health services is polarised around two broad approaches: the sociomedical approach which focuses on service factors (accessibility, costs, acceptability) and the anthropological approach which emphasises etiological concepts and culturally-specific world views (Kroeger 1983). Research on maternal health in Timor-Leste generally falls into these two categories, and there has recently been a stronger emphasis on health seeking behaviour. However, there is a dearth of in-depth qualitative research exploring how the meanings attributed to pregnancy and birth affect the types of care that are sought, and the implications of this for health policy. Martin (2005:49) argues that ‘factors such as local culture often play a very important role in the outcome of health policy decisions and that useful research must take this into consideration in assessing the ultimate utility of health policy decisions.’ Understanding the use of maternity waiting homes in Timor-Leste therefore benefits from an examination of the underlying sociocultural constructions of pregnancy, birth and causes of illness as well as the broader structural determinants of health and decision-making.

Anthropologists can make a distinct contribution to understanding the process through which people come to see themselves as having a problem and the way they define the problem as relevant for seeking particular types of assistance (Mechanic 1975). In an attempt to explain the differential use of health services the study of health seeking behaviour has become increasingly popular over the past two decades. Mackian et al (2004) outline how the concept of health seeking has been over-utilised and under-theorised and conclude that, as it stands, it provides little insight into understanding the relationship between populations and health system development. Other health researchers have recently pointed to the deficiency of theory in public health research and have reiterated the importance of using social theory and transdisciplinary

19 For example, many of the early studies post-independence were quantitative surveys regarding pregnancy, delivery, postpartum and newborn care (Rogers 2001; Livermore 2002; MoH et al 2004a; HAI 2005). More recently, qualitative studies have been conducted on ‘traditional’ health practices (HAI 2005; TAIS 2007; Ospina 2009) and health seeking behaviour (Zwi et al 2009) in order to understand why there is low utilisation of health services in Timor-Leste.
methodology (Higginbotham et al 2001a; Morrissey 2003; Willis et al 2007; Reeves et al 2008).

The concept of the ‘three bodies’ (Scheper-Hughes & Lock 1987) is a theoretical tool in critical medical anthropology that can be used to analyse the different layers of influence on individuals and medical systems. The individual body is the lived experience of health and sickness and is highly variable between individuals and groups. The social body refers to the constant exchange of meanings between the natural and social worlds. The body is then a symbol for the broader social context and, 'In postmodern terms, the body itself can be read as a text on which the most fundamental values of a society are inscribed.' (Inhorn 2006:353). The third layer is the body politic which focuses on regulation, surveillance and control, and is particularly relevant to the study of reproduction. Other theorists have also outlined how the conceptual tools in critical medical anthropology can provide a framework for understanding the way in which women’s choices are embedded within dominant social relations, and the implications of this for the health system, the community and the individual (Baer, Singer & Susser 1997; Singer 1998). Turner (1992b) has also proposed a multi-level framework for analysing problems in medical sociology. His three levels of analysis span the individual, the social and the societal, with each level engaging different theoretical paradigms to emphasise interrelated causal factors which influence any health problem. At the heart of Turner’s work is the notion that the body should be the unit of sociological analysis. Rather than delving into an exploration of the symbolic meanings of women’s bodies in Timor-Leste I aim to draw on the structure of both Scheper-Hughes and Lock and Turner’s analysis when understanding the way in which women utilised maternal health services in Timor-Leste.

The individual level provides a micro-analysis of the lived experience of health and illness. It draws on the Husserl’s philosophy of phenomenology, which privileges the emic, or insider’s perspective (Zahavi 2002). That is, individuals construct meaning in their everyday lives and act according to these experiences. I have applied this analytical level to understand why women in Timor-Leste seek different types of health care, the
meanings they give to their actions, and the ‘essence’ of everyday experiences of birth (Rice & Ezzy 1999). One limitation, however, is that this level of analysis is specific to individuals and may not pick up on other important social, cultural and political factors that influence the use of services.

Examining the social requires an understanding of collective behaviour and perceptions, of cultural constructions that are shaped and shared by different groups. Using perspectives drawn from symbolic interactionism provides insights on the nature of social interaction, and how meaning is created through those actions. Interactionism goes beyond individual experience, and is bound within local systems and context (Reeves et al 2008). Blumer (1969) has outlined the three principles of symbolic interactionism: humans act according to meanings assigned to different phenomena; meaning is constructed through social interaction; and meaning is modified through an interpretative process by the person experiencing the phenomenon. In this sense, Blumer’s work incorporates and builds upon elements of phenomenology. In applying this level of analysis in Timor-Leste I seek to illuminate the different ways of knowing about pregnancy, illness and appropriate treatment, which serves to ground decision-making in the broader social and cultural context. In itself, however, symbolic interaction is limited in its ability to explain and resolve complex health problems (Benzies & Allen 2001). Another limitation of this approach, which is also a criticism of structural-functionalism, is that it tends to view social systems as based on shared values and consensus, and marginalises the role of politics and differences in power.

Mechanic (1975) has argued for a sociological analysis that involves examining the character of the health care delivery system in relation to the structure of society. A societal level of analysis draws attention to the way in which the wider social system is ordered. It focuses on the distribution of power and resources, and incorporates broad fields of study from politics to the social determinants of health. In this level of analysis the use of feminism and critical theory illuminate the way in which power, discourse and ideology shape authoritative knowledge and access to resources. For example, Foucault has argued that knowledge is a result of historical, social and political forces rather than
based on objective ‘science’ (Mechanic 1975). The aim in this level of analysis is to uncover the ways in which individuals, groups or perspectives are marginalised (Reeves et al 2008) and to challenge dominant models and discourses, with the ultimate aim of changing inequities in society. In this chapter, the societal level of analysis is used to understand how decisions to seek care are embedded in the broader social structures of Timorese society, structures which are shaped by historical, political and economic forces. The limitation of this approach is that it privileges global, objectivist arguments over subjective experience, thereby assuming a universal moral code (Capper 1993). Critical theory tends to emphasise oppression over consensus, and may set different paradigms in opposition when such conflict may not exist at the individual level.

Rather than being mutually exclusive, the diverse set of perspectives presented in these three levels are complementary, in that together they provide a way of understanding the multiple layers of influence that shape the use of maternal health services in the unique context of Timor-Leste. Reeves et al (2008:634) make the important point that ‘different theories provide different lenses through which to analyse research problems’. Drawing on multiple theoretical concepts in this analysis provides the foundation for developing a new conceptual framework that transcends disciplinary boundaries and explores the interconnections between factors that influence the utilisation of health services. Taking an holistic perspective then provides the basis to formulate interventions that are both empirically grounded and culturally safe.

**Individual Level of Lived Experience**

On the individual level of women’s experience of pregnancy and birth, there were three major themes that guided individuals and families to choose specific types of care. These were the extent of previous birth experience, the outcome of previous pregnancies and an assessment of whether the current pregnancy was progressing normally.
Previous Birth Experience

Despite maternal mortality being comparatively high in Timor-Leste, maternal death is still a relatively rare event compared with the number of children born each year. The vast majority of births in Timor-Leste take place at home without complications and it was this experience of uncomplicated home birth that led most women to construct pregnancy and birth as a normal non-medical event. Indeed, the idea of seeking medical assistance for a normal birth was illogical.

_When I get labour pain, I try to push and the baby comes. There is no need to go to the hospital. I think it is better to deliver at home than the hospital. The hospital is for complications._ – Mother of four, Cailaco

The statistical data presented in Chapter 6 showed that women who lived close to the health facility were much more likely to use it. However, I did encounter pregnant women who lived a few doors away from the facility and chose to birth at home. These women were often those who had many children, with a history of uncomplicated pregnancies, and hospital birth was seen as unnecessary.

_I don’t usually go the hospital because I deliver all my babies at home. I am not scared. I usually deliver at home._ – Mother of four, Maliana

Decisions to seek care were then bound up in demographic factors such as age and number of children. Younger primiparous women were more likely to seek hospital care than women with many children and with previous experience in home birth.

_Most of the people from Holarua, especially the young mothers with one baby or if it’s their first time, then they come here. Only those who have many children, who have four or five children and birthed them at home and nothing happened during their birth, they are the ones who still birth at home._ – Father of two, Same health centre
Primiparous women were more likely to seek hospital care both prior to and during labour, often because they lacked confidence in their ability to birth and experienced longer periods of first stage labour. This lack of experience, confidence and knowledge of the birthing process created a level of fear for some women and lead them to seek the ‘safety’ of the facility, and the knowledge of midwives.

*I decided to come to the hospital because I was afraid to have it at home.* – Mother of one, Same health centre

**Previous Birth Outcome**

Women based their decisions around where to give birth and with whom, not only on the amount of birthing experience but largely on the outcomes of their previous pregnancy. For example, there were unusual cases of women who travelled very long distances or waited weeks at the facility prior to birth. These exceptions appeared to be overwhelmingly related to previous perinatal deaths.

*She is afraid because she already had a bad experience. Her third baby was dead inside her stomach, and then she came to the hospital and they could not take it out, so they brought her to Dili. They went to Dili and there is no family there…It’s very difficult for her. And then she said that she is very afraid for her fourth baby, so now she has to wait here until her baby is delivered.* – Mother of one,
discussing the situation of another woman who stayed at the maternity waiting home in Same for one month.

Poor pregnancy outcome included perinatal death as well as other complications such as prolonged or painful labour, bleeding or previous referral. Therefore, previous experience formed the basis of expectations and appropriate care for subsequent pregnancies.

*When I started to go into labour I came here straight away because I already had experience from last time. Last time I tried to birth at home and I had problems with the baby.* – Group discussion, Same health centre

**Health Status and Symptoms**

The discourse surrounding reproduction at the local level linked normal pregnancies with home births and complicated pregnancies with medical care and hospital birth. The potential dangers associated with giving birth were assessed on an individual level and were based on current pregnancy experiences as well as previous labour and birth outcomes. For example, if a woman had previous uncomplicated home births and experienced problems during her current pregnancy, it often caused anxiety and prompted her to seek care. Abnormal symptoms or signs of illness, such as fever, were recognised as dangerous to pregnant women but there were other important definitions of risk such as being pregnant with twins or going past the estimated date of delivery.

*When we estimate the time to give birth and the baby comes, then my family can handle it. If it goes past the estimate then we call the midwife.* – Mother of three, Bazartete

*Before, I was pregnant with only one baby, so I was strong enough to deliver at the house, it was normal. This time I was pregnant with twins so we made a plan beforehand to come to the hospital.* – Mother of 10, Casa das Maes, Lospalos
Lay definitions of abnormal pregnancy were strongly aligned with medical definitions of risk, in that prolonged or obstructed labour, haemorrhage, multiple pregnancy, past due date, previous perinatal death, previous caesarean section and many other symptoms of illness were viewed as factors requiring higher levels of care in both the lay Timorese and biomedical perspectives of birth.

**Social Level of Shared Meaning**

**Causes of Illness**

The transmission of disease to pregnant women and newborns was recognised as an important factor when considering a hospital birth. Women were reluctant to birth in facilities where maternity wards were mixed with general inpatient facilities.

*Many people are there [in the hospital] and if we sleep together with the other people we might get malaria or something, or the flu, like that. You are delivering and then your baby will also get the same thing, like people are sick and they get the sickness from all those people.* – Mother of one, Same health centre

Although definitions of risk and disease transmission were similar in both the lay Timorese and biomedical paradigms, there were multiple other possible causes of illness in Timorese culture, which were based on social harmony and humoral balance. Illness and pregnancy complications could be caused by three other important factors: malevolence, social transgression or cold entering the body. These sources of illness were interrelated, whereby if you were susceptible in one area, you became more vulnerable to the other causes of illness. In this way, the experiences of the body were intimately intertwined with the health of the community.

Social tensions and transgressions were other sources of illness. Birthing problems were symptoms of social problems, either within the family or with regard to observing custom and respecting ancestral obligations. People with bad intentions could also inflict ill-will on another person, and pregnant women were particularly vulnerable. The
mother of a woman who lost her baby six months into the pregnancy indicated that it was caused by someone with malevolent intentions, but the woman herself sought explanation in the reasons given by others.

*We as Timorese, sometimes when we have, when someone is making some bad issue at you so you will get some trouble and I think that is what happened to my daughter. On Sunday she felt, it wasn’t labour too much but a small pain that she felt and she couldn’t call the ambulance because it happened suddenly. Before they could call the ambulance the baby was already born dead.* – Grandmother, Same health centre

*Some people say that maybe because of driving a lot, driving too much. Because I go out with my husband with the motorcycle. They say that maybe because it’s like that, but we don’t know. The midwife says it’s because I didn’t take a rest.* – Mother of one, Same health centre

Cold entering the body was one of the most common causes of illness in the postpartum period. Being cold prevents the circulation of blood and inhibits the discharge of lochia or ‘bad blood’ - the frozen blood, like the dirty blood, the rest of the blood that is inside her. If a woman is touched by the cold, the frozen or white blood (*rai mutin*) cannot be expelled, and it can spread to her head and through her body, causing bloating (*kabun bubu*), fever and even death. Newborns are particularly susceptible to wind in the body (*anin tama*).

**Appropriate Treatment**

Blood loss and retention, expressed through the notions of hot and cold, were two fundamental concepts central to postpartum care in Timorese society. Heat was necessary to enable the blood to circulate so that the ‘bad blood’ could be expelled, and the uterus could tighten and heal. Heat also made women feel strong (*força*) again after
birth. The use of heat in the postpartum period was universally observed regardless of level of education, social status or ethnicity.

*It is like the culture that we do…as soon as a mother delivers the baby I know that if it is in the hospital the mother will take a bath in the hot water the day after. Outside the hospital in the house as soon as the baby comes out the mother has to take a bath with the hot water immediately or she will get sick or die. That is what will happen if you don’t have hot water.* – Grandmother, Same health centre

*Also we will put some, rub some traditional medicine to help her so that the blood won’t get to her head.* – Mother-in-law, Same health centre

The application of heat was a treatment as well as a preventive strategy. Important practices included drinking and bathing in hot water, wearing warm clothes, sitting by the fire and consuming ‘hot’ food and drink. Hot foods included meals such as porridge with chicken, corn with soybeans or chicken soup. Hot water was consumed for the duration of breastfeeding. Many respondents emphasised the need for good nutrition, particularly consuming meat and milk during pregnancy and lactation to ensure a woman has sufficient blood and strength and good milk production.

The wind and air carry the cold, therefore protection from the wind was vital after birth, for both the mother and the baby. A period of seclusion was prescribed for anywhere
between three and 40 days.\textsuperscript{20} This involved staying inside the house that had been sealed against draughts.

\begin{quote}
It’s because both the mother and the baby can get sick if they stay outside the house. If they stay outside they can get sick if the wind blows or the sun gets them. They should be inside to protect them from getting sick from the sun and the wind. The mother and baby can both get sick from the fever and the baby can get a problem with its stomach. – Father of two, Same health centre
\end{quote}

Contrary to what one might expect, observing these traditional practices did not preclude women and families from seeking hospital care for birth. People moved freely between the ‘biomedical’ and ‘traditional’ forms of health care and they were often combined. For example, women who birthed in the hospital wore warm clothes and were brought hot water by their families. Most health facilities did not provide hot water, and this was problematic for those who had to carry it from home over very long distances.

\begin{quote}
We have to have hot water to shower and to drink. It is our culture that we must have hot water and our husband has to bring this. We live in Maliana so my husband brought the water from home. If you live far you need to use a motorbike.
– Mother of two, Maliana
\end{quote}

\textit{Dukuns} are specialists in uncovering the causes of illness, and can then enact the appropriate prayer or medicine. There were stories of \textit{dukuns} (traditional healers) providing assistance to women having problems in labour, and they sometimes attended the hospital to assist close family members who were having very difficult births. People sought a range of explanations for what caused an illness or pregnancy complication and \textit{dukuns} were consulted before, in conjunction with, or after medical care. This illustrates the way in which medical pluralism is practiced in Timor-Leste. Generally, however, the

\textsuperscript{20} While seven or 40 days are the customary durations of seclusion, the actual length of time is highly variable. Others doing research in Timor-Leste have reported seclusion anywhere from three days (Rogers 2001), two months (TAIS 2007) or three months for some of the women I interviewed. Rogers’ (2001) survey of 352 households in Dili found that the most common durations of seclusion was three, seven or 30 days, but sick children could leave the house earlier if they required medical attention.
use of traditional medicine was postponed during the stay in hospital or while taking medication prescribed by hospital staff. This was both a function of the perceived efficacy of Western medicine and the authority of health workers.

KW: Do you use any traditional medicine for you or the baby?
F: We just do that at home. Here we do what the doctor and the midwife say.
   – Mother of one, Casa das Maes, Lospalos

After a hospital birth some women returned home and observed the required period of seclusion, but did not always sit by the fire. Travelling from the hospital to home was not seen as a problem as long as private transport was organised. This was acceptable because it was only for a short period of time and the mother and baby could remain protected in the car. Western medicine and technology were often substituted for traditional practices.

It is like my daughter, she has to use the hot water for one month [following a miscarriage]. She lives here and near to her aunt, and some of them are nurses so they probably have some medicine that allows her to take the cold water. It depends. – Grandmother, Same health centre

Family and Social Support

A birth in the family is an important event in Timor-Leste and is an occasion to gather family together. Many relatives came to visit women and babies whether they were born at home or in the hospital. This meant it could get very crowded in health centres that had a large number of births. It also resulted in a lack of space and privacy in the maternity waiting homes as they had communal rooms. This lack of privacy discouraged the use of services for some women.
As in our tradition, if one of our family is going to deliver, most of the families will come to visit and I think it is like a support to the woman who is going to give birth. So she will feel no fear to deliver. – Father of three, Maliana

At a home birth, Timorese women often used a rope suspended from a roof beam to bear down. Support people were always available, and sometimes rubbed coconut oil or a warm compress on the woman’s belly to promote delivery. Physical, social and emotional support was extremely important during labour, birth and postpartum. Many women actively resisted hospital delivery for normal birth because they could not access this social support. Different health centres had different policies on visiting hours and who was allowed to be with women during labour and birth, and this was a major source of anxiety which resulted in some women avoiding facility-based birthing services.

Delivering my baby at home is much better than delivering my baby at the hospital. If I deliver my baby at the hospital it is difficult for me. At home it is easy because my husband and my family they are always beside me. At home if I feel pain my mother or my family will come and help me, but in the hospital when I get pain or get sick no one comes. That is why I decided to deliver my baby at home. – Mother of four, Cailaco

At home I have family members for washing the clothes and boiling the water for me. At the hospital I don’t, I don’t get supported by my family members. When I birth at home I have people to work for me. It was because my mother gave birth to us at home so I give birth at home, so I get supported by more people. – Mother of four, Maliana

**Intergenerational Continuity**

The concept of intergenerational continuity was raised by a number of informants, and women felt they should choose the type of care their mothers chose. Women drew on
their history, cultural identity and stories from their grandmothers to support their choice for home birth.

_Because it’s like what happened a long time ago, the grandmothers had their baby at home so we will do it just like the grandmothers_ – Group discussion, Cailaco

_I believe in the nurses at the hospital. But my mother delivered her babies at home, so I follow what my mother did because she says there is no need to go to the hospital._ – Mother of four, Maliana

In this sense, continuity between generations and advice given by older relatives was directly related to women’s own birth choices. Mothers and grandmothers acted not only as support people, but were important sources of knowledge and experience. Birthing at home was not simply a function of ‘lack of access.’ It was often an intentional choice and a way in which women maintained their identity, their ties to their mothers and grandmothers, and to their ancestors. When women did want to access the hospital, however, there were societal and structural barriers which prevented this.

**Societal Level of Equity and Power**

**Decision-making Power**

Most respondents said that it was a woman and her husband who decided where birth should take place. Having said that, many couples did not have a plan as such, rather they had a general notion of whether birth should happen at home or the hospital. These plans were flexible depending on the progress of labour, degree of pain experienced, access to transport and other individual and household circumstances.

_I made the decision to birth here, along with my husband. It’s the husband and wife who decide, and the family comes with us. We thought this was the best decision._ – Mother of one, Casa das Maes, Lospalos
The importance of marriage, kinship and household composition in decision-making, however, should not be underestimated. The bride price (barlake) which is paid by a husband’s family as part of the marriage exchange can have large ramifications for women’s independence, decision-making power and broader gender-relations. For example, paying a bride price can be seen as ‘buying’ a wife and the woman and her subsequent children are part of the husband’s family. In most cases, decisions involving household expenditure were made by the head of the household (often the oldest male relative of the patriline). A woman’s access to her own kin provided her with a broader range of support networks and increased the options she had when needing resources to access health care. If a woman lived with her own or her husband’s parents they were likely to influence where the birth took place.

*It’s because I went there and stayed with my husband’s parents. Because my husband’s parents were afraid, they pushed me and took me to deliver at Dili hospital.* – Group discussion, Cailaco

*I as the mother, I always suggest to my children when they will give birth that it is better to do the birth at the hospital. But who decides to deliver at the hospital or wherever, it is up to them.* – Grandmother, Same health centre

**Socioeconomic Status**

Whether a woman, her husband or others in the household were employed or earning money affected their power to make decisions. Working in agriculture, on which most of the population relies, provided an unpredictable source of income. The wet and dry seasons dictated farming activities, household location and social activities. The wet season influenced both the decision and ability to seek care, particularly as the onset and duration of labour could not be predicted. Decisions to seek care were then bound up in the seasonal calendar, especially for subsistence farmers. Formal employment provided a little more stability. One family with a government salary and flexible work
arrangements spent a substantial proportion of their income staying in the town of Same so they could access the facility for birth.

*It’s a very big problem for me because I don’t have a lot of money with my job as a policeman. We have only a low salary, so it’s very difficult to stay here…My salary per month is [US]$100 so we made a deal with the house owner, we pay him step-by-step per month…I know the owner. He used to put the cost at $2 but because I know him he charges us $1.50 per day.* – Father of three, Same health centre

Having free health care services was a very important factor in decisions to seek care, but there were additional costs associated with transport and extra food that made it difficult for some families to access health services. The family members of one woman who was referred to Dili with an intrauterine fetal death said they had to borrow $50 from a relative to pay the ambulance to take them back to their village. Thus transport, facility-based birth and referral all put a severe strain on family finances even though they were technically free.

*When I got home I sold coffee and beans and I paid back half of the money. That was last year. I still have half to pay back, and I will do that this year. If the baby doesn’t come tomorrow or the next day the doctor said my wife will be referred to Dili the day after.* - Father of three, Same health centre

While education was highly valued, the social status and expected gender roles for women in Timor-Leste meant that families were often less likely to invest in their education. Girls were expected to help their mothers with cooking, washing and looking after younger children. Consequently they tended to leave school earlier than boys, particularly in poorer families. The limited education and employment opportunities for both men and women, combined with child rearing and household duties meant that families had few resources and many competing responsibilities.
Transport Infrastructure

The ubiquitous problem of transport was a large barrier to accessing health facilities. There was often no public transport beyond sub-districts or to mountainous villages. Most roads were in a perpetual state of disrepair and became impassable during the wet season. Where public transport was available it was sporadic, unpredictable and expensive for poor families.

If you want to find out about the difficulties that people have because they live far from the health centre, like for me it is because we don’t have enough money to call for the transport to come to the hospital. We have no other option so we just call for the lima badang [traditional birth attendant] to attend the birth at home. Only if we have some problem, like a complication, we can call the ambulance because the ambulance is free. So if it’s an individual problem we can’t come to the hospital because we don’t have a lot of money. – Grandmother, Same health centre

When a decision was made to go to the hospital, accessing care was difficult and time-consuming. Very few rural people had motorbikes or communication. Husbands or other family members were often sent on foot or public transport to call for the ambulance through the police station or directly at the health centre. Investing in essential public infrastructure such as roads and transport, and the importance of decentralised services was recognised by informants.
Some people give birth here and some in their house. If they give birth at home it’s only because it happens at night and there is no transport…It is better if the Ministry of Health sends the nurse or doctor to live near the people who live far from the main road, so that they can help if something happens because there is no transport there, no car or ambulance. – Father of four, Maubara health centre, Liquica District

Being able to draw on professional advice, and importantly on the transport services provided by the health centre, gave some informants more choice in accessing facility-based services.

I live far from here, down in the bottom of the mountain. It takes two hours by car and four hours by foot…I was advised by the midwife to deliver here, so when I felt the labour pain we called for the ambulance. – Mother of two, Same health centre

**Health System Factors**

**Location of Facilities**

The data linking distance to the health facility with the use of services in Chapter 6 demonstrated that the location of birthing facilities was critical. However, birthing facilities were predominantly available only in district capitals. Because of the dispersed rural population in Timor-Leste, the distances between health facilities and people’s homes were large. The lack of attention to outreach birthing services and health posts limited the coverage of the population with access to midwifery care during birth. Thus there has been a tendency to centralise birthing services in the district capitals, which has compounded other access problems, such as lack of infrastructure and high cost of transport.

*M: Most women give birth at home, only a few in the hospital.
KW: Why do they choose to birth at home?
M: The distance to the hospital is too far, the condition of the road is not good. In the rainy season the ambulance can’t get here to take them to the hospital. – Village leader, Daisua

Photo 30: Vast distances and poor road conditions, Bobonaro District

Transport and Communication

There were ongoing problems with lack of transport available at lower-level health services, where midwives often did not have any access to private transport or communication technologies. This highlights the importance of improving referral mechanisms for those who do have complications, rather than focusing solely on bringing normal births into facilities.

The people from deep in the mountain, they call for the ambulance and the road to their place is not good. So that is the problem that we have. Also with the communication, we only have the communication to the health centres in each sub-district not to the health posts. – Health centre manager, Manufahi district

It was difficult and time consuming to organise an emergency referral anywhere outside of the district capital. For example, during my fieldwork in Manufahi a health post midwife was assisting a home birth and needed to refer the labouring woman. Lacking any transport or communication she sent a family member to catch a bus to Same, with a folded note which read:

Emergency!!!! Please send an ambulance because there is a patient who will give birth. Labour began yesterday. She is bleeding often. Because it is too far (Tukunu)
I request the hospital to come and pick her up. Aunty [midwife’s name], if you are prepared already please come immediately. Thank you, [midwife’s name and health post].

In this case the woman was taken to Same health centre and gave birth without further complications. This situation illustrates ongoing problems with communication and transport for midwives at the village level, and the significant delays women faced when an emergency did arise. Families were also constrained in their ability to enter the health system. Often they had to physically get to the health centre in order to call an ambulance. When transport was provided by the health centre it was well-utilised, both for transport between home and hospital and for emergency referral between levels of care. However, only health centres in the district capital had ambulances to serve the whole district. Ambulance response times were often delayed because they were being used or they were not functioning due to mechanical failure, lack of fuel or driver.

There are no mechanisms to go to the village and pick up the patients…It is very difficult because of lack of cars, drivers, fuel. Since I have been here there have always been problems with cars and drivers…Transport is bad, but the Ministry of Health takes no action. For example, a man walked here, it took him three or four hours, to get help for his wife. The answer was, the Ministry of Health have a car, but they don’t have a driver. So the NGO had to go to the village. For me mainly I think that it is very important to show them that they need to do something. You can’t say to the husband that you don’t have a driver. Somehow you need to do something. – Manager, international NGO, Lospalos

Condition of Facilities

While the ability of the maternity waiting home policy to meet its own objectives was limited, it did succeed in dramatically improving the physical facilities available for birthing women. Each maternity waiting home was transformed during implementation, either by midwives and managers or by the way in which women utilised the service.
This resulted in a greater level of integration with existing birthing services. Unlike the failed maternity waiting homes that have been left unused in other parts of the world (for example, in Ghana, Maldives and Zaire), their integration with birthing facilities in Timor-Leste has meant a larger contribution to the improvement of birthing services, in terms of space for delivery and postpartum care, condition and cleanliness of facilities and consumer satisfaction.

*This one [maternity waiting home], it’s a very good place. Before we were using the old one [health centre], but it did not have the complete utensils. So this one is better, it’s very clean. Everything is clean, very safe here. The old one, the patient who is sick sleeps together with the one who is delivering. Nice that it’s separate. This one is only for the people who are delivering here.* – Mother of one, Same health centre

The condition of the building as well as availability of equipment was an important consideration in accessing facilities. New buildings were considered cleaner and therefore safer, and this was particularly important during the vulnerable period postpartum.

*Because I think people here assist the birth well. It’s more safe and clean. Rather than the traditional way. The traditional birth attendant can also assist the birth but it’s not as safe and clean as the health facility.* – Father of three, Same health centre

The preoccupation with safety that was expressed by many couples choosing hospital birth was linked to the physical condition and cleanliness of the facility as well as having a private space specifically for pregnant and postpartum women and their families away from general ‘sick’ patients. When discussing the adequacy of facilities, privacy was considered to be of paramount importance. Women were embarrassed about having strangers see their body. The problems associated with lack of privacy and crowding at the maternity waiting homes were exacerbated by the poor design of facilities. For
example, people in the waiting area at the maternity waiting home in Same had direct access to the birthing room and, hearing the noises of labour, were tempted to sneak a look through the door.

_F1: It’s better I give birth at home because the only one who will see my naked body is my mother._

_F2: If many people enter the room it is trouble for us, we will feel so embarrassed. When I delivered my baby only one nurse took care of me and that was good._

– Group discussion, Cailaco

The satisfaction with condition of facilities extended to having somewhere for family to stay and ensuring the basic essentials of water, electricity and cooking facilities were available. While the maternity waiting home concept was supposed to provide space for families, the way in which the buildings were designed kept all women together in one large room, and did not provide any additional space or separate rooms to accommodate families. Providing additional space for postpartum women and families was a common theme in interviews with users.

_It is good, but there is a problem with the room, there is not much space. When there are a lot of pregnant women here, it’s not so big. I suggest that they improve the room. A lot of people come from the whole district to deliver here so they should make the room bigger. Last Sunday there were a lot of pregnant women here, so some people were sleeping on the floor._ – Mother of one, Same health centre.

**Staff Attributes**

The way in which people were treated by midwives was an important component of satisfaction with care. Women and families in Same and Lospalos said that they appreciated that midwives treated them nicely, and provided food and medicine.
If you just deliver at the house then you suffer. If you come here they service us well. The midwife looks after us and we have a place to deliver and a place to stay. That is why this place is good. – Mother of 10, Casa das Maes, Lospalos

The good of this house is that the midwife assists nicely, they have the medicine and they provide food. It’s good, so that’s why we came here to give birth. – Father of two, Same health centre

Health workers who had a poor attitude, got angry easily, left women alone or shouted at them resulted in reluctance to seek care in subsequent pregnancies.

Sometimes the midwives get angry with the women. This happens more when the women don’t have experience, there is a problem particularly when the woman is primiparous. The midwives say ‘come on, come on’ and the girl says ‘no, I can’t’. The midwife fights with the family and the woman. – Health centre manager, Bobonaro district

Having female midwives and doctors, as well as continuity of care provider was an important consideration when deciding to use the health services. Families valued the knowledge and skills that midwives had. Midwives who received training, and were caring and experienced were held in high esteem within the community.

Now we have more clean ways to assist the baby, because they are studying it. Not like when we used to have the other, like just by instinct to help, use the leaves or some traditional medicine. So it is very good to deliver at the hospital. – Grandmother, Same health centre

I came to the hospital, because I don’t like it at home because you know that the traditional things, like in my mother’s time, if you just stay in the home they will ask you to walk around, not just sit, you have to walk...In the hospital they have something to say that maybe at 2 o’clock or 8 o’clock your baby will come...But at
home they don’t know what time the baby will come...in the house you have to push, maybe the baby will come in the night but you push in the morning until the night. So you don’t get any strength. When you come to the hospital you will die because there is no, we don’t have enough strength. What do you call, we don’t have enough energy or something. So if the baby comes in the night we push from the morning until the night. – Mother of one, Same health centre

This final point reveals problems with some of the birthing practices in Timor-Leste, where women are encouraged to push for many hours before full dilation. This could be remedied by a focus on appropriate education of birth attendants and families. Sharing this knowledge should not be confused with traditional birth attendant ‘training’ that has failed in the past.

**Policies and Protocols**

The presence of family during labour, birth and postpartum was extremely important and created a feeling of support and safety for birthing women. The policy of many health centres, however, was to limit the involvement of family during labour and birth and only allow one person, if any, into the delivery room.

_Another problem here is that the family waits, they come to assist. They don’t feel safe if there is only one person there to attend them during the birth. At the hospital there is a rule that only one person is allowed in. The family get angry with that._ – Health centre manager, Bobonaro district

_I think giving birth at home is better than at the health centre because sometimes the midwife doesn’t allow the husband or the parents to go in the room and there is nobody we can hold onto. In the house we have the husband and the parents to hold on to._ – Mother of four, Cailaco
There were a number of hospital policies that limited the benefits when women did access maternity services. For example, at one health centre immunisations were only available on Fridays so babies who were born at the facility but left before Friday did not receive any immunisation. Similarly antenatal care and other vertical services were only provided on certain days of the week. When women did attend the health centre on the appropriate day staff were not always available, or women had to wait all day, sometimes without being seen at all. This was particularly problematic when families had walked long distances to access services.

_I came here the day after my daughter delivered. My daughter had a miscarriage on Sunday and I got here on Monday. I slept here…I slept in the same room with my daughter because my daughter’s husband and children are in their house, and she is here, so I am here to help take care of my daughter._ – Grandmother, Same health centre

**Discussion**

**Individual Factors**

Women using the maternity waiting homes in Timor-Leste were self-referring and chose hospital delivery based on previous perinatal death or complication, first birth and prolonged labour. Research conducted in maternity waiting homes elsewhere found that women were more likely to attend the facility if they had risk factors (Greenwood et al 1987; Chandramohan et al 1994; 1995; Spaans et al 1998). Women’s emphasis on previous experience when it comes to decision-making around place of birth may be well founded. A study of antenatal risk screening found that obstetric history is a far more accurate predictor of risk than demographic factors, and that distance to emergency obstetric care, access to transport, availability of food and expected work level should also be considered as risk factors (Fortney 1995). Majoko et al (2002) also found that the highest risk of complications occurred among women with a history of previous complications. Previous obstetric disaster and lack of experience giving birth were also seen as important factors in choosing a hospital delivery for women in Ghana: ‘Any
woman who went through a bad experience during delivery and was saved at the hospital will always want to deliver there, even if she is in no imminent danger’ (Female opinion leader - in Mills & Bertrand 2005:52).

**Social Factors**

The analysis of social factors that influenced decisions to seek care revealed the importance of ‘the process by which sociocultural knowledge is transformed into individual behaviour’ (Auerbach 1982:1501). Decision-making was a complex process intimately entwined with local belief systems and social relationships. In her study of childbirth in Tunisia, Auerbach (1982:1502) emphasised that ‘social interaction is a major factor in Ksar-Hellal women’s childbirth decision-making’. Mothers, other female relatives and friends were trustworthy sources of information in Timor-Leste. El-Nemer et al (2006) found that among Egyptian women birthing knowledge was located in tales from mothers. Experiential knowledge passed down through generations and accumulated through experience contrasts with the authoritative knowledge and advice imparted by midwives and doctors in the hospital setting. Thus knowledge about birth comes from women’s experience, from their mothers and from ‘the accumulated knowledges of their maternal ancestors’ (El-Nemer et al 2006:89). The importance of intergenerational continuity is evident from this study and has been reported by others doing research in Timor-Leste. TAIS (2007:15) explained that women give birth at home because that ‘was what they, their mothers, and grandmothers had always done’. Ginsburg and Rapp (1991) discuss how removal of birth from home to hospital reduces the power of local knowledge passed between generations of women. Therefore birth should be recognised not only as a medical event, but as collective action that reinforces social bonds and kinship obligations, confirms a woman’s status and self-identity, and anchors her to the past.

The emphasis placed on multiple causes of illness in Timorese society highlights the connection between mind-body-society and wellbeing. This has important implications for the role of family and social support networks during labour and birth. For example,
during birth in northeast Thailand the family’s ancestors and spirits are called upon to ensure everything will go well in delivery and to give the woman peace of mind because ‘if the woman is well psychologically, she will also feel better physically’ (Poulsen 1984:64). The evidence for support during birth is significant and demonstrates the psychosocial and health benefits of support for both the labouring woman and newborn (Ginsburg & Rapp 1991; Campero et al 1998; Kirkham 2000; Davis-Floyd 2001; Green & Baston 2003; Hodnett & Fredericks 2003; El-Nemer et al 2006; Hodnett et al 2007). An exclusive focus on the mother/child dyad in the medical model, however, tends to neglect the important role of family and community. Auerbach (1982), for example, found that women in Tunisia do not have the emotional support of family and friends during a hospital birth. While medically supervised delivery can improve the relative safety of birth it can also result in the loss of ‘local control over normative definitions of birth and maternity, of knowledge of midwifery, and often of social support for new mother and child’ (Ginsburg & Rapp 1991:323).

In Timor-Leste, importance was placed on social harmony and humoral balance in maintaining health. These concepts have been widely documented around the world, and particularly in Southeast Asia (Poulsen 1984; Manderson 1981; Laderman 1987; Grace 1997; Hicks 2004). The discourse surrounding maternal health improvement, however, remains rooted in the medico-centric assumption that ‘traditional’ practices are backward and should be prevented (Ginsburg & Rapp 1991; Mackian et al 2004). This is problematic because global and national campaigns to eradicate home birth and traditional practices are often based on simplistic and culturally insensitive understandings of women’s lives and their moral worlds (Inhorn 2006). In Timor-Leste, maternal health has been constructed as a predominantly medical matter and health systems problem, which has been confounded by culture, ignorance and tradition (see, for example, OCHA 2009).

Observing the way in which women moved between the ‘biomedical’ and ‘traditional’ models for birth and treatment demonstrated that these two paradigms were not in opposition according to local views. Rather than being separate and dichotomous ways
of knowing, they overlapped and were even complementary as people sought solutions to health problems. Based on this research, it is apparent that having an alternative system of beliefs than that put forward by Western science and biomedicine does not prevent people from using health services. Therefore, ‘traditional beliefs and practices’ may not be the major barriers to seeking care they are often construed to be. Rather, it is the history of home birth and the need for family support which leads women to resist institutionalised birth. The use of facilities for birth necessitates a shift in power from the woman and her immediate caregivers to the midwife or physician in charge (Auerbach 1982). This is unfortunate as medical safety and social support are not mutually exclusive and can reinforce one another, taking pressure off midwives, particularly when human resources are scarce. Jordan (1980:77) argues that given ‘the practical constraints on rapid, complete supercession of traditional ways by modern medicine, the real issue becomes one of mutual accommodation of the two systems.’

**Societal Factors**

Looking at the broader societal aspects that influence access to care, when women do desire it, may be a more productive area of focus than ‘behaviour change’. Kunst and Houweling (2001) argue there is little doubt that socioeconomic disadvantage itself, either at the level of the individual or at the household level, directly affects women’s utilisation of maternal health services. In addition to socioeconomic factors, distance and the availability of transport infrastructure influenced the ability of Timorese women to access care. These three issues appear to be a universal constraint on the utilisation of health services worldwide. In rural areas of Timor-Leste, transport costs are three times higher than the cost of health services (MoH et al 2004a). In addition, distance from the health facility was inversely correlated with household wealth in Timor-Leste, where the median travel time for poorer households was four times longer than the richest households and poorer households were twice as likely not to consult any health care provider when ill (MoH et al 2004a). Analysing health seeking behaviour in Cambodia, Yanagisawa et al (2004:21) found that while affordable health services were important, ‘the significant difference between poor and better-off people disappeared for villages
situated more than 2 km from the health centre’. Therefore distance, transport and poverty are inseparable primary determinants of access to health services.

The ongoing political instability and periods of intense conflict since independence have severely impeded both the development of the health system and the ability to access services. For example, the crisis in 2006 led to a large and sustained reduction in the number of births at Dili hospital as a result of population displacement, the inability to move freely, and the security problems at the hospital itself (Zwi et al 2007; Wayte et al 2008). This crisis temporarily divided the country along East/West affiliations and ethnic tensions influenced patients’ willingness to seek treatment, health workers’ ability to come to work, emergency transport services through dangerous areas and the adequate supply of medicine. While only touched on briefly here, conflict and political instability may be the most important societal factors limiting access to care. For example, an assessment of the maternity waiting home that was implemented in Dili during the 2006 crisis showed that the number of admissions to the maternity ward continued to decline after the maternity waiting ‘camp’ was opened (Wayte et al 2008). This illustrates the limitations of the maternity waiting home concept in times of political instability as families were reluctant to be separated or to stay in places that are not perceived as safe.

**Health System Factors**

The most important lesson to be learned from the overwhelming evidence linking distance and transport to the utilisation of health facilities, is the need to decentralise birthing services. WHO has long advocated for health services and life saving obstetric skills to be made available as close to people’s homes as possible (WHO 1986; Mahler 1987), and this has been reiterated in more recent studies (Pathak et al 2000; Acharya & Cleland 2000). There is a need to strategically locate birthing facilities to maximise population coverage. This could entail improving the capacity for birthing at sub-district health centres; however, embarking on a major building program does run the risk of taking attention away from health posts and outreach services. Renovation of facilities,
repair of equipment and training of staff cost substantially less than developing new facilities (Borghi 2001).

In an assessment of the effect of quality of care versus access to maternal and child health services in rural Nepal, Acharya and Cleland (2000) found that high-quality health posts were a better predictor of utilisation than travel times. They concluded that investing in quality health posts was more important than further increasing the number of facilities, and expansion of outreach services should be a priority. In Timor-Leste, however, most health posts had only one nurse or midwife on staff, lacked running water and electricity, and had no form of transport or communication. Consequently peripheral services at the sub-district and village level were only weakly connected with the district capital. This compounded problems with emergency referral, staff support and supervision, and the appropriate allocation of resources.

Investing in transport is the next logical step. The main mode of transport for the population in Timor-Leste is walking, and nearly all (95%) people living in highlands reported walking to health care providers in the last Demographic Health Survey (MoH et al 2004a). This contrasts markedly with my interviews with women using the birth facilities in Same and Maliana, where almost all were transported by the maternity ambulance. The ongoing problem with poor road conditions, however, limits the potential of this strategy for people in remote and inaccessible areas and significantly adds to travel and referral time. The neglect of roads and transport infrastructure continues to impact on other sectors linked with health such as agriculture, education,
tourism and the broader economy. It appears that the importance of transport infrastructure has so far been neglected and further research is required to understand the impact of different transport strategies. Given that poor road conditions are not likely to improve in the near future, the potential of helicopters as a means of transport could be a fruitful area for further research. While helicopters are expensive they cost far less than building new hospitals and repairing road networks across the country.

While the maternity waiting home strategy failed to remove the barriers associated with distance and transport, it did succeed in improving the quality of the facility and making it more attractive and acceptable to those who lived close by. This is an interesting point, as interventions to reduce maternal mortality usually fall into two broad categories: those directed at health facilities (that is, improving skills, services, equipment and quality of care) and those directed at the community (that is, addressing transport, funds and information) (Egunjobi 1983; Maine 1997; Jahn & De Brouwere 2001; Stekelenburg et al 2004). While the maternity waiting home strategy was, ideologically, directed at the community, ultimately it contributed to improvements in birthing facilities. The visible improvements in the physical condition of the building and equipment contributed to satisfaction with services in Timor-Leste. Increased satisfaction should, theoretically, lead to higher rates of utilisation (Penchansky & Thomas 1981). There were, however, multiple different aspects that influenced satisfaction with maternal health services. Other important factors were empathy of health care providers and the gender, knowledge and skills of birth attendants.

Considering the international evidence for social support in labour, the vital role played by the family in Timorese births and the disturbance associated with moving women during labour, the design of future birthing facilities or maternity waiting homes should provide a separate room for women to labour and birth with whoever she chooses to be present. Individual rather than communal wards would provide space for family to visit and stay without disrupting other patients. It is equally important that hospital policies and protocols are evidence-based, culturally appropriate, and woman-centred. Protocols that are likely to improve utilisation and satisfaction with services and benefit birth
outcomes are: ensuring appropriate staff are available 24 hours a day, seven days a week; encouraging the upright birthing position; providing hot water and appropriate ‘hot’ food such as chicken soup; limiting invasive procedures such as episiotomy and vaginal examinations; and allowing women free access to family support during labour, birth and postpartum.

A Theoretical Framework

The development and prioritisation of scientific knowledge has contributed to segmenting health issues into well-defined disciplinary silos. In relation to maternal health, medical discourse has focused on individual risk, while others have sought to understand cultural beliefs and practices in order to better target Western-oriented health messages. Working on a different level, feminists, human rights activists and critical theorists have emphasised the uneven power relationships that have resulted in societal level inequalities. Still others have focused on the health system factors that affect access. By listening to women and families talk about their needs, their preferences for certain types of care, and the problems they face accessing care, it becomes obvious that all of these bodies of literature are important. What is now required is a comprehensive framework that can draw these influences together to capture the complex relationships between individuals, populations and health system development.

Over the past decade there have been significant developments in this regard. Spanning the individual and the societal, McMichael (1999) has argued for a socio-ecological systems perspective to health issues in epidemiology. He advocates for an analysis of individual factors as well as the wider context. Whitlock et al (2002) have attempted to explain the relationship between an individual and society and assert that decision-making can be understood as a dynamic interaction among personal factors, environmental influences and behaviour. They conclude by emphasising that policies and practices in settings outside health care play a complementary role in promoting healthy behaviours across society (Whitlock et al 2002). Applying the concepts of individual and societal level influences to maternal health in Uganda, Amooti-Kaguna
and Nuwaha (2000) found that choice of delivery site was influenced by self-efficacy, previous experience, advice from others, and the concept of normal versus abnormal pregnancy as well as access to maternity services. In analysing the lived experience of sickness and death in Senegal, Foley (2008:257) illustrates how ‘men and women coping with illness are social beings embedded in fields of power characterized by highly stratified household social relations.’

Other researchers have moved away from the individual as a unit of analysis and have sought to emphasise the traditional, cultural and religious aspects as well as the economic and political forces that shape health care decisions. After reviewing more than 150 ethnographies on women’s health, Inhorn (2006:364) concluded that ‘For women around the world, local moralities, often religiously based, have major effects on women’s health decision making’. Recognising that both cultural beliefs and structural inequalities affect access to maternal health care, Bergsjo (2001) and Parkhurst et al (2005) frame traditional practices as barriers. However, there may be an historical over-emphasis on culture as a barrier to accessing care. Studying the effect of health system factors versus traditional beliefs on decisions to seek obstetric care, Mills and Bertrand (2005) found that decisions were based on accessibility factors such as cost, distance, transport, availability of health facilities and attitude of nurses, and that traditional beliefs were less significant barriers. Similarly a review of interventions conducted as part of the Prevention of Maternal Mortality Network found that ‘even traditional beliefs may not be the formidable barrier they are often assumed to be’ (Maine 1997:S262). Regardless of which perspective is taken, the point is to recognise the dominance of the medical model in health system planning, the lack of attention to broader structural causes and the need to respect competing theories of illness causation (Shaikh et al 2008).

Taking a more comprehensive approach in her ethnography of the intersections between medical intervention and Sasak life in Lombok, Grace (1997) emphasises the economic, political, social and cultural factors that operate on the micro-level to influence the decisions women make about where and when to seek care. She also notes that it is the
disjuncture between local theories of illness and biomedically informed government policies that limits the ability of interventions to effectively reduce maternal and infant mortality (Grace 1997). Whittaker (2002) found similar complexities with respect to reproductive health and decision-making in Vietnam. She highlighted the flexible interrelationships between illness experience, cultural understandings, economic circumstances, and the actions women take in relation to health care. She concludes that while decisions about type of care are important, women are not always free to decide and there are broader issues of access that are embedded in politics, gender, health systems, economics, social norms, family life and boundaries of acceptable behaviour (Whittaker 2002). A large study recently conducted in Timor-Leste also emphasised the multi-faceted nature of health care seeking. Zwi et al (2009) list the main influences on access to services as long distances, lack of supplies and equipment in facilities, poor transport and communication infrastructure, negative attitude of health workers, economic factors, decision-making structures, perceived causes of illness, and the construction of birth as a normal event.

In attempting to capture the complexity of women’s health care in Timor-Leste it was necessary to drawn on the dispersed, multi-disciplinary literature on access and health seeking outlined above. In this analysis the concept of the ‘three bodies’ was borrowed from Schepers-Hughes and Lock (1987), and from Turner (1992b) the notion of the individual, the social and the societal. When discussing access to health care, however, the health system deserves particular attention. The expanded understanding of access developed by Penchansky and Thomas (1981) was particularly useful. A four layered, person-centred framework was then developed to capture the interrelationships between individual experience and aetiology; the underlying sociocultural constructions of pregnancy, birth and appropriate treatment; the broader societal structures; as well as health system determinants that affect decision-making and access to care (Figure 16). This framework spans biology, meaning, access and quality and entails diverse outcomes in the utilisation of services depending on individual circumstances across these levels.
Figure 16: The individual, social, societal and health system factors that influenced utilisation of maternal health services in Timor-Leste

This framework is transdisciplinary in that it ‘goes beyond the boundaries of existing disciplines or fields of knowledge in order to more fully understand the complexity’ (Higginbotham et al 2001a:70) inherent in the uptake of maternal health services in Timor-Leste. Drawing further on this work in health social science, it is clear that transdisciplinary research requires a rich understanding of context and a unification of previously disconnected ways of thinking about a problem. A ‘common conceptual framework’ thus provides a more holistic perspective of a particular health issue and allows for an exploration of the interconnections between different causal factors. Transdisciplinary thinking is grounded in complexity theory, which is the opposite of reductionism and asserts that complex systems cannot be reduced to their constituent parts (Higginbotham et al 2001a). From this foundation decision-making can be seen as complex and adaptive, and changes in the utilisation of services are possible in response to changes in the environment. In fact, complexity theory holds that small changes in one area can have large effects in others (Higginbotham et al 2001a; Gladwell 2002).
The framework thus provides an integrated way of thinking about solutions in maternal health care.

By researching the most effective points of leverage, programs and policies can be designed to maximise the efficient use of health resources. Using a similar framework which takes into account need, population characteristics, health care systems and the external environment, Andersen (1995) has suggested the degree of mutability of each of these components needs to be taken into account in order to effectively target interventions to improve access to medical care. Importantly he outlines where policymakers and managers might have the greatest impact. In Andersen’s framework individual (demographic) and societal (social structure) factors have low mutability, social factors (health beliefs) have medium mutability and health system factors (enabling factors) are most amenable to intervention. Andersen’s approach can be considered conservative as it does not address underlying causes of inequality and ill-health. Kunst and Houweling (2001) suggest that the most fruitful area of research is the complex interplay of multiple factors. They highlight the need to perform observational or experimental studies that focus on a few factors that are open to modification through intervention. I argue that both the societal and health system levels are the responsibility of the health sector as well as national government and influential donors. The individual and social levels are, nevertheless, crucial in developing locally appropriate and culturally safe programs. Interventions are likely to be more beneficial if they work with existing cultural meanings and patterns than if they disregard or seek to change them.

**Conclusion**

The transdisciplinary framework presented here provides policy-makers, practitioners and researchers with a new lens to think critically about the development of policies and health systems. The maternal health system in Timor-Leste, and in most of the world, is being developed from a Western oriented medico-centric perspective. This promotes centralised facility-based birth, withdraws support for the many women who give birth
at home, restricts birthing positions and access to support people during labour, and
devalues traditional knowledge. A transdisciplinary approach to maternal health policy
would shift the focus from behaviour change to ensuring maternal health services meet
women’s needs. It would also entail an intense, nationwide effort to improve poor
determinants of health such as malnutrition, poverty, unemployment, lack of essential
infrastructure and ongoing conflict.

While this framework has been developed specifically in relation to maternal health in
Timor-Leste, the use of theory and a broad conceptual framework allows for its
application in other settings and to consider solutions to different health problems.
Further research is required to evaluate specific programs and how these mechanisms
interact within complex social systems to produce small or large effects in intended or
unintended ways.
Chapter 8: Discussion and Conclusions – Extending Theory in the Development of Maternal Health Policy

An anthropology of public policy should not only add to the body of substantive knowledge about the way the world is changing, but it should provide a critical corrective to the simplified models that work well in journals and textbooks yet often fail to produce desired outcomes on the ground. It should spur theoretical and methodological development that strengthens both anthropology and the interdisciplinary study of policy. (Wedel et al 2005:44).

This chapter brings together the findings outlined in the policy, health system and culture sections of the thesis and highlights the contribution this research has made to understanding maternal health policy development in Timor-Leste. This is framed within a discussion of the anthropology of policy more generally. The three objectives of this research were to:

1. Explore the factors which influenced the development and implementation of the maternity waiting home policy in Timor-Leste
2. Evaluate whether maternity waiting homes were meeting the objectives of the strategy
3. Understand the dynamics that shaped the use of maternal health services at the local level.

The chapter begins with a summary of findings, which made visible the most influential actors and ideologies shaping the maternity waiting home agenda in Timor-Leste. The process of implementation is then discussed in relation to dominant policy theory: implementation as adaptation or implementation as control. A conceptual framework is presented which illustrates the complexity of influences at all levels of the policy process, from agenda setting to policy formulation, implementation and the use of services. This leads to the development of an alternative model of health policy, one
which begins with a consideration of context and incorporates the voices of the beneficiaries. The chapter concludes with implications of this research for the development of maternal health services, with particular attention to how Timorese women can make a difference to policy in Timor-Leste.

**Summary of Findings**

The policy analysis reported in Chapter 5 demonstrated that the policy process was dominated by powerful actors and the ideology of high-level decision-makers, as well as global policy ideas. This led to the national focus on facility-based delivery and maternity waiting homes as a method to achieve this. Contrary to the initial hypothesis that maternity waiting homes were being promoted to the government by international development agencies, they were very much advocated for and owned by Timorese decision-makers. The maternity waiting home concept diffused from the global to the national level, and was then promoted through local networks. This diffusion depended on close working relationships between the Ministry of Health and foreign advisors at the national level, and health manager and NGO donors at the district level. High profile events such as inaugurations and national workshops (rather than rigorous research or evaluation outcomes) served to promote the strategy and enhance its validity as a ‘good idea’. This reflects the importance of political culture in the context of Timor-Leste, which is mirrored in Southeast Asia more generally. Policy decisions, however, remained the domain of the elite. Local stakeholders, particularly pregnant women, had very little influence over the maternity waiting home agenda, or national maternal health policy in general.

Policy-making was complex and convoluted, but implementation was totally unpredictable as this was the place where global ideas met local realities. While the maternity waiting home policy embodied ideology, implementation was more dependent on the social, societal and health system context at the district level. Implementation was also the site where health staff and families asserted their agency. For example, midwives and managers decided to incorporate birthing facilities with maternity waiting
homes in many sites and almost all women attended the facility only after they went into labour. In this way health providers and users had much more influence over services than was initially expected. This differs from dominant theories of ‘access’ which portray women as passive, ignorant and constrained by social structure.

As illustrated in Chapter 6, the maternity waiting home strategy did not meet its objective of improving access to care for women from remote areas. The main problem with the strategy was that it presumed there was a demand for hospital birth, and that other structural barriers would be ameliorated if women had the option to wait at a facility prior to labour. Therefore the theory of how maternity waiting homes work was flawed, largely because the magnitude of the problem of access was too large for the proposed solution. For example, to use maternity waiting homes as outlined by the policy required not only improved transport infrastructure, but a change in the way people perceived risk in pregnancy and birth. Thus the requirements for successful implementation were not only educational and behavioural change but a complete societal and cultural shift.

The maternity waiting home policy was transformed during implementation and was not being used by women to wait prior to labour. This was said to be because more health education and promotion of the intervention was necessary. Grace (1997:227) points out in her study of maternal health in Lombok that ‘attributing the failure of centrally planned programmes and projects to achieve their explicit goals to the attitudes and behaviour of their “targets”, deflects attention away from any inadequacies in their design, planning, and implementation.’ Once it became apparent that maternity waiting homes were not being used as intended, there was very little reflection on the appropriateness of the policy (and the ideologies that guided it). ‘This suggests that such objective properties of a policy as its substantive content and its theory ought to be included among the variables used to explain implementation results’ (Majone & Wildavsky 1984:173-174).
Accepted Policy Theory

The findings presented in this research contrast markedly with accepted policy theory, which denotes policy-making as a rational, linear process which is based on shared values and objective truths. In the international health arena the discourse of governance and accountability remain dominant, with emphasis on stronger monitoring and accountability mechanisms (as advocated by WHO’s working group CWGPHS 2008:1291). Policy-makers and academics alike seek to find ways to structure the implementation process so that it more closely follows the models developed at the national level. Another common approach is to view health policy as the transfer of knowledge from one society to another (Wedel 2001). The move from primary health care to international best practice within vertical programs (for example, DOTS, Safe Motherhood, Reproductive Health, Global Fund for HIV, TB and Malaria) has seen a shift in who sets the agenda for health care. Maternal health policy tends to be a top-down, technocratic approach defined by global trends and medical knowledge. Deviation from centrally planned goals and ‘adaptation’ are seen as outcomes to be avoided. While WHO and UN agencies have achieved much in the way of setting international standards, this type of development has ushered in ‘a new form of power and control, more subtle and refined’ (Escobar 1995:39). In this model of policy-making-from-afar, people can be treated as statistical figures, culture as an abstract concept, and alternative world views ‘are residual variables that will disappear with modernisation’ (Escobar 1995:44).

Implementation as Adaptation

Contrary to the aims of policy, programs are often adapted during implementation. Majone and Wildavsky (1984) argue that implementation is, by its very nature, a process of evolution and adaptation. It has been recognised in the literature from the 1970s and 1980s that ‘increasingly, implementation is seen as a dynamic process of innovation or modification’ (Musheno 1981:150). There has been some appreciation of the need for broader input into policy, for example, WHO (2003:179) has stated that ‘health policy should not be decided on an ad hoc basis or simply as a reaction to changing
circumstances. Nor should it be entirely influenced by the ideology or value system of the dominant stakeholder.’ The notion of implementation as adaptation, however, has been largely resisted by development planners and policy-makers.

**An Explanatory Framework**

![Diagram](image)

Figure 17: Factors influencing the policy-making process and use of maternal health services in Timor-Leste
The case study of the maternity waiting home policy in Timor-Leste provides insights into why adaptation is inevitable. Both health care organisations and societies are complex adaptive systems which are non-linear, lead to unpredictable dynamics, and where relationships are critical (Anderson et al 2005). Combining the policy-making diagram developed in Chapter 5 (Figure 5:125) with the framework to illustrate the use of services developed in Chapter 7 (Figure 16:199), demonstrates the complex factors influencing both the policy process and the use of services along a continuum (Figure 17). This new structure helps to explain ‘why good ideas are difficult to make operational’ (Browne & Wildavsky 1984:216). Locating these policy processes within a broader framework provides a foundation for understanding ‘unforeseen variables, which are frequently combined in unforeseen ways and with unforeseen consequences’ (Wedel et al 2005:38).

The framework illustrates how dominant ideologies in society interact with policy ideas, political actors and their various interests in setting the agenda for maternal health care. It therefore provides a way of understanding why ‘donor’s policies are transformed by the agendas, interests, and interactions of the donor and recipient representatives at each stage of implementation and interface’ (Wedel et al 2005:39). This model provides a persuasive alternative to the rational choice model of policy-making. The ‘stages’ approach to policy is an important heuristic device, not for its representation of policy-making as a linear process, but as discrete areas of action involving different sets of actors and interests. For example, the case study of maternity waiting homes demonstrated that agenda setting and policy formulation occurred at the national level within the domain of high-level decision-makers. Thus the stages of the policy-making process were disconnected and this goes some way in explaining why the policy was transformed during implementation, and why it may have failed elsewhere.

In contrast to agenda setting and policy formulation, which occurred within a select group at the national level, implementation of maternity waiting homes took place at the health system level and involved a very different set of actors. The health system context
was then crucial to the outcomes of the implementation process. This has been noted elsewhere; for example, a number of Safe Motherhood programs have been implemented within dysfunctional health systems and project outcomes have been compromised by inherent weaknesses in the system (McDonagh & Goodburn 2001).

Browne and Wildavsky (1984) argue that the politics of implementation is the ultimate determinant of outcome. The framework presented here, however, illustrates that the *use of services* was actually the ultimate determinant of outcome, and that use of the maternity waiting home was influenced by the sociocultural context of the place and people for which it was meant to serve. Taking the individual as the point of reference demonstrates how women assert their knowledge and experience of pregnancy in the utilisation of services. This provides a radical departure from mainstream thinking, where women are portrayed as having ‘needs’ and ‘problems’ but few choices, and no freedom to act (Escobar 1995). This framework demonstrates how a woman’s knowledge of her own body affects the uptake of health services, and this should be recognised in the provision of care.

Sociocultural research is often conducted to understand local beliefs and practices, with the ultimate aim of developing more effective behaviour change strategies (Bhutta et al 2005). This research has demonstrated that the sociocultural context undoubtedly influenced the use of services. However, ‘micro-level research emphasizing culture should not be expected to produce either comprehensive analyses of health problems or effective policy strategies’ (Gruenbaum 1981:48). Indeed, sociocultural research in service of policy and health system development has often led to the labelling of ‘traditional practices’ as harmful or backward (Escobar 1995). That is not to say that culture is unimportant. On the contrary, ‘It is frequently in the best interest of institutions to remain in line with community values’ (Steinberg & Baxter 1998:155). There is a strong argument for incorporating cultural norms and social values into policy deliberations and development. A culture-centred approach to research can be used as a theoretical lens to understand medical systems, in their various forms, as complex and dynamic and imbued with dialectical tensions (Dutta-Bergman 2004).
Finally, it should be noted that the societal level of analysis influenced all aspects of policy-making, implementation and use of services, and highlights ‘that the fundamental issues affecting health have to do with control of resources and access to power’ (Gruenbaum 1981:51). Strategies to improve maternal health, however, are generally based on the assumption that individuals, not environments, suffer illness and disease. This leads to interventions aimed at bodies, not at environments or institutions (Higginbotham et al 2001b). One hundred and fifty years ago Virchow (1848 cited in Turner 1992b:130) ‘understood that health could only be improved by socioeconomic as well as medical interventions, but equally he recognized that the impediments to such interventions were also political in their essence’. Scientists have spent the last two centuries reducing health problems to their constituent parts, and it is now time to shift the focus back to the complex interactions that produce such extreme inequalities in health outcomes.

While this framework was developed specifically in relation to the maternity waiting home policy in Timor-Leste, it may be applicable to other settings and for other health issues. For example, Lewis and Considine (1999) examined power and influence in health policy agenda setting in Australia, and found that policy elites were influential in agenda setting, but frontline service providers were not, and consumer or community groups were virtually absent. This study was conducted a decade ago, in a very different setting, with different levels of international influence. It raises important questions about the universality of power and structural interests in policy-making, regardless of economic and social context.

This framework should also be tested in relation to other health problems, and additional factors may need to be taken into account. For example, the environment would be an important factor in an analysis of malaria policy but this may well fit within the societal level of analysis. ‘While environmental factors are certainly important in enhancing or undermining a society’s health production, the environment itself has clearly become more and more a human-made phenomenon’ (Gruenbaum 1981:48).
**Anthropology of Health Policy**

This framework provides a methodology for thinking about maternal health policy, systems and access to services which is situated across disciplines and within local understandings of pregnancy, birth and treatment of illness. Rather than homogenising what are diverse sets of circumstances for pregnant women, the framework embraces multiplicity and demonstrates the complexity of influences on maternal health policy and access to care. What is now required is an expansion of the theoretical viewpoints in both policy analysis and the practice of policy-making and implementation.

‘Anthropological analysis can disentangle the outcomes that are produced and help to explain how and why they often contradict the stated intentions of policy makers’ (Wedel et al 2005:44). The anthropology of policy therefore provides a theoretical grounding for policy analysis, and a useful lens for critiquing dominant ideologies and examining policy from the ground up. Okongwu and Mencher (2000:109), studying structural re-adjustment in developing countries, see the anthropology of policy as a way to ‘propose solutions that meet the desires and needs of local people, and to create a synergy between theory and practice’. This entails a re-evaluation of the way in which policy is conceptualised so that the initial points of reference are local context and health system realities. It also necessitates broadening the spectrum of stakeholders and extending the range of values on which policy decisions are made (Browne & Wildavsky 1984).

**Implications for Maternal Health Policy in Timor-Leste**

There now appears to be two directions in which maternal health policy could proceed in Timor-Leste: that which focuses on having policy implemented as planned – *implementation as control*; or that which values flexibility based on contextual factors – *implementation as adaptation*. Historically, policy-makers have tended to neglect the important variables of control, and have left the administrative domain to struggle with the production of expected outcomes (Browne & Wildavsky 1984). If the Timorese government and its citizens want implementation to be closer to what was planned then the number of decision points need to be decreased, as well as the distance between
decision-makers and implementers (Browne & Wildavsky 1984). An important point of consideration for policy-makers was summarised well by Majone and Wildavsky (1984:176):

_The more general an idea and the more adaptable it is to a range of circumstances, the more likely it is to be realized in some form, but the less likely it is to emerge as intended in practice. The more restricted the idea, and the more it is constrained, the more likely it is to emerge as predicted, but the less likely it is to have a significant impact._

Policy-makers should be cautious when adopting universal ‘solutions’ because in each situation there are a unique set of actors, political situations and random events which interfere with implementation or replication (Anderson et al 2005). Taking an adaptive perspective to implementation follows Escobar’s (1995) notion of hybridisation where local culture and development interact in such a way that participants are free to draw upon cultural heritage, modify, appropriate and cut across social boundaries to re-create cultural forms. Rather than viewing the adaptation of policy as failure, implementation can be seen as an opportunity for ‘functional’ hybridisation. ‘The greatest political promise of minority cultures is their potential for resisting and subverting the axiomatics of capitalism and modernity in their hegemonic form’ (Escobar 1995:225).

This research has demonstrated that despite strong national leadership for the maternity waiting home policy, the strategy was significantly changed during implementation. In this case, flexibility in implementation was a strength. ‘Both beneficial and detrimental adaptation can be expected during the progressive dispersion of responsibility from one central site to many local sites during implementation of an original mandate’ (Browne & Wildavsky 1984:226). Thus, change during implementation does not necessitate a negative outcome. What is crucial is that these changes are evaluated, reflected upon and used to evolve more effective policy ideas. ‘Explaining policy failure in terms of the quality of the policy idea seems to work at least as well as explaining it in terms of
Reflecting on the transformation of maternity waiting homes during implementation requires a reflection on the whole policy because ‘any change in implementation must bring about a change in policy’ (Majone & Wildavsky 1984:178). The maternity waiting home strategy, as a national policy, codifies the way in which women should give birth (Shore & Wright 1997), promotes the centralization of birthing services, strengthens the value placed on location of birth, and shifts birth into higher levels of care. At the same time it tends to ignore the practical problems women face accessing this model of care, with the risk of increasing inequities in access to services for women in remote areas. This also raises fundamental questions about the overall organisation of maternal health services. In Timor-Leste the policy of facility-based birth is generally seen by policymakers as ‘neutral and inevitably beneficial, not as an instrument for the creation of cultural and social orders’ (Escobar 1995:36). It could be argued that the centralised, facility-based model, which is the basis of the maternity waiting home strategy, is an inappropriate policy and difficult to achieve for most women, particularly the poorest and most remote. For example, there are currently about 48,000 births per year in Timor-Leste, of which 4,800 occur in a health facility (UNICEF 2009). A model that supports only facility-based birth would require the construction of health facilities to cater for an additional 43,200 births per year.

The evaluation of the use of maternal health services outlined in Chapter 6 demonstrated a stagnation or significant decline in home birth services. Interviews with women revealed the importance of birth as a family event, and the desire of many women to continue to birth at home. Thus a more appropriate policy option than maternity waiting homes and facility-based delivery would be to work within the cultural framework and provide women with a choice of skilled assistance at home or in quality birth centres, with both options backed by comprehensive transport services. The Ministry of Health (2007b) has set the acceptable target of one midwife per 50-100 births. In 2008, however, there were only 192 midwives to cover 48,000 births, or one midwife per 250
births (MoH 2008). With the current level of human resources, even the policy of skilled attendance for all women is unlikely to be achieved. A more fruitful area for investment in the immediate future may be communication and transport at the village level, and ensuring quality emergency obstetric care at district hospitals for women who need it.

While there is widespread recognition that accessibility is a huge problem, so far there has been little serious government attention paid to transport as part of the maternal health system, and perhaps more importantly, the development of nationwide transport infrastructure. This research has shown that including home birth, transport and communication as part of a package of services may be the most effective components to improve overall levels of skilled attendance and increase accessibility for people in remote areas. While this approach may not be in line with Timor-Leste’s current policy (MoH 2007a; 2007b), it is consistent with international best practice (WHO et al 2004).

**Women’s Participation in Policy**

What has occurred in maternal health policy to date is that the women who are the objects of policy are neither consulted nor required to be informed in any systematic way about decisions that directly affect them (Watt et al 2005). Rural women’s voices appear to be absent from the policy debates that dictate their birth choices and impact on their reproductive lives. The main avenue of power for women in Timor-Leste is to avoid the system. Even Browne and Wildavsky (1984:215), who so eloquently advocate for flexibility in implementation, argue for the ‘continuous negotiation between administrators, implementers, and decision makers’ and completely neglect the participation of end users. This applies not only to women but also to other lower status end users. Shore and Wright (1997), for example, found that citizens throughout the developing world are becoming alienated from an increasingly remote and disconnected policy-making process.

Because of geographic dispersion, rapid population growth, ethnic diversity and the location of headquarters outside the community, the decisions made in Dili are unlikely
to reflect the preferences of rural constituents (Steinberg & Baxter 1998). Dominant ideologies have therefore given rise to a limited number of solutions. ‘The production of discourse under condition of unequal power’ produces solutions that favour the structural interests of the elite, and in maternal health has led to an erosion of women’s ability to define appropriate models of maternity care (Escobar 1995:9). The framing of birth as a medical event and the preference given to medical knowledge over local knowledge precludes women, particularly poor uneducated or rural women, from actively contributing to policy decisions around birthing services. It is these people, however, who are the targets of policy because of less than optimal outcomes. Rather than Timorese women, foreign obstetricians and doctors in WHO, UNFPA and the Ministry of Health define both the problem and the solution for birthing in Timor-Leste. Thus the current situation is a dialogue of elites. As demonstrated by the stagnation of improvements for birthing women the world over, the participation of local women does matter (Escobar 1995).

Guba and Lincoln (2000:113) argue that ‘judgment about needed transformations should be reserved to those whose lives are most affected by transformations: the inquiry participants themselves.’ Feminist writers have long advocated for women’s participation in policy, and have argued that listening to what women have to say about their health is vital to policy-making (Inhorn 2006). Even if all other reasoning fails, one cannot argue that women do not have a right to self-determination in matters regarding their own bodies (Jordan 1980). The Timorese Ministry of Health have also emphasised the importance of users’ perspectives in promoting responsiveness of the health system (MoH 2002a). However, mechanisms for community involvement remain underdeveloped (World Bank 2005) and mechanisms for remote, marginalised women are completely absent.
An important next step is the development of mechanisms for remote women to participate in setting the policy agenda in maternal health. Policy-makers need to be open to different models and be flexible to new innovations in existing systems. Some important health system requirements for women in Timor-Leste are allowing the upright birthing position, providing hot water in facilities, allowing social support during labour and birth, and valuing the protective nature of kinship and culturally prescribed protective measures. Rather than being ‘traditional’, many of these elements have become routine practice in progressive maternity care in Western countries. While these examples have been gleaned from this research, the voices of local women were interpreted and filtered through multiple sources, all with their own objectives and biases. In this way I acknowledge the situated and political nature of my analysis (Rice & Ezzy 1999) as a woman and advocate for home birthing options.

As an outsider I cannot presume to represent Timorese women, to repackage their perspectives and recommend action. Local Timorese women are best situated to guide the path to decolonization, to investigate, advocate and recommend new directions for maternity care into the future. This does, however, generate a new set of theoretical questions: is it feasible for remote women to drive the policy agenda in relation to maternal health systems? If power sharing were possible, what are the most effective mechanisms for participation in the policy process? What would maternal health policy look like if it was developed ‘from below’?
Conclusion

The objectives of this research were fulfilled by collecting new empirical data from rural health services, staff and women who use and avoid the relevant services. I also conducted an analysis of the policy process; evaluated whether maternity waiting homes improved access to care; and developed a framework to capture the complexity inherent in both the implementation of policy and the use of services. These findings are significant in that they challenge the accepted way of understanding the policy process and demonstrate how implementation is inevitably a process of adaptation. This research also illustrates how the depth of concepts such as power, ideology, inequality and culture can contribute to policy studies and the practical outcomes in the application of policy. The anthropology of policy thus provides a conceptual grounding for furthering policy analysis as well as in the practical business of making and evaluating policy.

As Turner (1992b) did with the sociology of the body, I have attempted to provide a more systematic way of organising the theoretical structure in the anthropology of policy. The framework provides a way of capturing the complexity inherent in all stages of the policy process and encourages thinking about policy issues from the ground up. Applying this analysis to the maternity waiting home policy in Timor-Leste reveals the need to re-evaluate the theory of how this strategy works to improve access to care, both in Timor-Leste and elsewhere. The choice of maternity waiting homes may be problematic in that they assume an altogether false universality of health systems, of cultures, of women’s needs and of birthing (Apthorp 1997).

Embracing the theory of implementation as adaptation requires reflection on the failure of maternity waiting homes to achieve their objectives. When policies deviate from the plan, this should lead policy-makers to reflect on the policy idea itself. The framework presented in this chapter highlights the need to re-think the way in which international policies, which embody specific ideologies, are marketed, transferred and taken up in the developing world. Reflecting on the maternity waiting home strategy and the policy of institutional delivery illustrates the importance of investing in village-based services and transport infrastructure. However, there is still much to be achieved in relation to
improving quality of care in district hospitals. Rather than relying solely on global models to drive the policy agenda, what is required is an alternative model of policy, one which begins with a consideration of context and incorporates the voices of the rural women.

A further research question remains; specifically, how to facilitate mechanisms of participation in maternal health policy for rural women. The emphasis placed on ‘best practice’ and universal health care models has been growing in both international and domestic health policy arenas. What this research has shown, and what complexity theory suggests (Anderson et al 2005) is that there is more than one paradigm from which to deliver health services, and more than one way for health systems to successfully achieve health for birthing women and their babies.
References


Appendices

Appendix 1: Interview Schedule

Women and Community

- Where did you deliver your last baby?
- Who made the decision that you would deliver there?
- Why did you/they decide to deliver at home/hospital?
- What sort of traditional things do you do to keep pregnant women and babies healthy/strong? Why?
- Tell me about family and social support during pregnancy and birth.
- What type of support would be most helpful to you when you deliver your baby?
- What causes problems during pregnancy and birth?
- Do you know about the MWH? How did you find out?
- What do you think about the MWH?
- Where do you live, how many hours away from the health centre?
- How did you get to the MWH?
- Who organized transport? How did they go about that?
- When did you decide to come to the MWH? Prompt: before or during labour, or because of a complication.
- Did it cost you anything to use this service or for medicine?
- Did your family come with you? Why/why not?
- Where are they staying? Are family allowed to stay at the MWH?
- What services are you provided with at the MWH? Prompt: activities, education, clinical care
- How do you feel about the services that are provided at the MWH? At the health centre?
- What is the best thing about this maternity waiting home?
- What is the worst thing about this maternity waiting home?
- How could the MWH be improved?
- Would you use the MWH (again)? Why/why not?
- What services are available for women who don’t want to or can’t come to the MWH?

Health Management and Staff

Quantitative data

- Population of districts and sub-districts
- Expected number of pregnancies and births (bulin and bumil)
• Number of midwives, doctors and other staff
• Opening hours, are staff available 24hrs
• Number and day of ANC visits
• Number of births per month (in the hospital, in sub-district CHCs, in health posts, at home attended, at home unattended)
• Number of beds
• Number of referrals per month and reason for referrals
• Number of ambulances, number that are functioning
• When the MWH was opened
• Cost of building and equipment
• Proportion of births with a skilled attendant
• Maternal and perinatal deaths (in district CHC, plus sub-district CHCs)
• Any documents relating to MWHs (tenders, report from the community, CHCs, administrators, MoH national).

Policy

• How did you first hear about MWHs?
• What do you think the strategy of MWHs is trying to achieve?
• When did/will this MWH open?
• How does this MWH work?
• Tell me how this maternity waiting home came to be in this village. Who made those decisions?
• Do you think it is a good strategy? Why/why not?
• What is the best thing about this maternity waiting home?
• What is the worst things about this maternity waiting home?
• Do you think MWHs are/will be successful here? Why/why not?
• How could the MWH be improved?
• What lessons have you learned about maternity waiting homes that could be useful for other districts or for the national level?
• Are there competing priorities or strategies that didn’t get funding because the MWH was being built?
• How was the MWH concept transformed into to a birth centre? Why?
• Timelines: When did the idea of the MWH come about? When were the plans for the MWH initiated? When did building commence? When was the building complete? When did people start to use it?
• Are there any plans for more MWHs in this district? Why/why not?
• Why are MWHs an attractive option?

Actors

• What do the community think about the MWH?
• What do the community contribute to the MWH?
• How does the community know about the MWH?
• What do NGOs contribute to the MWH?
• What has been the role of the MoH national on the development and functioning of this MWH?
• What factors/changes could be made to make MWHs more successful?
• What strategies do you think are needed to improve maternal health?
• What is the role of research in informing plans for MWHs in Timor-Leste?
• What models have been used for studybanding (learning from other examples of the same project overseas) in relation to MWHs?

Transport
• What type of transport is available?
• When is the ambulance and driver available to transport people? (prompt: 24/7)
• What are the problems with the ambulance?

Communication
• How do you communicate with the referral hospital?
• Has there been any problems with the radio or with other communication lines with the referral hospital or other health facilities?

Referral
• How do women know to come to the MWH?
• What indicates that a woman should be referred to the hospital?
• Have there been any problems with referral to the hospital?
• Who decides if the woman is going to be referred to the hospital? What if they are not around?
• How many women have stayed in the MWH and have been referred to hospital?

Place of birth
• Where do most women deliver their baby? Why do they deliver there?
• What are some of the problems with delivering at the health centre? (Prompt: equipment and space)
• At home?
• Do midwives at this CHC attend home births? Has this changed since the MWH was opened?

Supplies
• What supplies are needed for the MWH? (Prompt: soap, bed sheets, towels, teaching tools such as posters, flip-chart, etc.)
• Are they available? Why/why not?
• What type of food is provided at the MWH?

Services
• What services are provided in the MWH? (Prompt: clinical, health education, postpartum care, ANC, immunization)
• What services are provided in the health facility?
• Do women follow traditional practices at the MWH? Why/why not?
Family
- Are family allowed to stay at the MWH? Are there any problems with this?
- When do they visit?

Staffing
- Who was involved with the design and building of the MWH?
- Who is running the MWH? What is their role, their activities? (Prompt: liaising with the health facility, maintenance of maternal waiting house, monthly reporting to the administration of the hospital/community health center on activities)
- How many staff work at the MWH? What is their role, their activities?
- When are the midwives available? i.e. 24hrs, 7 days
- How do you let people know about MWHs? Who is responsible for that? (Prompt: is media involved, do health volunteers and midwives promote it?)
- Is the MWH a lot of work for the midwives and other staff?
- Is there anything the staff is unable to do because they are looking after the MWHs? i.e. attend births at the woman’s home or attend training?
- Who pays for the extra staff required to run the MWH?
- What is the role of the Cuban doctors in looking after pregnant women and the MWH?

Information
- Are there any protocols that you follow in relation to the MWH?
- Can you provide me with any key policy documents or information relating to the MWH?
- Do you have a log book to collect information? (Check any data and collection methods and discuss forms after interview)
- Who records the information? Prompt: midwife?
- What is done with this information?
- Do you provide any reports on the MWH? Who to? How often? What is in this report?
- What information is given to women at the MWH? (Prompt: education on childbirth, postpartum and newborn care, early immunization and breast-feeding, nutrition and birth spacing, recreational activities)
- Have there been any evaluations done? When, who by, what were happened with the results?
- What sort of information does the health facility collect on the women using the MWH? (Prompt: number and outcomes of pregnancies?)
- How many women are currently staying at the MWH (postpartum + those that haven’t delivered)?

Funding and resources
- How much did the MWH cost to build?
- Did it come in on budget?
• How much does it cost to run each month? (Prompt: food, salary, transport, equipment, electricity)
• What is the annual budget for the MWH? Who is funding this? How is the budget managed? Prompt: through the health facility?
• What is included in the budget? (Prompt: salary of administrator, benefits for midwife, maintenance of house, fees for electricity and water supply, expenses for domestic supplies)
• Are there other projects that were considered instead of the MWH (i.e. ambulance, water, roads)? What was their cost? Why weren’t they implemented?

Parameters to establish from data, if no data available then ask these questions:
• How many women have stayed in the MWH?
• Where are they mostly from? Prompt: far or near?
• Has the MWH had an impact on how many women come to the health facility to have their baby? If yes, more or less people?
• Drop out rate - How many women have been admitted to the MWH but have gone home prior to birth?
• How far to the nearest referral hospital that is capable of comprehensive emergency obstetric care in kms and hours (min 2 hrs stated in policy)?
• Is the health centre capable of basic emergency obstetric care?
• How long, on average, do women stay at the MWH before and after birth?
• What is the average daily cost per woman per day to stay at the MWH?
• What risk factors do women who stay at the MWH have?

Alternative strategies
• What services are available for women who don’t want to or can’t come to the MWH?
• Do you think there are any other strategies in maternal health that the government or other agencies should be thinking about?
• How could health services for women be improved?
• Are there any other issues you would like to talk about?

Policy-makers

Maternal health policy
• What do you think are the main aims of your organisation in relation to maternal health?
• What is the major focus of maternal health policy currently? What has aided the decisions about that/these policies?
• What are the underlying assumptions about how these policies work?
• Do you think improvements in maternal health are being achieved? Why/why not? What are these improvements?
• Do you think that WHO, UN, technical advisors and other international agencies—are affecting/influencing/impacting the health policy agenda? In what ways? In your judgement is this a positive impact?
• Why are facility-based births so important in Timor-Leste’s maternal health policy? When was this policy decided? By whom?
• What is the role of research in informing which policies will be implemented for maternal health in Timor-Leste?

Maternity waiting homes
• What is your understanding of how the idea of MWHs came to be on the agenda in Timor-Leste?
• What do you think were the main influences on the development of MWHs in Timor-Leste?
• Can you tell me anything about how professional or social networks have worked in relation to the development and structure of maternity waiting homes? How have they worked? Who are the services provided by?
• What do you think the strategy of MWHs is trying to achieve?
• Do you think MWHs are a good strategy for Timor-Leste? Why/why not?
• Do you think MWHs are/will be successful in Timor-Leste? Why/why not?
• Who is accountable for the success/failure MWHs?
• What factors/changes could be made to make MWHs more successful?
• What has been the response from users of the MWH and the community? Do you think MWHs are acceptable at the community level? Why/why not? What would be acceptable?
• How was the MWH strategy transferred to the district level?
• How did MWHs become birth centres? Has the strategy of MWHs changed as a result of this?

The future
• Do you think there are any other strategies in maternal health that the government or other agencies should be thinking about?
• What do you think are the main ways forward in maternal health in Timor-Leste?
• Prompt – policy as well as services and community.
• Are there any other issues you would like to talk about?
• Can you provide me with any key policy documents, published or unpublished, that would be relevant to this research?
Appendix 2: Information Sheet

Research Project: Reconstructing Maternal Health Systems: Maternity Waiting Homes in Timor-Leste

Aim: The purpose of this research is to conduct a program evaluation of two maternity waiting homes that are operational in Timor Leste, and to analyse the origins and development of maternity waiting home policy, both at the national and district level.

Participation in the Research: If you agree to take part in this research you will be asked to participate in an informal interview. This interview will take approximately 45 minutes and will ask questions about the following topics:

- Maternal health and policy in Timor-Leste
- Decisions and influences leading to the development of maternity waiting homes
- How maternity waiting homes function within the wider health system
- Role and perspectives of the community

Recording Information: Notes will be taken during the interview. If you agree, the interview will be tape recorded.

Confidentiality: Any personal information you provide will be kept confidential. Your name will not be used in any reports, and any quotes used in a report will remain anonymous.

Consent: You do not have to participate in this study. If you feel uncomfortable you can stop the interview at any time. You can also decline to answer any questions during the interview. If you later decide that you want to withdraw from the study you can contact the researcher and the information you provided will be destroyed.

Research Findings: The Ministry of Health will be given a copy of the final report and any publications arising from the research. You can also request a copy of these and can discuss the project with the researcher using the contact details below.

Contact Details: If you have any questions relating to this research please feel free to contact the chief researcher, Kayli Wayte. Alternatively you can contact her supervisor Doctor Nelson Martins or her co-supervisor Professor Lesley Barclay. If you have any concerns about the research or the way it has been conducted you can contact the Human Research Ethics Committee at Menzies School of Health Research.

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Appendix 3: Consent Form

I understand that:
1. this interview is being done as part of a PhD research project
2. the interview will take approximately 45 minutes or longer
3. there will be questions relating to maternity waiting homes and maternal health policy development in Timor-Leste
4. this interview will be tape recorded if I give my consent here: □ yes  □ no
   ________ (initial)
5. notes will be taken during this interview
6. all information given during this interview will remain confidential
7. I do not have to participate in this interview, and I can withdraw from the interview at any time
8. I can decline to answer any question

Interview Participant:

________________________ _________________________ ____________
(signature) (name) (date)

Researcher:

________________________ _________________________ ____________
(signature) (name) (date)

Witness:

________________________ _________________________ ____________
(signature) (name) (date)

Interpreter: □ yes  □ no