

**Quality of care in maternal health: Childbirth
practices of public and private skilled birth
attendants and a quality improvement system
in Cambodia**

Ponndara Ith

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I hereby certify that the work in this thesis has not previously been published or written by another person, nor does it contain substantial proportions of material which have been accepted for the award of any other degree at UTS or any other educational institution, except where due acknowledgment is made in the thesis. Any contribution made to the research by others, with whom I have worked at UTS or elsewhere, is fully acknowledged within the text.

I also declare that the intellectual content of this thesis is the product of my own work. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. Furthermore, I certify that all information sources and literature employed are indicated in the thesis.

Signature of student:

Date:

Dedication

I dedicate this thesis to my late father Mr Ith Ponn and mother Chhim Kimly who both were killed during the Khmer Rouge period. My special dedication also goes to my late grandmother Yim Puy who spent most of her time, commitment and best efforts raising all my brothers and myself after we lost our beloved parents. Yim Puy often shared her stories, experiences, difficulties and challenges with us and offered us valuable ideas and thoughts about what was going on in the world and how, though we were orphans, we could, through hard work, mature into valuable adults able to contribute to it. She also motivated me and made all things possible for me to become a medical doctor in Cambodia.

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Image 1: A woman after birth with her mother



Image 2: Health Centre in Cambodia



Image 3: Primary and secondary midwives with Ponndara ITH (the researcher)

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Peer reviewed publications and conference presentations from this research

A number of peer-reviewed publications and conference presentations have arisen from this PhD work. I have been the first author, or co-author on these papers and a reviewer of a paper in relation to Cambodia.

Peer reviewed publications:

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List of Abbreviations

AMTSL	Active Management of the Third Stage of Labour
ANC	Antenatal Care
BEmOBC	Basic Emergency Obstetric Care
CDHS	Cambodia Demographic and Health Survey
CMA	Cambodian Midwives Association
CPA	Complementary Package of Activities
C-Section	Caesarean Section
CEmOBC	Comprehensive Emergency Obstetric Care
EmONC	Emergency Obstetric and Neonatal Care
FIGO	The International Federation of Gynaecology and Obstetrics
FGD	Focus Group Discussion
GTZ	Gesellschaft für Technische Zusammenarbeit
HREC	Health Research Ethics Committee
HC	Health Centre
HRH	Human Resources for Health
ICM	The International Confederation of Midwives
MoH	Ministry of Health
MNH	Maternal and Newborn Health
MCH	Maternal and Child Health
MDA	Maternal Death Audit
MDGs	Millennium Development Goals
MMR	Maternal Mortality Ratio
NECHR	National Ethics Committee for Health Research
NIPH	National Institute of Public Health
NGOs	Non government organizations
OD	Operational District
PHD	Provincial Health Department
PPH	Post-partum Haemorrhage
QAP	Quality Assurance Project
QI	Quality Improvement
RACHA	Reproductive and Child Health Alliance
RH	Referral Hospital
SBA	Skilled Birth Attendant
TBA	Traditional Birth Attendant
UN	United Nations

UNDESA	United Nations Department of Economic and Social Affairs
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNSW	University of New South Wales
USAID	United States Agency for International Development
UNTAC	United Nations Transitional Authority in Cambodia
URC	University Research Centre
UTS	University of Technology, Sydney
WB	World Bank
WHO	World Health Organization

Abstract

High-quality midwifery services, including access to skilled birth attendants (SBAs) and high quality emergency obstetric and neonatal care are essential for reducing maternal mortality worldwide. Yet there has been little emphasis in high-burden countries, such as Cambodia, on examining the actual practices of SBAs and women's experiences with the care they receive. This thesis examines the practices of public and private SBAs during labour, birth and the immediate post-partum period, their working environments, women's perspectives, and the quality improvement systems needed to maintain and support SBAs to deliver quality maternal and child care in Cambodia.

A qualitative, naturalistic inquiry design was undertaken, using participant observation, in-depth interviews, focus group discussions and informal interviews. Data were audio-taped, transcribed, and analysed using a thematic approach. A purposive sampling of twenty public SBAs who attended 40 births collectively and five private SBAs who attended 10 births was observed. Interviews and focus group discussions with public SBAs and interviews with private SBAs were conducted after the observation. Thirty interviews were conducted with women who had recently given birth with public and private SBAs. Key stakeholders consisted of five medical doctors from the Cambodian Ministry of Health, the Provincial Health Department and an NGO who were selected for interview.

The findings showed that childbirth practices of public and private SBAs were not consistent with evidence-based standards. Physical environment, remuneration and incentives, workplace culture, management practices, and professional development opportunities were identified as the main factors affecting SBAs' practice. Women's choice and use of health facilities were influenced by their perceptions of safety, staff attitudes, costs associated with the birth and support in labour and postnatal care. Stakeholder interviews identified facilitators and barriers to the implementation of a quality improvement system for maternity care in public health facilities.

This thesis provides evidence of the current childbirth practices of SBAs and the healthcare-seeking behaviour of women in Cambodia. It illustrates the complex factors

that influence SBAs' practice, their working environments and the delivery of a quality improvement system. An empirically informed framework for coordinated action to improve maternal and newborn health care is proposed. This framework focuses on building the capacity of SBAs and provides decision-makers, practitioners, key health partners and researchers with a tool to guide policy and target investments to maximise the impact upon maternal health improvement in Cambodia and other similar countries.

Chapter 1 Introduction

1.1 Introduction

Every year, an estimated 350,000 women worldwide die from pregnancy-related complications (United Nations and Population Funds [UNFPA] 2011) and almost all (99%) of these deaths occur in developing countries (World Health Organization 2010). Although the proportion of births being attended by skilled health personnel has risen from 47% in 1990, worldwide, only 66% of women in developing countries have skilled birth attendants (SBAs) (World Health Organization [WHO] 2011), and many of these women may not receive the quality of care they need (Koblinsky et al. 2006). Millennium Development Goal 5 (MDG 5) aims by 2015 to reduce 1990 worldwide maternal mortality ratio by 75%. Reduction in the considerable numbers of maternal and neonatal deaths and stillbirths will only occur if women have access to SBAs and quality emergency obstetric care (Freedman et al. 2007; 2006; UNFPA 2011).

While many developing countries, including Cambodia, have prioritised maternal health by promoting childbirth assisted by an SBA to reach the United Nations 2015 MDG 5 target, to achieve the target, evidence-based practices, which contribute to improved maternal and neonatal outcomes, are required. Evidence-based practice requires a person with midwifery competencies and selective obstetric skills and back-up from functioning referral systems during the critical period of labour, birth and the immediate post-partum period, in order to prevent, manage or refer in a timely manner (De Bernis et al. 2003; World Health Organization 2004a).

Evidence from developed and developing countries indicates that skilled attendance during childbirth is critical to prevent 75% or more of maternal mortality (Donnay 2000; Wagstaff & Claeson 2004; World Health Organization 2000) because maternal mortality occurs around labour, birth and the immediate post-partum period (Liljestrand et al. 2009). Maternal mortality rate is defined as the number of women who die as a result of childbearing per 100,000 women aged 15-49 in a given year whereas maternal mortality ratio (MMR) is the number of women who die as a result of childbearing in a given year per 100,000 live births in that year. Maternal mortality is classified as either: (1) death that results directly from the obstetric complications of pregnancy, accounting for 75% of all maternal deaths; or (2) death from indirect causes, namely a pre-existing

disease exacerbated by pregnancy or a disease developed during pregnancy (World Health Organization 1999b). Obstetric complications include unsafe abortion, prolonged obstructed labour, haemorrhage, eclampsia and infection (Ronsmans 2009; World Health Organization 2005).

As maternal deaths are clustered around labour, birth and the immediate post-partum period (Liljestrand et al. 2009; Ronsmans & Graham 2006), many developing countries, including Cambodia have promoted the role of skilled attendance to ensure the health of mothers and babies, in line with achieving MDG 5. Skilled attendance refers to the care provided to a woman and her newborn during pregnancy, childbirth and immediately after birth by an SBA. This refers to an accredited health professional such as a midwife, doctor or nurse who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns (World Health Organization 2004a). This SBA also needs the necessary equipment and the support of a functioning health system, including transport and referral facilities for emergency obstetric care (World Health Organization 2004a).

In most countries, despite an increase in the number of births benefiting from assistance by an SBA, there remained large parts of the world where women have either no one, or only family members, to assist them during childbirth (De Bernis et al. 2003; De Brouwere & Lerberghe 2001). Each year, 45 million births worldwide occur without skilled health personnel in attendance. Adequate numbers of competent and motivated SBAs are not available, accessible or affordable in many developing countries, including Cambodia. As a result, other health workers ranging from traditional birth attendants (TBAs), community health workers, auxiliary nurses and private health providers contribute to the care of women and newborns, although they do not have the required skills and abilities of an SBA (World Health Organization 2004a).

In many developing countries, programs aimed to improve maternal health have not been effective or accessible because women are not often empowered to get involved nor are they involved in the decision-making process which might ensure services are responsive to their needs (Ir et al. 2010; Mudokwenyu-Rawdon 2013).

As a result, pregnant women may be unaware that SBA services are available, may see them as a low priority, or may seek their help too late (Mudokwenyu-Rawdon 2013; Thaddeus & Maine 1994). Delay in seeking care can result in the access and use of maternal health services from providers who may not be SBAs (De Bernis et al. 2003). Childbearing women need a continuum of care from the household through the community to health care facilities (health centres and or the hospital) to ensure the best possible health outcome for them and their babies (World Health Organization 2004a). Effective maternity care also needs coordinated, efficient and proactive collaboration between SBAs and other staff and facilities involved in the provision of care to pregnant women and newborns (De Bernis et al. 2003; World Health Organization 2004a).

In Cambodia, knowledge of the skills and abilities, particularly public and private SBAs who are involved in providing care for childbearing women and newborns, is limited. Relatively few studies have focused on women's healthcare-seeking behaviour in the choice of maternal health services (Matsuoka et al. 2010; Yanagisawa, Oum & Wakai 2006). More importantly, there has been limited investigation of quality improvement initiatives, particularly those that are midwife-led, or of the contextual issues affecting midwifery practice improvement in Cambodia. Furthermore, an empirically informed framework for coordinated action to improve maternal and newborn health for the Cambodian context has not previously been proposed for policy-makers, key donors, individual SBAs, health managers and the community.

Without comprehensive information on the scale, impact and significance of the actual practices of public and private SBAs during labour, birth and the immediate post-partum period and their working environments, as well as the perspective of childbearing women and key stakeholders, it is neither possible to know what is happening nor to establish a strong model of midwifery care, and a quality improvement system for addressing the identified gaps. There is, therefore, an urgent need to address these knowledge gaps between the quality care provision and the best evidence that will provide opportunities to improve the structure, process, and outcomes of maternity care for women and their newborns. My study provides a valuable insight into the existing practices of SBAs, the ways in which women seek care, and the ways key stakeholders have been engaged in maternal health practice, education, policy, and research in Cambodia.

This research aims to improve the quality of maternal health services during labour, birth and the immediate postnatal period in one province in Cambodia by providing evidence of SBA practices and their working environments, and the perspective of women and key stakeholders. In particular, the research seeks to address these questions:

1. What are public SBA practices during labour, birth and the immediate postnatal period and how do they compare with evidence-based guidelines?
2. How do public SBAs perceive their practice and the factors that facilitate or constrain their practice?
3. How do public SBAs perceive their working environments?
4. What are the practices and working environments of private SBAs?
5. What are women's perceptions of maternity care?
6. How could a quality improvement system be employed to better support SBAs to deliver quality maternity care in Cambodia?

The findings of this study are presented in the results sections and contain four papers published in peer-reviewed journals. This introduction chapter provides an overview of the global maternal health situation and describes the Cambodian context of the study.

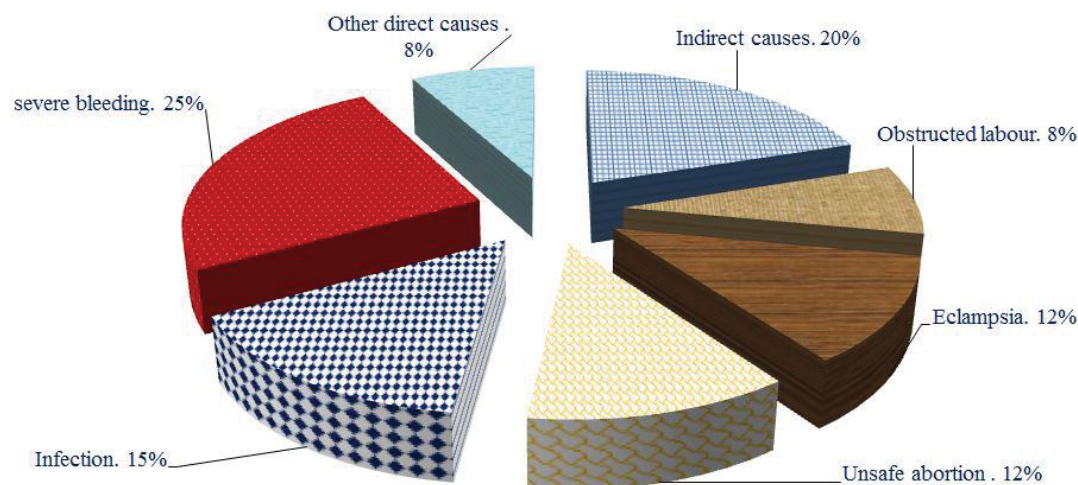
1.2 Background

1.2.1 Global maternal health situation

Maternal health conditions are the leading cause of maternal mortality and disability among women of reproductive age in developing countries (Ronsmans 2006; UNFPA 2011). Approximately 15% of all pregnant women develop life-threatening complications and 80% of women's deaths are the result of direct obstetric complications (Graham et al. 2001; Ronsmans & Graham 2006). These complications include abortion-related complications, prolonged obstructed labour, haemorrhage, hypertensive disorders and infection (AbouZahr 2003; De Bernis et al. 2003; Ronsmans & Graham 2006). In the postnatal period – the first 24 hours post-partum – primary post-partum haemorrhage is estimated to be responsible for nearly 25% of all maternal deaths. Additionally, indirect causes such as HIV/AIDS, malaria and anaemia account

for about 20% of maternal deaths (AbouZahr 2003; Khan et al. 2006; WHO 2005) (Figure 1-1).

Figure 1-1: Global causes of maternal mortality



Source: The World Health Report 2005. Make every mother and child count.

Among women who survive, nearly 10 million globally suffer from disabilities related to these complications, including chronic pain, fistula, impaired mobility, damage to the reproductive system, and infertility (EngenderHealth 2003). Maternal morbidity is extensive but its prevalence and its causes are not recognised after the birth (Glazener et al. 1995). The lack of vital information concerning maternal morbidity is the result of the lack of standard criteria for the definition of acute severe morbidity and the incidence of severe acute maternal morbidity at the population level (Ronsmans 2009).

Maternal deaths are not equally distributed across the globe. Obstetric risk is highest by far in sub-Saharan Africa (Ronsmans & Graham 2006) and maternal mortality ratio is much higher in some areas of the region than others in East and South-East Asia (UNFPA 2006). The risk of a woman dying due to pregnancy or childbirth is approximately 1 in 6 in the poorest countries versus 1 in 30,000 in Northern Europe (Ronsmans & Graham 2006). More than a million children are orphaned each year when their mothers die. Children who survive their mother's death are ten times more likely to die within two years than those whose two parents survive (Safe Motherhood 2007). Approximately ten million children under five years of age die, two million of

them in the first day of life (UNFPA 2011) and another two million before the end of their first month (Lawn, Cousens & Zupan 2005).

The medical causes of maternal deaths are similar throughout the world (AbouZahr 2003). Underlying the medical causes is a range of socio-economic and cultural factors that interact and exacerbate each other. These include women's status and position within their culture and communities. Socio-economic and cultural realities, including illiteracy, poverty, women's unequal access to maternity services, and their lack of decision-making power in families and societies contribute to maternal disability or death (Koblinsky et al. 2006; McCarthy & Maine 1992). Poorer mothers, or those who are disadvantaged, are more likely to die in childbirth than are more affluent mothers. The poor are not only those with the lowest incomes, but those who are the most deprived of health care, education and other aspects of physical and social well-being (United Nations 2008). Childbirth can be particularly dangerous when it occurs too early in a woman's life, when pregnancies follow each other too closely because of a lack of access to contraception, when a woman is malnourished during pregnancy, or suffers from the low social, economic, and legal status of women or there is inadequate access to emergency obstetric and newborn care (Starrs 2006). These factors are often crucial in causing death or illness for the woman (World Health Organization 2002, 2006b).

Maternal mortality is a complex issue. Improving maternal health has been made the fifth Millennium Development Goal (MDG 5), one of the key goals of the United Nations Millennium Declaration agreed upon by 189 countries. The goal is to reduce the maternal mortality ratio by three quarters between 1990 and 2015. It is closely linked with other MDGs (World Health Organization 2008b) – including eradicating extreme poverty and hunger (MDG1); increasing primary education for girls (MDG 2); and promoting gender equality and women's empowerment (MDG 3).

Most pregnancy-related complications are unpredictable, but almost all can be treated and prevented if all pregnancies are planned, all women are assisted by a SBA throughout their pregnancy and particularly during birth and the early post-partum period, and all complications are managed in quality referral facilities offering emergency obstetric care (Campbell & Graham 2006; Fauveau, Sheratt & Bernis 2008;

Freedman et al. 2007; Koblinsky et al. 2006; UN Millennium Project 2005). In response to the global maternal health situation, the Global Safe Motherhood program was initiated more than two decades ago. Other movements and initiatives have also been developed and these will be briefly described below.

1.2.2 Historical context of the global movement to improve maternal health

1.2.2.1 The Safe Motherhood Initiative

In 1987, the Safe Motherhood Initiative was jointly launched by the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA), the World Bank (WB), and other organisations. The Safe Motherhood Initiative set the stage for substantial improvements in addressing the health risks faced by women during pregnancy and childbirth and gave a high priority to improving reproductive, maternal and child health (DeJong 2000; Family Care International 2006; Prata et al. 2010). Safe Motherhood strategies focused on providing family planning services and post-abortion care, promoting antenatal care, ensuring childbirth by an SBA. Other Safe Motherhood strategies included improving essential obstetric care through the availability of antibiotics, oxytocics, and improving skills in the manual removal of the placenta or retained products and assisted vaginal delivery, as well as addressing the reproductive health needs of adolescents (Safe Motherhood 2007). In support of the Safe Motherhood initiative, four major global initiatives have been established over the past decade. These are Averting Maternal Death and Disability (AMDD), IMMPACT, the Skilled Care Initiative (SCI) and ACCESS. They are detailed in Table 1-1.

Table 1-1: Global Maternal Health Initiatives

Global initiatives can generate and synthesise evidence, develop instruments, create links for learning across countries, and provide technical guidance and support.

The Averting Maternal Death and Disability (AMDD) Program at the Mailman School of Public Health, Columbia University, is a global program of research, advocacy, policy analysis, and program support that is dedicated to the reduction of maternal mortality and morbidity. AMDD and its UN, non-governmental, and governmental partners have worked in some 50 countries in Asia, Africa, and Latin America with a focus on expanding availability, quality, and use of emergency obstetric care and addressing health systems factors that constrain or facilitate equitable access at scale.

IMPACT is a global research initiative to strengthen the evidence-base on the effectiveness and cost-effectiveness of intervention strategies for safe motherhood, and is coordinated by the University of Aberdeen, UK. It consists of a collaborative network of scientists spread across seven research institutions, and has developed measurement methods for robust evaluation of strategies, which were used to undertake major assessments in its first phase (2002–06) in Burkina Faso, Ghana, and Indonesia.

The Skilled Care Initiative (SCI) is a 5-year program of Family Care International that aimed to increase the availability, quality, and accessibility of skilled maternity care in four rural, underserved districts in Burkina Faso, Kenya, and Tanzania through a multifaceted approach of health facility and community interventions.

The ACCESS Program works to expand coverage, access, and use of key maternal and neonatal health services across a continuum of care from the household to the hospital. The 5-year global program is sponsored by the US Agency for International Development (USAID) and works with USAID missions, governments, non-governmental organisations, local communities, and partner agencies in developing countries.

Source: The Lancet (Freedman et al. 2007)

More than 25 years after the launch of the Safe Motherhood Initiative, the global community has reached a broad consensus about priority interventions, incorporated these interventions into national policy documents, and organised global coalitions with the newborn and child health programs. In addition, a number of international conferences have been held that demonstrate the commitment to improving maternal, newborn and child health around the world. Eight important conferences alongside their achievement are drawn on a number of sources, for example, WHO (2002, 2004, 2006) which are summarised below (Table 1-2).

Table 1-2: Timeline of Safe Motherhood Initiatives over the past 25 years

Name of conference	Where	Focus and Achievement
Safe Motherhood Initiatives 1987	Nairobi, Kenya	<ul style="list-style-type: none"> Reviewed the extent of maternal morbidity and mortality, its causes and contributory factors, and the possible strategies and costs that would be required to ensure safe pregnancy and delivery for all women.
World Summit for Children 1990	New York, U.S.	<ul style="list-style-type: none"> Undertook a joint commitment and made an urgent universal appeal - to give every child a better future.
International Conference on Population and Development 1994	Cairo, Egypt	<ul style="list-style-type: none"> Addressed the important global problems of the century in the areas of population and development, including improving maternal health
The Safe Motherhood Initiative Technical Consultation 1997	Colombo, Sri Lanka	<ul style="list-style-type: none"> Identified the most effective strategies for making motherhood safer (10 key messages at www.safemotherhood.org)
WHO Making Pregnancy Safer Initiative 2002	New Delhi, India	<p>Focused on:</p> <ul style="list-style-type: none"> Recognition of the risks faced in every pregnancy; Ensuring skilled attendance at delivery (and not solely of TBAs) Ensuring access to referral care, especially when complications arise Prevention and management of unwanted pregnancy and unsafe abortion Measurement of progress, and Maximizing the power of partnerships.
WHO's First Reproductive Health Policy 2004	Geneva, Switzerland	<p>Focused on:</p> <ul style="list-style-type: none"> Improved antenatal, delivery, post-partum and newborn care Provided high-quality services for family planning, including infertility services; eliminating unsafe abortion; combating sexually transmitted infections, including HIV, reproductive tract infections, cervical cancer and other gynaecological morbidities; and promoting sexual health.
Partnership for Maternal Newborn and Child health 2005	New York, U.S.	<ul style="list-style-type: none"> Stepped up efforts to achieve the international development goals for child and maternal health.
The First International Forum on Midwifery in the Community held by UNFPA, ICM and WHO 2006	Hammamet, Tunisia	<ul style="list-style-type: none"> Proposed a framework on rapid scale-up of midwifery providers, based on a capacity development model.

Despite significant efforts resulting from the Safe Motherhood initiative since the Nairobi meeting in 1987 and International Conference on Population and Development (ICDP) in 1994, maternal mortality ratio has remained high in many parts of the world (Beck & Boulton 2012; UNFPA 2011). There has been little focus on expanding the capacity of countries with high mortality rates, including Cambodia, to implement and sustain Safe Motherhood strategies, or to scale up local-level initiatives that were improving maternal health (Freedman et al. 2007). In response to this, the global community incorporated maternal mortality reduction in the MDGs.

1.2.2.2 Millennium Development Goals (MDGs)

In September 2000, the largest-ever gathering of heads of state at the United Nations in New York, USA, adopted the United Nations Millennium Declaration. This declaration, endorsed by 189 countries, was then translated into eight goals to be achieved by 2015, which are known collectively as the Millennium Development Goals (United Nations 2008). Three of the eight goals, eight of the 16 targets and 18 of the 48 indicators relate directly to health. The fifth goal, reduction of maternal mortality, has as its target to reduce the maternal mortality ratio by three quarters between 1990 and 2015. MDG 5 includes two indicators – the reduction of the maternal mortality ratio and an increase in the proportion of births attended by skilled health personnel – which are now widely used to measure progress towards achieving MDG 5 (Bryce et al. 2008; Wagstaff & Claeson 2004).

Progress in meeting the MDG goals has been disappointingly slow (Bryce et al. 2008; Simwaka et al. 2005). Many developing countries are unlikely to achieve the MDG 5 target by 2015 (Bryce et al. 2008; Clemens, Kenny & Moss 2007; Wagstaff & Claeson 2004). Bryce and others in their 2008 Countdown to 2015 report and the 2012 Countdown to 2015 report by the WHO and UNICEF showed that of the 68 priority countries, maternal mortality in 56 countries remained high or very high. Many existing interventions have been found to be ineffective in preventing maternal mortality (UNFPA 2006) and coverage of different maternal interventions varied widely within these high-burden countries (Bryce et al. 2008; WHO and UNICEF 2012). For example, immunisation and antenatal care had much higher coverage than the 24-hour availability of skilled or emergency obstetric care at birth, care of ill newborn babies and children, and information about postnatal care. Godal and Quam (2012) and WHO (2002) also

indicate that maternal mortality reduction requires a strong and a functional health system that is not present in high burden countries (Godal & Quam 2012; World Health Organization 2002). World Health Organization (2007a) recommend that a health system should be comprised of six building blocks. These are:

- health services delivery
- health workforce
- information
- medical products, drugs, vaccine and technology
- financing
- leadership and governance.

Functional health systems help to ensure women have access to family planning, transportation to health facilities, skilled attendants at each birth and safe and clean facilities, all of which are critical to maternal mortality reduction. Strong leadership within each country and effective strategic coordination among health development partners and multi-sectoral partners, adequate systems of communication, a skilled health workforce are critical to sustaining a health system that enables the delivery of interventions paving the way for progress towards MDG 4 and MDG 5 (Godal & Quam 2012; World Health Organization 2007a).

The lack of capacity in the health system, especially inadequate investment in human resources for health to provide evidence-based services for childbearing women and newborns is thought to be a significant contributor to inadequate responses to maternal health (Prata et al. 2011; Travis et al. 2004). Achieving the MDG requires political, social, legal and economic strategies, as well as knowledge, skills and motivation of human resources for maternal health (Godal & Quam 2012).

1.2.3 The need for a qualified and competent health workforce

A critical component of the efforts required to reduce maternal mortality can be achieved through the provision of an adequate number of appropriately distributed competent, culturally sensitive, and qualified staff who work in a functioning health system (UNFPA 2011; World Health Organization 2006b). Maternal health outcomes depend on the knowledge, skills and motivation of human resources for health, especially SBAs (AbouZahr & Wardlaw 2001; UNFPA 2011) who can deliver

evidence-based interventions (Kerber et al. 2007) during pregnancy, childbirth and the post-partum period and work closely with individual women, families and communities (World Health Organization 2002). Evidence suggests that in resource-poor settings, meeting key MDGs targets, specifically those relating to health, requires a significant increase in the numbers of health workers (Anand & Bärnighausen 2004; Gerein, Green & Pearson 2006; Speybroeck et al. 2006). The minimum estimate for ensuring at least 80% of births are served by SBAs (Speybroeck et al. 2006) should be a ratio of 2.3 doctors, nurses and midwives per 1,000 population (World Health Organization 2006b).

Providing an adequate number of health workers is a challenge faced by policy-makers in many developing countries (Buchan, Connell & Rumsey 2011; Prata et al. 2011; World Health Organization 2004a). Furthermore, little information is available about the quality of midwifery and obstetric care and services provided by existing health workers, particularly SBAs including in Cambodia (Ahmed, Hossain & Chowdhury 2009; Maine 2007; Peters, Mirchandani & Hansen 2004). Hence the importance of this study.

1.3 The context for the study: Cambodia

1.3.1 Geography and demography of Cambodia

Cambodia is situated in south-east Asia and shares borders with the Kingdom of Thailand to the west, Lao People's Democratic Republic to the north, the gulf of Thailand to the south-west, and the Social Republic of Vietnam to the east (Figure 1-2).

Figure 1-2: Map of Cambodia

Source: Ministry of Health, Royal Government of Cambodia, 2006

Cambodia comprises 24 provinces and municipalities (Ministry of Health Cambodia 2008b). The country has approximately 14,138 million people (UNDESA 2011b). More than half the population (55%) is less than 20 years old. The country has an estimated annual population growth rate of about 2%, which means the Cambodian population is projected to double within 30 years (Ngoy 2005). The majority of the population lives in rural areas and depends mostly on agricultural production. Less than 20% of the total population lives in urban areas (CDHS 2011).

Cambodia has a total land area of 181,035 square kilometres (69,900 sq. mi.). Ethnically, Cambodians or Khmers constitute approximately 90% of the total population, Vietnamese and Chinese constitute 5% and 1% respectively. There are also small numbers of hill tribes, Muslims, Laotian people, and a recent influx of immigrants from Europe and other countries. The main religion in Cambodia is Theravada Buddhism (95%); the remainder of the population are Muslim, Animist or Christian. The official language, spoken by more than 95% of the population, is Khmer. French is still spoken in some urban areas but English has become more popular as a second language.

Figure 1-3: Cambodia flag



1.3.2 Overview of recent history and politics

Cambodia obtained complete independence from France's colonial control under the leadership of King Norodom Sihanouk on 9 November, 1953. On the 18 March 1970, Prince Norodom Sihanouk was overthrown by a military coup led by Lon Nol who was backed by the United States of America (USA). On 17 April 1975, Lon Nol's Khmer People's Republic was ended by the Khmer Rouge. The country was named Democratic Kampuchea (Heng & Key 1995). The fall of Phnom Penh to the Khmer Rouge began four years of genocide under the rule of Pol Pot. During the Khmer Rouge-led genocide of 1975-1979, an estimated 1.7 million Khmer people were massacred through forced labour, execution, famine, and disease (Chatterjee 2005). Public health infrastructure and the health workforce were decimated. This crisis resulted not only in socio-economic disturbances, but severely affected reproductive, maternal and child health. In 1979, the Khmer Rouge was ousted by the Revolutionary Army of the National Front for Solidarity and Liberation of Cambodia that was supported by Vietnam. The new government changed the country's name from Democratic Kampuchea to the People's Republic of Kampuchea in 1979. In 1989, the name of the People's Republic of Kampuchea was again changed to the state of Kampuchea by the same government.

The state of Kampuchea had a limited national budget to rebuild the country's infrastructure such as hospitals, schools, roads, ports, telecommunications systems, and

public transportation. Moreover, the continued conflict among Cambodian political factions, economic sanctions, and the international isolation of the 1980s also hindered the process of reconstruction and national reconciliation. Fortunately, the Paris Peace Agreements of October 1991 resulted in the reconciliation of all Khmer political parties, who agreed that a general election should be held and overseen by the United Nations Transitional Authority in Cambodia (UNTAC) in 1993. The country's name was eventually changed from the state of Kampuchea to the Kingdom of Cambodia, and a system of constitutional monarchy was established under which three general elections have been held – in 1998, 2003, and 2008. The whole country has gained reasonable political and economic stability over the last ten years. Cambodia regained its seat and representation at the General Assembly of the United Nations. In 1999, Cambodia became a full member of the Association of South East Asian Nations (ASEAN). However, Cambodia still faces many challenges and difficulties, including education, poverty, and the poor status of women, gender issues, and low economic growth economy.

Cambodia is ranked 139th on the United Nations Human Development Index and is thus considered to be one of the poorest countries in south-east Asia (UNDP 2010). The annual income per capita is US\$380 with an estimated 36% of the population living below the income poverty line of US\$1 per day (Meessen et al. 2006; Ministry of Health Cambodia 2008b). The level of education is poor. In 2007, 87.8% of people were literate. There has been a slight increase in the net enrolment ratio in primary education; however, huge disparities remain due to poor access to education for the poorest and the most disadvantaged groups, particularly in rural and remote areas. Life expectancy at birth in 2011 is 63.1 years and estimated at 58 years for men and 64 years for women (UNDESA 2011b).

1.3.3 Maternal health situation in Cambodia

Although the health status of the Cambodian population is among the poorest in the countries of south-east Asia, Cambodia has made considerable progress towards improving maternal and child health over the last 15 years (CDHS 2011; Liljestrand & Sambath 2012). For example, the proportion of women of reproductive age using a contraceptive method has increased from 19% (2000) to 40% (2009), antenatal care (ANC) coverage is at 69% and the unmet need for family planning is low (25.1%). The

infant mortality rate has decreased from 80 to 70 deaths per 1000 live births and 107 to 91 deaths per 1000 live births between 2000 to 2007, but these figures are still the highest in the under-5 mortality rates from the WHO Western Pacific Regional Office (WPRO 2007). The attendance at births by trained health personnel doubled from 22.4% in 2003 to 55% in 2010 (CDHS 2011). The proportion of births in public facilities has continued to rise, and in 2011 had increased to 61% of all estimated births. Of all births at public health facilities, 69% took place in health centres and 31% in hospitals (Liljestrand & Sambath 2012).

Maternal mortality has been falling significantly in Cambodia since 2005 though it had been stagnant for nearly 15 years before then. The maternal mortality ratio declined from 472 per 100,000 live births in 2000-2005 to 206 in 2006-2010 (CDHS 2005, 2011). Nonetheless, there is an inconsistency in reporting of the maternal mortality ratio, with figures ranging from 206 per 100,000 live birth (CDHS 2011) to 250 per 100,000 live births (World Health Organization 2012) to 290 per 100,000 live births (UNFPA 2011). Table 1-3 shows the MDG 5 indicators and targets for Cambodia.

Table 1-3: The Cambodian MDG 5 Indicators and Targets in Cambodia

Indicators	Baseline 2000	Targets		
		2005	2010	2015
MMR	437/100,000 live births	343/100,000	243/100,000	140/100,000
Birth by SBAs	32%	60%	70%	80%

MMR–Maternal Mortality Ratio

Source: The National Reproductive Health Program of the Cambodian Ministry of Health
(Ministry of Health Cambodia 2006d)

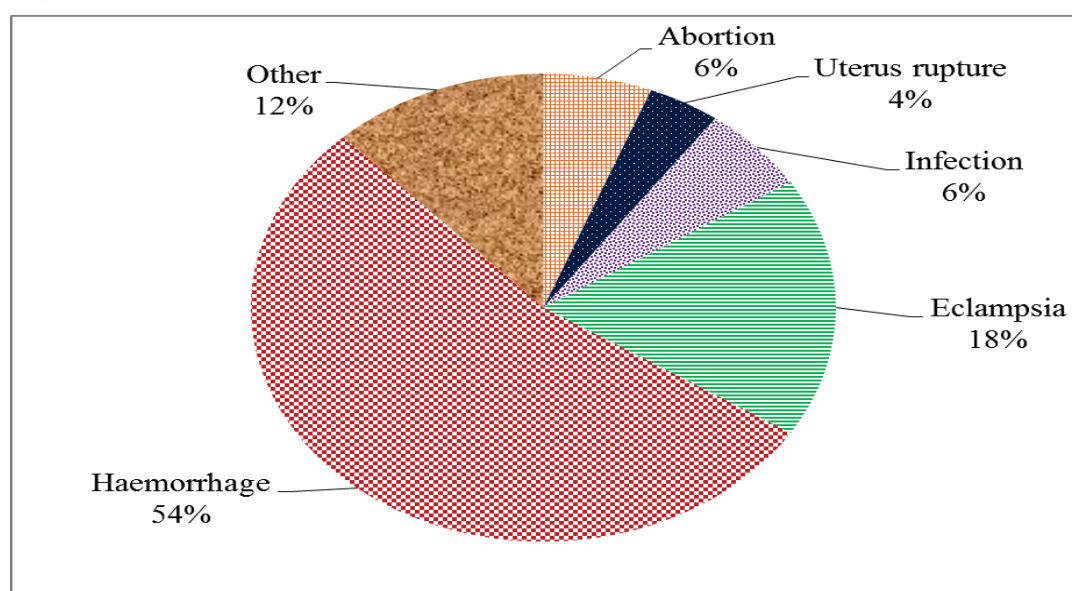
According to the Cambodian CDHS 2011, Cambodia may possibly achieve the MDG 5 75% reduction target of 140/100,000 live births by 2015, but is unlikely to see sufficient increases in the number of midwives to ensure 80% coverage by 2015 (CDHS 2011). Table 1-4 shows the indicators and progress the Cambodian government has made so far towards MDG 5.

Table 1-4: Indicators and Progress towards MDG 5 in Cambodia

Indicators	Baseline 2000	Progress		On track towards MDG 5
		2005	2010	
MMR	437/100,000 live births	472/100,000	206/100,000	On track
Birth by SBAs	32%	44%	55%	Not on track

Source: Cambodia Demographic and Health Survey 2011

The major causes of maternal deaths in Cambodia are similar to elsewhere in the world (AbouZahr 2003; Ronsmans & Graham 2006) (Figure 1-4).

Figure 1-4: Causes of maternal mortality in Cambodia

Source: JICA, Maternal and Child Health Study, Cambodia 2005, Geneva, WHO 2005

According to Figure 1-4, the two biggest causes of maternal death in Cambodia are post-partum haemorrhage (PPH) and eclampsia. They are reported to account for more than 70% of maternal deaths. Other complications included unsafe abortion, prolonged obstructed labour and sepsis (Ministry of Health Cambodia 2006b). Deaths due to unsafe abortion occurred in nearly 6% of health facilities providing post-abortion care. However, in 2009, reports of deaths from unsafe abortion had declined markedly, and only 1% of the health facilities providing post-abortion care reported a death from complications of an unsafe abortion (Liljestrand & Sambath 2012).

1.3.4 The health care system in Cambodia

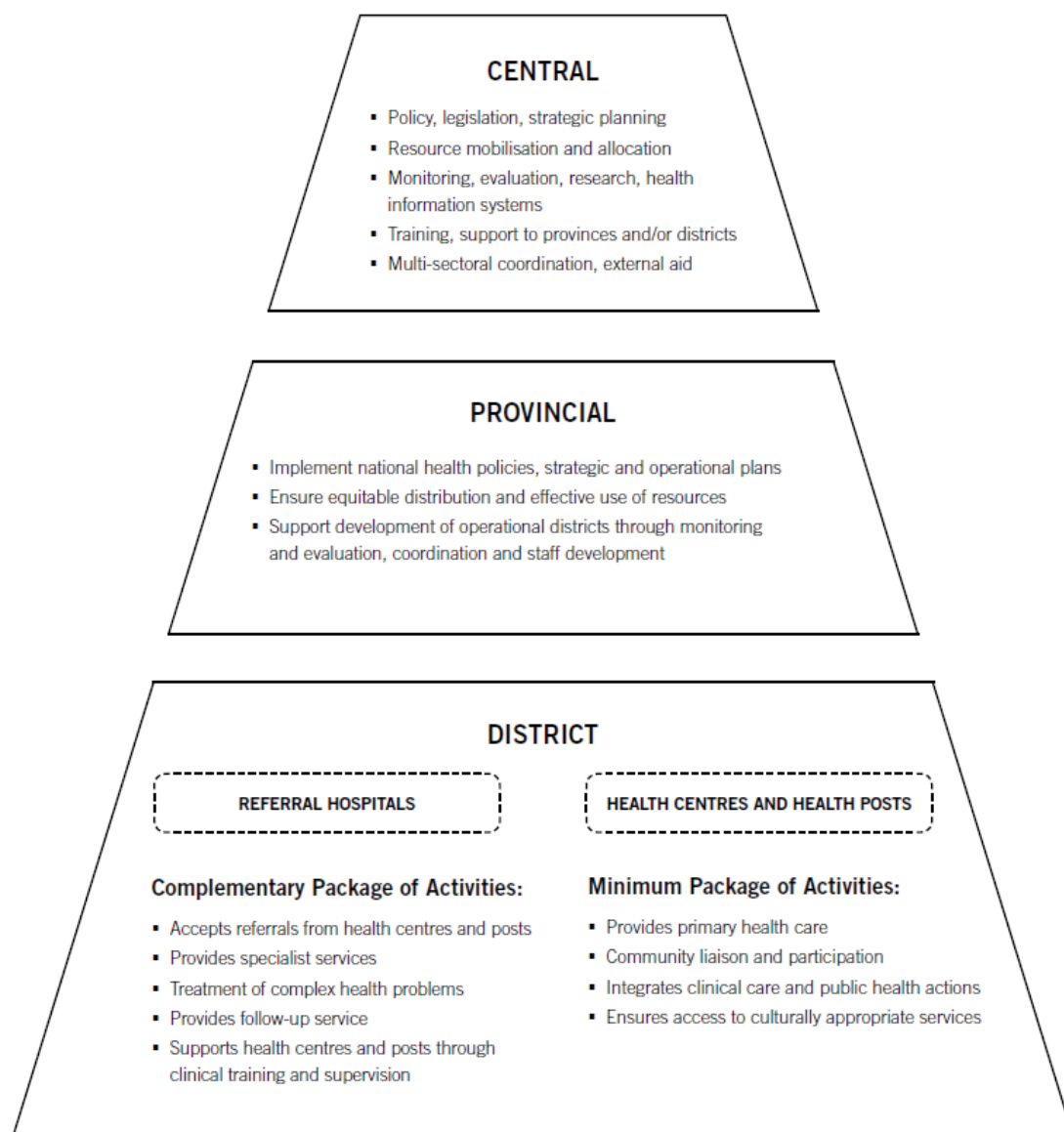
The health care system in Cambodia is largely publicly-funded with small non-government and private sectors. Most of the cost of services is borne directly by those receiving them. In 2005, for example, the total expenditure on health was approximately US\$512 million or US\$37 per capita of which 68% was out-of-pocket payments by patients, 22% was contributed by donors and about 10% came from the government (Ministry of Health Cambodia 2008b). Recently, government spending on health has risen. Health spending in 2007 was about 12% of government recurrent expenditure (1.2% of GDP), up from about 10.7% in 2006 (Ministry of Health Cambodia 2008b).

1.3.5 Health sector reform in Cambodia

The Cambodian government has initiated several health system reforms. In 1995, the Ministry of Health launched a health coverage plan to address infrastructure shortcomings. It established 71 Operational Districts (ODs), and began to build new Referral Hospitals (RHs) and Health Centres (HCs). The government health system has 24 Provincial Health Departments which are similar in structure and functions following the new policies and strategies of health sector reform (Ministry of Health Cambodia 2008b). The health system is based on a primary health care model through the implementation of a district-based health system. This system is intended to improve the population's confidence in public health services; clarifying and reinforcing the role of hospitals and health centres, and establishing each facility's catchment area to ensure coverage of the population (Ministry of Health Cambodia 2008b).

The delivery of health services operates on three levels – the central Ministry of Health, the province, and the district (Figure 1-5). The operational districts oversee referral hospitals, health centres and health posts. The operational districts bear the responsibility for attaining the country's health policy objectives especially under the current government law on decentralisation and deconcentration. The central Ministry of Health is responsible for policies, legislation, and strategic planning. The provincial level (20 provinces and 4 municipalities) operates as a link between the central level and the operational district (Figure 1-5).

Figure 1-5: Organisational and Management Structure of the Health System in Cambodia



Source: Government of Cambodia 2008

In the new health system, the OD is the basic functional unit. The OD has two levels of health services. The first contact level for the public is a health centre, which provides a basic range of services known as a Minimum Package of Activities (MPA). This includes maternal, newborn and child health and reproductive health, management of infectious diseases (tuberculosis, malaria), non-communicable diseases, and related health activities, including health education and promotion and outreach activities (Expanded Program of Immunisation) within the catchment area.

Staffing for MPA is set in three categories. The first category, a Minimum Package of Activities 1 (MPA1), staffed generally by one primary midwife¹, one secondary midwife², and four nurses. A Minimum Package of Activities 2 (MPA 2) comprises one primary midwife, two secondary midwives and four nurses. A Minimum Package of Activities 3 (MPA3) or full MPA includes one medical doctor or one medical assistant, one primary midwife, two secondary midwives and four nurses (Table 1-5).

Table 1-5: Types of Staff for the Health Centres that Provide MPA1, MPA2, and MPA3

No.	Type of staff	MPA1	MPA2	MPA3
1	Doctor or medical assistant	0	0	1
2	Secondary midwife	1	2	2
3	Primary midwife	1	1	1
4	Nurses	4	4	4
	Total	6	7	8
5	Other staff if necessary	2	2	2

MPA–Minimum Package of Activities

Source: Ministry of Health of Cambodia (2006)

The second level is a referral hospital, providing a Complementary Package of Activities (CPA). The provincial hospital has a special status as it plays a role as a referral hospital both for the Operational District (OD) in which it is located and also for other ODs within the province. Referral hospitals are classified into three categories based on the number of staff and beds, availability of drugs and medical equipment, and types of clinical activities. A CPA 1 is a referral hospital that has no surgery, but it should have a basic emergency obstetric service. CPA 2 is a referral hospital which can undertake more activities than the first category, namely it has emergency care services that can perform surgery (with general anaesthesia) and blood transfusion. Finally, CPA 3 is a referral hospital which has the most activities, including surgery (with general anaesthesia). It can conduct a higher volume of activities and provide some specialised services (Ministry of Health Cambodia 2006c). These three levels of care are designed to complement each other, and support the health centre within or outside its catchment areas whenever complications occur and referral is needed. Table 1-6 provides details of

¹ A primary midwife undergoes a one year-training programme after completing secondary school education without necessarily attaining a year 12 grade

² A secondary midwife completes a four-year training programme that was increased from three to four years in 2003

the staff numbers involved in the provision of maternal care at CPA1, CPA2, and CPA3.

Table 1-6: Type of Staff for Hospitals that Provide CPA1, CPA2 and CPA3

No.	Type of staff	CPA1	CPA2	CPA3
1	Doctor or medical assistant	5-7	11-18	23-35
2	Midwives	6-8	7-10	15-20
3	Nurses	15-22	22-32	78-103

CPA–Complementary Package of Activities

1.3.5.1 The implementation of user fees at MPA and CPA in Cambodia

Until 1997, there were no official user-charges in Cambodia’s government health facilities (MPA and CPA). The Financing Charter of 1997 opened the possibility for cost-sharing, and marked the start of a move away from the official policy of ‘free’ health services, to which, in practice, the population had limited access. The objectives of the Financing Charter aimed to reduce unofficial fees and household health expenditure for the poor and the disadvantaged, to improve the quality of care, to enhance staff motivation and to improve access to priority public health services for the majority of the population (Thavary et al. 2000).

1.3.6 Maternal health policy and planning

In support of the Safe Motherhood Initiative and improving the skills of birth attendants, Cambodia’s National Strategy for Reproductive and Sexual Health in Cambodia has become the health sector priority since the 1990s (Ministry of Health Cambodia 2006d). In November 1997, abortion was legalised in Cambodian law and its abortion rules are now among the most liberal in Asia. Abortions are provided mainly by trained midwives in hospitals and health centres (Ministry of Health Cambodia 2006d).

As part of measures to strengthen and increase the availability of reproductive and sexual health services, the Ministry of Health aims to increase the numbers of trained staff and improve the retention of qualified staff in rural areas. This has involved ensuring that 60% of all health centres are serviced by at least two secondary midwives (Ministry of Health Cambodia 2006d). This priority is associated with the country’s first

National Health Strategic Plan (HSP1) 2003-2007, which was launched in 2002. This plan focuses heavily on maternal and child health and is in line with MDG 4 and 5. The current Reproductive Health Strategic Plan (2006-2010) builds on the 1997 Safe Motherhood policy as well as previous Ministry of Health policies related to maternal and child health.

The Second Health Strategic Plan (HSP2) 2003-2007 aims to further enhance the sustainable development of the health sector. The second plan is linked to the MDGs as well as the government's commitment to invest national resources in the social sector. The plan aims to remove financial barriers and improve access to preventive and curative services for the poor. In addition, the government is committed to establishing a system of incentives in line with its salary reform framework to motivate health staff to provide effective and equitable health care services to the population, particularly those living in remote areas.

Nationwide incentives for midwives were initiated by the Cambodian Government to assist safe birth at public health facilities (Ministry of Health Cambodia 2008b). The government introduced a cash incentive in 2007 of US\$10-US\$15 per live birth to be paid directly to SBAs, including midwives who deliver babies at hospitals and health centres (Ministry of Economy and Finance 2007; Ministry of Health Cambodia 2007a). The government-funded incentive fees aimed to address problems stemming from dual public-private practice and informal payments in the public system that were thought to affect women's access to, and use of, maternal health services as well as to move births from home to hospitals and health centres. The Health Strategic Plan 2 (Ministry of Health Cambodia 2008b) also aims to increase basic training for new midwives, promote the active recruitment of local trainees and strengthen the capacity and skills of midwives already trained through continuing education.

1.3.7 Maternal health workforce in Cambodia

Cambodia's ability to achieve the MDG 5 target of reducing maternal mortality by 75% is constrained by the lack of adequate numbers of health workers (Soeters & Griffiths 2003). Many health centres lack qualified, motivated and committed staff, particularly midwives, which still prevents many women from accessing public health services (UNFPA 2011). Alongside efforts to increase access to SBAs, there is a need for both

human resources for health and systems support for health care providers (World Health Organization 2006b). Cambodia has critical shortages and poor distribution of health workers as a consequence of the Khmer Rouge genocide between 1975 and 1979. In 1979, an estimated 25 doctors out of 500 remained in Cambodia (Heng & Key 1995) for a population of approximately 6,506,000 (UNDESA 2011b). Health infrastructure, personnel and services were severely damaged over three decades by violent civil wars. There is a ratio of 7.9 nurses and midwives per 10,000 people and 2.3 doctors per 10,000 people (WHO 2011), well below 2.3 per 1,000, estimated to be the minimum needed to ensure at least 80% of births are served by SBAs (Speybroeck et al. 2006). Ensuring a competent health workforce – including especially midwives, nurses and doctors with midwifery skills – is available to deliver quality medical services within a functioning health system remains a complex challenge (Dal Poz et al. 2009).

In Cambodia, there are different types of health workers who attend some births. These include traditional birth attendants, nurses or physicians although they do not have the core midwifery skills (World Health Organization 2004a) to perform the basic functions recommended by the ICM (Fullerton, Thompson & Severino 2011). These health providers involved in maternal health care perform different roles and have various levels of education and training. As a result, the skills and scope of practice of providers of health care during labour, birth and the immediate post-partum period can vary widely (Fauveau, Sheratt & Bernis 2008; World Health Organization 2004a). SBAs refer to primary and secondary midwives, nurse-midwives and doctors with midwifery skills, and obstetricians who provide basic and emergency obstetric and newborn care. Many of these government SBAs also work in the private sector. Although not authorised by legislation, public health providers' informal activities include running private clinics, laboratories or pharmacies (Soeters & Griffiths 2003). The staff involved in delivering maternal health care, their role and known numbers are outlined in Table 1-7 below:

Table 1-7: The Staff Involved in the Provision of Maternal Healthcare in Cambodia

Designation	Training	Role and Service level	Numbers	Ratio per 10,000 population³
Traditional birth attendant	Informal apprenticeship + training provided by NGOs and government short courses	Delivery, referral, community support, community based	Not available, but the number of births undertaken by TBAs in homes in 2011 is 19,836 (=7% of all births) (Ministry of Health Cambodia 2011)	Not available
Primary midwife /primary nurse-midwife	A primary midwife undertakes 9 months/1 year and a primary nurse-midwife undertakes 1 year in nursing plus 4 months in midwifery (Ministry of Health Cambodia 2006a)	Antenatal and postnatal care, immunisation, support for secondary midwives at health centres (Sheratt, White & Chhuong 2006)	1,063 (Ministry of Health Cambodia 2004) (2004)	0.79
Secondary Midwife	3 years in midwifery (Ministry of Health Cambodia 2006a)	Antenatal care, delivery and postnatal care, and referral and immunisation (Sheratt, White & Chhuong 2006)	1,756 (Ministry of Health Cambodia 2004) (2004)	1.3
Post-basic midwife/ secondary midwife	3+1 year (3 years in nursing and 1 year in midwifery (Ministry of Health Cambodia 2006a)	Antenatal care, delivery and postnatal care and referral and immunisation (for mothers and their infants)	Not available	Not available
Primary nurses/ Secondary nurses	A primary nurse undertakes 1 year and a secondary nurse 3 years in nursing	Provide nursing care and assist midwives or doctors at health centres or hospitals	Not available	
All nursing and midwifery personnel (2008)			11,736 (World Health Organization 2011)	7.9
Doctor with midwifery skills	8 years + 6-12 months in midwifery (Ministry of Health Cambodia 2006a)	Delivery (normal and complicated birth) and life-saving interventions (transfusion, caesarean section)	Not available	Not available
Obstetrician	8 years + 3 years in obstetrics	Manage complicated birth and surgery at provincial and national hospitals	Not available	Not available
Medical assistant	5 years (Ministry of Health Cambodia 2006a)	Delivery and support midwives and assist doctors	1340 (2004)	1
Medical doctor	8 years (Ministry of Health Cambodia 2006a)	General practice and support midwives (when complications occur)	2120 (2004)	1.6

³ Population in 2004=13.5 million

There has been an increase in the number of midwives between 2006 and 2009 when the percentage of primary midwives at health centres grew from 51 to 60% of midwives (Sheratt, White & Chhuong 2006). This increase indicates a significant improvement in the recruitment and training of midwives in Cambodia (World Health Organization 2008a). However, the process of developing and generating the maternal health workforce has been slow despite the government's pledge to train large numbers of midwives and others with midwifery skills to ensure greater access and coverage (Heng & Key 1995; Sheratt, White & Chhuong 2006). In response to the slow scale-up of staff, the Ministry of Health has considered multi-sectoral partnerships, linkages, and community involvement to strengthen reproductive and sexual health (Ministry of Health Cambodia 2006d, 2008b).

1.3.8 Midwifery education and training

Midwifery education and training were reintroduced across the country in the early 1980s, with the aim of rapidly increasing the supply of, and access to, primary and secondary midwives. A primary midwife undergoes a one year-training program after completing secondary school education without necessarily attaining a year 12 grade (most applicants have only completed grade 7 schooling). The one-year Primary Midwifery program was introduced in rural Cambodia in 2003 in response to the severe shortage of midwives, and expanded nationwide in 2005 (Sheratt, White & Chhuong 2006). A secondary midwife completes a four-year training program. Medical doctors undertake an eight-year program with an additional 6, 12 or 18 months to be specialist medical practitioners and three years to major in a specialty (Ministry of Health Cambodia 2006a, 2010c). These specialties include basic emergency obstetric and neonatal care and general surgery. Doctors who have undergone 6-12 month training programs are accredited as 'doctors with midwifery skills' while those with 18-month training are considered general surgeons.

Although primary and secondary midwives work at all levels of the health care system, the intention has been that primary midwives will work at health centres in a supportive role to secondary midwives (Sheratt, White & Chhuong 2006). The practices of primary midwives and secondary midwives differ according to the national guidelines (Ministry of Health Cambodia 2006c, 2007c) as per the minimum and complementary packages of activities at health centres and referral hospitals (Ministry of Health Cambodia

2006c, 2007c). For instance, secondary midwives who work in health centres can perform normal births but are not authorised to treat complications using MgSO₄ or use vacuum extraction to assist births and have to refer women with complications to a referral hospital. However, the same secondary midwives who work at the hospital level are authorised to treat women with complications who are referred from lower-level peripheral health centres, with the exception of performing caesarean sections.

Despite significant health-sector reform and a set of interventions and strategies for promoting childbirth in a health care facility attended by an SBA, there has been little examination of the quality of maternity care practices of public or private skilled attendants during labour, birth and the immediate postnatal period and their working environments in the country. The government-funded salaries along with cash incentives are considered inadequate and negatively impact upon the motivation and practice of SBAs (Hardeman et al. 2004; Kingdom of Cambodia 2005). Consequently, there is a lack of loyalty and commitment to the public health system that has led SBAs seeking additional income from informal fees or taking on additional work in private practice (Henderson & Tulloch 2008). This situation can lead to a conflict of interest among health professionals that can affect their efficiency and the quality of care in both the private and public sector (World Health Organization 2004a).

1.4 How I came to undertake this study

In this section, I will provide an outline of my personal and professional background, and relationships with key participants and stakeholders that led to the development of my interest in this area of research, and the lens through which I designed the study and analysed and interpreted the qualitative data. In qualitative, naturalistic inquiry design, a researcher is the instrument for data collection, analysis and interpretation (Erlandson 1993; Lincoln & Guba 1985). A rigorous qualitative study therefore requires reflexivity and honest reporting of the role and background of the researcher (Liamputtong & Ezzy 2005)

Upon completion of my education as a medical doctor in Cambodia, I was assigned to work in the surgical department of a provincial hospital in 1994 where I trained as a general surgeon from 1994 to 1996. On successful completion of this training, I was promoted to be head of the surgical department and technical office in this hospital. I

assisted midwives during complicated births and undertook surgery for almost 10 years in this hospital. My work included the repair of episiotomies, vacuum extractions, caesarean sections, hysterectomies, as well as other general surgery. As I was passionate about being involved in public health, I decided to apply for an Australian Development Scholarship (ADS). I obtained an Australian Development Scholarship to study for a Master of Public Health (MPH) in Australia in 2003. After completion of my MPH study in 2004, I returned home and was promoted to be the chief of the Technical Bureau for the Provincial Health Department. I was also appointed Secretary of the Provincial Health Advisory Team and the Provincial Technical Working Group for Health (Pro-TWGH).

In this current role, my duties are to strengthen coordination between the Provincial Health department, health development partners and other government sectors with special emphasis on the harmonisation of activities. This includes ensuring the efficient use of resources and monitoring and evaluating the implementation of the provincial health plan. I also support the implementation of the agreed Provincial Annual Operational Plan and other emergency activities such as maternal death audit, disease outbreak control activity, and health-related disaster interventions.

My interest in this study arises from my experiences as a clinician and public health manager, working with policy-makers, midwives, nurses and doctors, as well as childbearing women and their infants. My close engagement through my work with mothers and newborn babies heightened the frustration I felt at reports of the Cambodian Demographic and Health Survey 2000 and 2005, showing that the maternal mortality ratio in Cambodia is unacceptably high compared with other countries in south-east Asia, and that Cambodia was unlikely to reach the MDG 5 target. In addition, when I began my position as a member of the Maternal Death Audit (MDA) team for the Provincial Health Department, I found that the majority of the MDA members often blamed midwives and doctors with midwifery skills for causing harm to women and babies as a result of poor quality care and delays in referrals from a health centre to a hospital. Yet, little discussion has focussed on particular episodes which were not consistent with best practice and the environment in which the SBA practises. This environment includes the relationship between TBAs, private providers and professionals. An understanding of this context can help to clarify where problems

begin to occur, how problems are managed at each level and why they are not addressed. I felt that while competencies are important, a significant factor in determining quality maternal care is the system or environment in which SBAs practise. I was, therefore, daunted by the magnitude of the maternal and neonatal health issues and concerned that MDA committees had been quick to criticise or blame SBAs rather than paying attention to the working environment of SBAs. I wondered whether there was a different way to contribute to improving SBAs' practice and their working environments so that maternal mortality could be reduced. I decided to undertake a study into this area, and in 2009, I obtained an Australian Leadership Award to undertake a PhD in Australia.

I felt not only that the quality of maternity care provision urgently needed to be strengthened, but that this could be achieved through the development of an innovative evidence-based framework for coordinated action. The key obstacle to reducing high maternal morbidity and mortality was the lack of suitably trained and motivated SBAs, including midwives, who are central to strengthening the health system in Cambodia. As my contribution to the global and Cambodian maternal morbidity and mortality situation, it was my wish to identify a set of central lessons for strengthening the capacity of the district health system to convert inputs into functioning maternity services that are accessible to, and used by, all women and their babies across Cambodia.

While efforts have focused on improving the proportion of births attended by SBAs in a health facility, including coverage of interventions such as immunisation and antenatal consultations, there has been little focus on the quality of midwifery care during labour, birth and the immediate postnatal period in Cambodia. In addition, there is little knowledge of perceived barriers and the factors which affect access to, and use of, maternal health services in Cambodia (Matsuoka et al. 2010). This lack of research knowledge led me to investigate what are the actual childbirth practices of public and private SBAs during labour, birth and the post-partum period, and to ask what is the perspective of women on the quality of the maternity care they receive; and how could a quality improvement system be employed to enhance the capacity of SBAs in Cambodia? The findings from this study will provide useful information for health

services and policy-makers to improve midwifery and obstetric care and make a significant contribution to reduce maternal mortality and morbidity in Cambodia.

1.5 Structure of the thesis

The thesis is organised around the main research questions illustrated in this chapter. The findings related to questions 1, 2, 3 and 5 described on page 4 are presented as separate chapters and have already been published as separate papers in peer-reviewed journals. Questions 4 and 6 are presented as unpublished text.

Chapter 2 outlines a review of the research evidence about different birth attendants who provide care for women and newborn babies and the contribution they make to the reduction of maternal mortality and or improvements in maternal health. These birth attendants include public and private SBAs and traditional birth attendants. A review of literature on childbirth practices of these cadres and the factors which affect their working environments is also presented. Women's perspectives of maternity care are reviewed, and ways forward to improve maternal health based on existing concepts of competence and competency, models of quality care and key mechanisms for quality improvement are discussed. The gaps in the current evidence base are identified.

Chapter 3 discusses and justifies the method used in the study, including the theoretical orientation, participant selection, consent and the process of data collection and analysis.

The research findings are reported in chapters 4 to 9. Chapters 4 to 6 and 8 present the research findings in the form of the peer-reviewed journal articles. Chapter 4 presents the findings of an examination of the quality of maternity care practices of SBAs during labour, birth and the immediate post-partum period (published peer-reviewed paper). Chapter 5 presents the perceptions SBAs have of their own practices during labour, birth and the immediate post-partum period (published peer-reviewed paper). Chapter 6 describes public SBAs' perceptions of their working environments during labour, birth and the immediate post-partum period (published peer-reviewed paper). Chapter 7 presents the observed and perceived practices and the working environments of private SBAs (unpublished paper). Chapter 8 describes women's perspectives of maternity care

during labour, birth and the immediate postnatal period in Cambodia (published peer-reviewed paper).

Chapter 9 presents a quality improvement system, which could be used to deliver high-quality midwifery care in Cambodia (unpublished paper).

Chapter 10 summarises the purpose of this study, presents a synthesis of the findings and discusses their implications in relation to an innovative framework for coordinated action to improve maternal and newborn health. The implications for midwifery practice, policy and research are discussed in the context of health-system strengthening and the quality improvement of maternity care provision in Cambodia.

1.6 Summary

This chapter has provided an overview of the global maternal health situation and described the historical context of the global movement to improve maternal health with the Safe Motherhood initiative and MDGs. The aims and objectives of this study, research questions, and the Cambodian background and context were also described. The rationale for undertaking this study and the description of the structure of the thesis were presented in the last section of this chapter.

The next chapter reviews the literature to better understand the evidence of the need for SBAs, including the contribution they make to the reduction of maternal mortality and/or the improvement of maternal health.

Chapter 2 Literature Review

2.1 Introduction

This chapter provides an overview of the literature related to SBAs and maternal health care, including the contribution SBAs make to the reduction of maternal mortality and improvement of maternal health. In this section, I briefly outline the different roles of public SBAs, private health providers and traditional birth attendants, who deliver maternal health care during labour, birth and the immediate post-partum period, including their responsibilities and the interventions that these cadres deliver. Research concerning women's perspective of maternity care provided by public and private SBAs will also be reviewed. The last section discusses ways to improve maternal health based on concepts of competence and competency, models of quality care and a quality improvement system. Gaps in the current evidence base are identified throughout the chapter.

2.2 Approach to the literature search

A comprehensive search was undertaken to identify the literature regarding the quality of maternity care practices of different cadres involved in maternal health care in Cambodia and other countries with similar context. This includes SBAs, traditional birth attendants and private health providers. A search was undertaken of bibliographic databases and using Google Scholar. Databases searched were MEDLINE, Global Health, PubMed, CINAHL, Science Direct, as well as international and Cambodian websites such as medicam-cambodia.org and moh.gov.kh. The following key words were included in the literature search: *“maternal mortality”*; *“safe motherhood initiative”*; *“Millennium Development Goals”*; *“maternal health”*; *“Skilled birth attendants”*; *“skilled attendant at delivery”*; *“midwives”*; *“evidence-based practice”*; *“childbirth practices”*; *“immediate postnatal care”*; *“quality of care”*; *“quality assurance for obstetric care”*; *“quality improvement”*; *“clinical competence”*; *“health system strengthening”*; *“midwifery workforce”*; *“Cambodia”*; *“developing countries”*; *“private sector”*; *“the role of private sector”*; *“private providers”*; *“traditional birth attendant”*; *“pregnancy”*; *“pregnancy-related complications”*; *“pregnancy outcomes”*; *“institutional delivery”*; *“health-seeking behaviour”*;

“childbearing women”. In addition, thorough searches of the reference lists of retrieved articles include in the list of search terms were also undertaken.

2.3 Evidence for the need for SBAs

2.3.1 Historical overview of maternal mortality reduction

The rationale for prioritising attendance at birth by skilled health personnel is based upon evidence that demonstrates that the primary involvement of a skilled attendant can prevent or treat direct obstetric complications that occur around birth (De Bernis et al. 2003; Graham et al. 2001; Ronsmans & Graham 2006). The epidemiology of maternal health identifies the intra-partum and postnatal period as a time when women are at greatest risk of pregnancy-related complications (De Bernis et al. 2003; Ronsmans & Graham 2006) – and therefore require SBAs. Any woman can experience complications during pregnancy, childbirth and the post-partum period, but negative consequences from these can mostly be avoided – even for births at health centres (Liljestrand et al. 2009) or at home – if all women are assisted by an SBA, backed up and supported by a functional referral system and quality emergency obstetric and midwifery care (UNFPA 2011). That hypothesis gains strength from the experience of countries that have succeeded in lowering maternal mortality in both the developing and developed world.

A century ago, maternal mortality in developed countries was as high as in today's developing countries (De Bernis et al. 2003). Over that period, industrialised countries such as Sweden, Norway, The Netherlands and Denmark have reduced maternal mortality significantly (De Brouwere, Tonglet & Van Lerberghe 1998). For example, Sweden reduced maternal mortality from 500 per 100,000 live births to around 230 per 100,000 live births in the mid-1880s and 4 per 100,000 live births between 1990 and 2010, which enables Sweden to achieve the lowest maternal mortality ratio in Europe (World Health Organization 1999b, 2010). Other countries such as the United States were, however, unable to reduce high maternal mortality figures until the Second World War. Maternal mortality in England and Wales also remained high until 1945 (De Bernis et al. 2003). The considerable differences in the timing and speed of reduction of maternal mortality in these countries were related to the way that maternal health care was organised. For example, countries which managed to lower their maternal mortality ratio quickly focused their efforts on providing skilled care close to where women lived,

particularly by strengthening the skills of community midwives, while those which lagged behind, the United States in particular, adopted a hospital model of care for all births, which failed to reduce high maternal mortality. This was found to contribute to inadequate and inappropriate care, with infections being common among delivering women (De Brouwere, Tonglet & Van Lerberghe 1998).

The same pattern of maternal mortality reduction has been observed in poorer countries (Van Lerberghe & De Brouwere 2001a). A number of developing countries, including China, Cuba, Egypt, Iran, Jamaica, Thailand, Sri Lanka and Malaysia, have shown a dramatic decline in maternal mortality over the last few decades through a variety of different models of care, but the common feature in all these countries is that all focus on ensuring a skilled attendant attends the majority of births (UNFPA 2006). The maternal mortality ratio in Malaysia, for example, declined from above 500 per 100,000 live births in the early 1950s to below 50 per 100,000 by the 1980s and 43 per 100,000 live births by 1990 (Pathmanathan et al. 2003; UNFPA 2006; World Health Organization 2005). The maternal mortality ratio in Thailand also decreased from above 400 per 100,000 live births in the 1960s to below 50 per 100,000 live births in the 1990s due to the professionalisation of the midwifery workforce (Liljestrand & Pathmanathan 2004). These improvements were achieved by the introduction of a system of health facilities accompanied by an expansion of midwifery skills, especially the overall standards of maternal care provided by SBAs (De Brouwere & Lerberghe 2001; Loudon 2000; UNFPA 2006).

2.3.2 Skilled attendants can provide evidence-based cost-effective interventions

The World Health Organization has identified a number of cost-effective interventions for the management of the major causes of maternal death (World Health Organization 2002). These interventions require skilled attendants who possess the midwifery competencies to manage normal births using selective obstetric skills during the critical period of labour, birth and the immediate post-partum period, in order to prevent, manage or refer in a timely manner (De Bernis et al. 2003). For example, post-partum haemorrhage is the biggest single cause of maternal death, being the main factor in 88% of deaths occurring within 4 hours of giving birth (World Health Organization 1998), but these deaths can be prevented if women receive adequate intra-partum clinical care or are treated in a facility where an SBA can provide cost-effective interventions with

access to blood transfusion (Callister 2005) and referral-level facilities (Campbell & Graham 2006). In India, one study shows that women who were assisted by a skilled attendant were twice as likely to survive as those who gave birth without the presence of a skilled attendant (Ganatra, Coyaji & Rao 1998). SBAs are also essential to prevent or manage other diseases known to exacerbate pregnancy, such as HIV/AIDS, malaria, tuberculosis and hepatitis.

The provision of skilled care to all women by an SBA in the most resource-poor settings is a challenging and complex process. Giving birth in a health facility attended by an SBA may be a good long-term goal for all, but it may not be the best option for reducing maternal mortality in all contexts in the shorter term. Progress towards the goal may not be possible quickly enough in communities with high maternal mortality where data availability, resources and infrastructure are poor, and health systems are weak (Ronsmans & Graham 2006). Many developing countries, including Cambodia, lack sufficient motivated and qualified SBAs to perform evidence-based interventions during childbirth, which results in high maternal mortality (World Health Organization 2005).

Evidence suggests that efforts to increase access to SBAs should be part of a broader focus on providing an adequate number of health workers more generally, as well as a supportive health system that ensures access to essential infrastructure, medicines and equipment as part of a team with supportive supervisory systems (World Health Organization 2002, 2007a). Shankar and others (2008) show that reductions in maternal mortality can be achieved by improving the quality of care and undertaking routine monitoring and assessment of key practices during childbirth (Shankar et al. 2008). The political, economic and socio-cultural environment can also prevent or enable SBAs from providing adequate and appropriate care to childbearing women (World Health Organization 2004a). In addition, SBAs, particularly midwives, may already exist in the community and therefore it is important to support these midwives to improve their skills and practice (Hussein et al. 2004).

2.3.3 Midwives are a preferred cadre of SBA

Fully qualified midwives are those who can demonstrate competency in all the International Confederation of Midwives (ICM) Essential Competencies for Basic Midwifery Practice (Fullerton, Thompson & Severino 2011, p. 399) and work according to the international definition of the midwife (ICM 2011b). Their competencies include the provision of women's health care services across the reproductive life span (Fullerton, Thompson & Severino 2011).

Previously, efforts have focussed on the training and deployment of midwives rather than SBAs (Filippi et al. 2006). The first reason for this is that SBAs include other categories of health professionals, such as auxiliary nurses, community health workers, or physicians, who can not necessarily undertake effectively all the tasks that a midwife is required to perform (World Health Organization 2004a). Secondly, evidence shows that in the first half of the 20th century, birth was safer with a professional midwife than with a doctor (Van Lerberghe & De Brouwere 2001b). Where midwives were trained and supervised, they achieved a significant maternal mortality reduction (Högborg 2004).

Many developing countries, Cambodia included, face a similar lack of human resources for health, especially a chronic shortage of midwives, which poses challenges for universal access to skilled care (Buchan, Connell & Rumsey 2011; World Health Organization 2008a). Inequitable geographic distribution and poor midwifery competencies of existing health workers pose additional problems (Asante, Hall & Roberts 2011; Fauveau, Sheratt & Bernis 2008). The lack of skilled personnel (midwives) not only reduces the number of facilities able to ensure full coverage and access to emergency obstetric care, but also affects the quality of care provision and therefore, maternal mortality reduction (Filippi et al. 2006; Gerein, Green & Pearson 2006).

2.3.4 Teamwork is crucial

SBAs should work as a team to provide high-quality midwifery care to women who need it. While skilled care for childbirth and the management of complications is critical, safe motherhood and maternal and newborn health programs should not neglect the potential benefits of teamwork. Having an SBA at every birth is not enough by itself

to reduce maternal mortality in developing countries. To be effective, the skilled attendant has to work in close collaboration, not only with others in the obstetric team and other health care providers, but also with lay care-givers. These include traditional birth attendants (TBAs), private providers and the community.

2.3.4.1 Traditional birth attendants and maternal health

A TBA is a person who helps the mother during childbirth and who initially gained her skills by delivering babies herself or through an apprenticeship to other TBAs⁴ (World Health Organization 2004a). Historically, TBAs have often been the only caregivers during birth for millions of women (Costello, Azad & Barnett 2006; Sibley, Sipe & Koblinsky 2004; Sibley & Sipe 2006). TBAs provide maternal and infant health care services for women, their families and communities during birth. TBAs can also provide important cultural and psychosocial support at birth for mothers and their newborn babies (Bergström & Goodburn 2001; Costello, Azad & Barnett 2006). In addition, they can control and facilitate access to skilled attendants (Sibley & Sipe 2004). A study in rural areas in Malawi found that a significant proportion of women continue to seek help from TBAs despite problems with the quality of their services such as poor working conditions, unclean procedures and instruments (Bisika 2008). Moreover, some pregnant women prefer giving birth with a TBA for socio-cultural reasons even though they may have been attending public hospitals for antenatal care (Bisika 2008).

Currently, there is a lot of controversy and debate concerning the effectiveness of TBAs' training, their role and their effect on maternal mortality in developing countries (Sibley et al. 2009). UNFPA indicated that TBAs cannot benefit from training as they usually lack education (UNFPA 2011) and their social role is deeply rooted in the local culture as traditional healers (De Brouwere, Tonglet & Van Lerberghe 1998). TBAs cannot deal with pregnancy-related complications such as eclampsia, post-partum haemorrhage, or infection (Chatterjee 2005). TBAs appear to delay or even deliberately discourage women from seeking emergency obstetric care. A study in Samoa also highlighted that even though TBAs can work in collaboration with individual health

⁴ TBA refers to traditional, independent (of the health system), non-formally trained and community-based providers of care during pregnancy, childbirth and the postnatal period and TBA is not defined as a SBA.

providers or facilities or be integrated into the health system, many were often practising autonomously within their communities, independent of collaborative links. (Homer et al. 2012). TBAs' training has been found to be not cost-effective (Sibley & Sipe 2004). Chatterjee reported that some experts for WHO have argued that training TBAs is a waste of resources and even counterproductive, and may mean that a country will be unlikely to achieve Millennium Development Goal 5 (Chatterjee 2005). In addition, TBAs training is one of the most expensive strategies for preventing maternal deaths compared with several other interventions, including support for health centres, hospitals and family planning (Goodburn et al. 2000). Funding for TBAs' training has been withdrawn by international funding bodies to be invested elsewhere in measures to expand the pool of skilled attendants available to assist women giving birth (Kruske et al. 2004).

TBAs cannot replace SBAs because they do not have the skills or training, nor do mechanisms exist to regulate and accredit their practice. However, where they do exist and practise their birthing skills, they should do so as part of a team, operating in close collaboration with, or under the supervision of, a skilled attendant to ensure that women and newborns can access skilled care. A study in Samoa showed that formal recognition and registration of TBAs would improve the recording of births and increase TBAs' partnership with the formal health care system (Homer et al. 2012).

2.3.4.2 Private health providers

In low-income countries, the private sector is a significant source of healthcare providers just as it is in high-income countries (Hanson et al. 2008). In low- and middle-income countries, private healthcare delivery comprises a vast range of institutions and individuals (Basu et al. 2012; Uplekar 2003) (Table 2-1). This includes international and national for-profit corporations; formal individual private providers; informal for-profit providers; not-for-profit providers; and public hospitals, health centres, and clinics (Basu et al. 2012). International and national for-profit corporations can be group practices that are sometimes associated with hospitals.

In developing countries, formal individual private providers are individual physicians or other healthcare providers who usually operate in smaller-scale healthcare facilities or private pharmacies. Informal for-profit providers are usually unlicensed and unregulated

providers, including shop owners, injectors⁵, traditional healers and birth attendants. Not-for-profit providers include non-governmental and faith-based groups, charities, and community and social enterprises, with varying degrees of regulation and oversight. Public hospitals, health centres, and clinics include country- and district-level hospitals and clinics, with varying degrees of accessibility and user fees for patients. Public providers can also participate in private-sector healthcare delivery (Basu et al. 2012).

Private health providers in my study were public SBAs, including nurse-midwives, midwives, doctors with midwifery skills who worked in the private sector in order to subsidise their low wages and inadequate income for survival (Chhea, Warren & Manderson 2010; Mills et al. 2002; Soeters & Griffiths 2003).

Table 2-1: Different Types of Private Healthcare Providers in Developing Countries

(Basu et al. 2012)

International and national for-profit corporations	Formal individual private providers	Informal for-profit providers	Not-for-profit providers	Public hospitals, health centres, and clinics
Group practices sometimes associated with hospitals	Individual physicians or other healthcare providers (small scale facilities or private pharmacies)	Shop owners, injectors, traditional healers and birth attendants (unlicensed & unregulated)	NGOs, faith-based groups, charities, community & social enterprises	Public providers who practise in private sector

In developing countries, including Cambodia, the governments' capacity to accurately monitor and regulate the number of practising midwives in the public and private sector is limited or lacking (UNFPA 2011). Many private-sector providers are unlicensed and unregulated (Bhate-Deosthali, Khatri & Wagle 2011; Ministry of Health Cambodia 2006d), and currently there is limited information on the scope of their practice and the quality of care and services they provide in sexual and reproductive health services (Peters, Mirchandani & Hansen 2004). A study in India showed that the quality of maternity care offered by many private sector providers is often poor (Bhate-Deosthali, Khatri & Wagle 2011; Waters, Hatt & Peters 2003). Identifying the appropriate roles for public and private sector providers in strengthening a country's health system remains challenging and controversial (Hanson et al. 2008), and there are many questions about

⁵ An injector is someone, including a nurse or midwife or doctor, who is hired to give injections at a patient's home

how best this can be achieved (Maine 2007). These questions relate to the cost of care, socio-cultural respect, equitable access and different levels of the quality of care offered by private providers.

Studies in developing countries have demonstrated that private health provider-led services, including birth attendance at home and in private facilities, play a significant role in health care delivery (Bhate-Deosthali, Khatri & Wagle 2011; Konde-Lule et al. 2010). Although public health facilities provide a free or low-cost service, private health providers remain the important source of health care in many developing countries (Bustreo, Harding & Axelsson 2003; Levesque et al. 2006; The World Bank 2006; Uplekar 2003). Private providers constitute a high proportion of health service delivery, particularly in maternal and neonatal health (Madhavan et al. 2010). Evidence suggests that employing the private sector's resources, expertise and infrastructure can help expand access to reproductive health care (Hanson & Berman 1998; USAID 2009; Waters, Hatt & Peters 2003).

Even in developed countries with a strong public sector, substantial numbers of consumers continue to go to private sector providers for many reasons. These include convenience, perceived quality, confidentiality, or because nothing else is available (USAID 2006). In recent years, there has been a growing interest in the role of the private sector in health service provision in developing countries (Patouillard et al. 2007). The international community, therefore, call for governments and donors to engage with the private sector to address health needs with a view to achieving the Millennium Development Goals.

It is evident that the public and private sectors have different strengths and weaknesses, and formal public-private partnerships can produce optimal results (Hanson et al. 2008). In resource-poor settings, where there is a shortage of skilled health personnel, especially midwives, public-private partnerships may improve efficiency and effectiveness in the health sector (World Bank 2009). For example, a study in India demonstrated that a large-scale partnership with the private sector to provide skilled attendance and emergency obstetric care increased the utilisation of maternal health services by poor women (Madhavan et al. 2010). Another study in China suggests a small number of private health providers can be integrated into the formal health system

to respond to the population's needs. Currently, the health care system in China faces many problems, including limited access, low efficiency, poor quality, cost inflation, and low patient satisfaction. For example, home-birth rates in rural Shanxi Province, northern China, are high, despite a national program designed to encourage hospital deliveries (Gao et al. 2010). Low institutional birth rates were found to be the result of financial and geographical issues, poor quality of care and dissatisfaction with hospital care. The role of private health care is, therefore, critical to the performance of the health system in helping respond to these challenges, especially in remote areas where hospital birth is not feasible. Health authorities need to consider allowing skilled attendance at home on an outreach basis and integrating private providers into the health system (Gao et al. 2010; Huang et al. 2009).

Few studies provide evidence of the impact of private sector interventions on quality and/or use of care by the poor (Patouillard et al. 2007). The World Health Organization highlighted that although all birth attendants work in both public or private sectors, they should be aware of, and comply with, the national public health and maternal and newborn health policies and standards (World Health Organization 2004a). Where the majority of births still take place at home (UNFPA 2011) and a growing proportion of births are conducted in private facilities (Maine 2007), a policy that addresses quality and affordability issues is needed accompanied by a strong regulatory environment for evidence-based clinical practice (World Health Organization 2006b).

2.4 Skills and competencies of SBAs

Skilled attendance at every birth has been recognised as essential if health systems are to reduce maternal and perinatal morbidity and mortality (UNFPA 2011). Few studies have examined the skills and competencies of SBAs and related-health outcomes in countries with a high maternal mortality ratio (Gunathunga & Fernando 2000; Harvey et al. 2004; Hussein et al. 2004). The few studies that have been conducted have highlighted wide variations in knowledge, attitudes and skills between countries and within countries between health facilities (Harvey et al. 2004). Studies of SBAs practice in Benin, Rwanda, Ecuador and Jamaica were conducted between 2001 and 2002 by the Safe Motherhood Research Program, the Quality Assurance Project (URC, QAP). These studies revealed that health professionals' knowledge and skills were inadequate, ranging between 40 to 65% of the questions. Such low scores on obstetric care

including aseptic technique; recognition and management of pre-eclampsia, ability to use and interpret the partograph and management of the 3rd stage of labour are indicative of the poor level of healthcare provided to women in pregnancy. The inappropriate management of complications such as immediate newborn care and post-partum haemorrhage and delays in referring these cases to hospital are also common. Wide variations in competency levels are also found across a heterogeneous group of providers who are categorised as SBAs. Moreover, SBAs' core skills scores were found generally to be lower than knowledge scores, the minimum required for quality care. Findings from a study in Yemen conducted by Gesellschaft für Technische Zusammenarbeit (GTZ) showed that 40% of health care providers trained in emergency obstetrics have levels of knowledge and skill significantly lower than those required by an SBA (Canavan 2009). The gap between current evidence-based standards and the current levels of knowledge and skill of SBAs is cause for significant concern.

In Cambodia, there is very limited published or unpublished literature on the skills and competencies of public and private SBAs who care for pregnant women and their babies. A review by the Ministry of Health in Cambodia in 2006 indicated that problems of SBA scarcity and distribution were compounded by issues of skills and aptitude. Competency levels of primary care midwives were inadequate, and the placement of primary midwives in rural areas had failed to focus on broader health needs (Sheratt, White & Chhuong 2006), especially the quality of care in maternal health (Liljestrand & Sambath 2012). For example, more than 50% of primary and secondary midwives did not feel confident or competent to manage a normal birth (Sheratt, White & Chhuong 2006). Although primary and secondary midwives work at all levels of the healthcare system, the intention has been that primary midwives would work at health centres in a supportive role to secondary midwives (Sheratt, White & Chhuong 2006). As only 51% of health centres in Cambodia have a secondary midwife and all health centres have at least one primary midwife, strengthening midwifery is critical and should involve supporting the skills and competence of primary midwives.

The recent State of the World's Midwifery Report has highlighted the need to have a sufficient and competent workforce who can provide life-saving interventions in all countries (UNFPA 2011). Competency is defined as possessing skills and knowledge sufficient to comply with predefined clinical standards (Kak, Burkhalter & Cooper

2001). Midwifery competency in this study refers to the ICM standards. Cambodia is a member of ICM (Fullerton, Thompson & Severino 2011). Details of the essential ICM competencies for basic midwifery practice will be described in Table 2-2.

In some countries, encouraging progress has been made towards training additional midwives in the skills and abilities required to demonstrate the essential competencies. However, overall, standards are still less than optimal due to poor education and a lack of supportive supervision of midwives' clinical practice (UNFPA 2011). In Indonesia, for example, all births are attended by midwives through the village-based midwife program. However, compared with Malaysia and Sri Lanka, maternal mortality reduction in Indonesia has been slow due to poor selection and training of midwives, as well as the lack of a supportive working environment which has affected the quality of services and their accessibility (Shankar et al. 2008). While improving women's access to emergency obstetric care provided by qualified providers is vital, ensuring that these providers adopt evidence-based standards may not be easy or rapid where they have insufficient knowledge, poor attitudes, or are subject to social pressures or limitations on resources that affect maternity care provision (Turan et al. 2006).

2.5 SBAs and evidence-based interventions

In many settings, childbearing women want to use health-care providers in a health facility at childbirth if SBAs are available, accessible and affordable (De Bernis et al. 2003; Ministry of Health Cambodia 2006d). Previous studies have shown that better educated and wealthier women are more likely to give birth attended by skilled health personnel (Chomat et al. 2011). Women in resource-poor settings have been found to spend much money and effort to go straight to a large referral hospital, even when there is no clinical indication, bypassing lower levels of care, sometimes even the district hospital, because they expect to receive better care at the larger hospital (De Bernis et al. 2003). Despite this, in many countries, evidence shows that few women receive clinical care of an adequate standard from skilled professionals (Koblinsky et al. 2006). Studies have shown that practices not based on evidence or of unknown effectiveness have been used for decades, including practices that potentially harm women and their infants (Sakala & Corry 2008; Shaban et al. 2011; Turan et al. 2006; World Health Organization 1999a). A study in Cameroon in Africa found that health workers providing reproductive health care were not aware of the safety or effectiveness of

evidence-based interventions (Tita et al. 2005) and a study in Jordan found a similar lack of evidence-based practice in maternity care (Shaban et al. 2011). The latter study observed a range of interventions in cases where women were experiencing a normal labour, including augmentation of labour (95%), continuous external foetal monitoring (77%), lithotomy position for birth (100%), and in more than one third (37%) of cases, an episiotomy with varying degrees of laceration (58%) (Shaban et al. 2011). SBAs' understanding of evidence-based practice is crucial to improving maternal health because many studies have shown that unnecessary interventions and substandard practice contribute directly to maternal mortality in many developing countries (Buekens 2001; Hamza 2005; Harvey et al. 2007; Ronsmans & Graham 2006).

Moreover, rates of use of specific practices vary broadly across health facilities, providers, and geographic locations because of differences in training, practice style and other underlying factors rather than differences in the needs of women and newborns. The World Health Organization's recommended package of interventions for the integrated management of pregnancy and childbirth provides guidance for the use of evidence-based interventions to ensure the best outcomes for childbearing women and newborns are achieved (World Health Organization 2009).

2.6 A supportive and enabling environment for SBAs

Research and experience point to the importance of a conceptual framework for skilled attendance at birth (Adegoke et al. 2011; Graham et al. 2001; Hussein et al. 2004). This includes a combination of skilled attendants and an enabling environment. The health system needs adequate human resources, especially trained midwives who work in a supportive and enabling working environment (World Health Organization 2004a). Other features of the health system such as health sector policy and human resource management also comprise or affect the enabling environment (Adegoke et al. 2011; Adegoke & Van den Broek 2009; Parkhurst et al. 2005). These include appropriate incentives and remuneration, quality education, supportive supervision, access to transportation, reliable medical supplies, protocols and effective regulatory frameworks and policies (World Health Organization 2004a). These are all required to maintain a qualified and motivated midwifery workforce to deliver effective life-saving interventions during labour, birth and the immediate postnatal period.

The working environment also refers to the physical place and working conditions that influence health worker motivation and performance (De Bustillo et al. 2009). De Bustillo et al. (2009) have grouped the key aspects of the working environment into employment quality and work quality. Employment quality relates to wages, working hours, benefits, participation and professional development, whereas work quality refers to work autonomy, organisational structure, culture and trust, as well as occupational health and safety and the social work environment. These factors have been found to significantly impact upon staff retention including burn-out and turn-over and rates of error which affect the quality of care patients receive (Buchan 2010; Smith et al. 2005; Wiskow, Albrecht & De Pietro 2010).

Factors such as low salaries and incentives, poor living conditions and work environment affect the performance and motivation of the current health workforce in developing countries, including Cambodia (Chhea, Warren & Manderson 2010; Henderson & Tulloch 2008; Soeters & Griffiths 2003). In Cambodia, the underlying cause of poor staff performance in public institutions is irregularly paid salaries of US\$10-US\$30 (for nurses or midwives) and US\$50-US\$60 (for doctors) per month. Government health workers use various strategies to cope. Many Cambodian government health workers, particularly SBAs, work in both the private and public sectors to supplement their income (Kingdom of Cambodia 2005; Sin et al. 2005). They work only a few hours at public health facilities and spend the rest of their time working in the private clinics (Henderson & Tulloch 2008). Government health workers may informally earn about US\$30-US\$1000 a month on top of their government salary, based on their training and skills (Soeters & Griffiths 2003).

The components of performance according to standards consist of provider's competence and a supportive and enabling environment for them (Harvey et al. 2007). Equipping birth attendants with the necessary skills is not enough; they also need adequate resources and suitable work systems if they are to manage births – whether normal or complicated – successfully (Maine 2007; Parkhurst et al. 2005). However, studies show that in public facilities, resources, infrastructure and access to essential reproductive health drugs are limited. This includes access to oxytocin, misoprostol, magnesium sulphate (Liljestrand et al. 2009) and access to medical supplies (Ministry of Health Cambodia 2009a). Without adequate resources, SBAs are often not able to

perform life-saving interventions such as caesarean section, which affects positive maternal health outcomes. For example, a case study in India showed that maternal deaths were related to a lack of essential supplies, including the availability of blood, resulted in multiple referrals back and forth (Sri 2009).

The case study from India indicates that both the presence of a skilled attendant and an enabling environment for the skilled attendant to work in, including the availability of adequate supplies, equipment and infrastructure, as well as efficient and effective systems of communication and referral are critical (Maclean 2003). Home-based delivery attended by a SBA alone is not efficient. An SBA may not be able to deal with unpredicted complications due to a lack of access to emergency obstetric care and support from other skilled personnel, including midwives and doctors in health facilities, who can provide adequate care or organise transport for referrals. SBAs require resources and systems necessary to manage life-threatening complications in response to women's needs (Parkhurst et al. 2005). Without a special focus on the environment in which midwives and others who provide skilled care practise, childbirth is unlikely to be made safer (Maclean 2003). Service quality, efficiency, and equity are all directly dependent on health workers' performance and motivation (Bell et al. 2003; Graham et al. 2001; UNFPA 2011).

2.7 The quality of maternity care from the perspective of women

Providing an SBA for all mothers and their babies in pregnancy and childbirth is considered a priority at national and global levels (De Bernis et al. 2003; UNFPA 2011). However, those studying the trends and uses of SBAs have identified barriers to women using health facilities for maternal health services in a number of low-income settings (Gao et al. 2010; Matsuoka et al. 2010). Many women in developing countries experience serious barriers to accessing maternal health services (Chomat et al. 2011; Gao et al. 2010; Harris et al. 2010; Koblinsky et al. 2006; Matsuoka et al. 2010). These include economic, and geographical barriers, as well as issues related to the social and cultural competency of the service and providers.

As in many developing countries, access to health care in Cambodia is constrained by poverty. Poor families often cannot afford properly trained maternal health services. The cost of hospital fees, medications, transport and accommodation all contribute to

the inaccessibility of the health system, leading women in Cambodia, and many similar countries to use illegal pharmacies, traditional healers, traditional birth attendants and other unqualified private practitioners (Borghi et al. 2006; Koblinsky et al. 2006; Matsuoka et al. 2010). Affordability is an issue for Cambodian women to access services, especially emergency obstetric and newborn care services. Recent studies indicate that significant financial barriers to the use of maternal health services still exist in rural areas, including user fees and the indirect costs of transport, food and accommodation (Gao et al. 2010; Matsuoka et al. 2010).

Geographical factors such as the time required to travel to a facility and the availability of transport are strong determinants of access to health facilities in many developing countries (Gao et al. 2010; Matsuoka et al. 2010; Titaley et al. 2010). A large number of women who developed complications believed that they had no access to immediate emergency care because of what they perceived as issues of distance, cost and availability of transport (Ministry of Health Cambodia 2006d; UNFPA 2006).

A lack of perceived need and knowledge of how to seek care has been found to be due to traditional birth practices and beliefs, which are a significant cause of maternal mortality (Callister 2005). In Uganda, women believe that “pregnancy is a test of endurance and maternal death is a sad but normal event” (Kyomuhendo 2003, p. 24). A study in Ghana found that most women gave birth at home because home birth heightens a woman's status in her community, while seeking skilled attendance lowers it (Bazzano et al. 2008). In Cambodia, Matsuoka and others found that confusion concerning the estimated due date of the birth affected women's presentation at facilities, while preferences for TBAs, proximity to advice from elders and traditional medicine influenced care-seeking behaviour (Matsuoka et al. 2010).

Another barrier to accessing maternity care is the perceived quality of care at public health facilities. Costello and others state that the delay in seeking care is related to the perceived poor quality provided by health care providers (Costello, Azad & Barnett 2006). For example, SBAs often do not respect social and cultural traditions and women lack confidence to use a health facility. Although there may be SBAs within a functioning health system, women perceive that these services are inappropriate and inadequate for them to use during childbirth if these services do not meet their

expectations (Costello, Azad & Barnett 2006). Furthermore, when women arrive at a health facility in time, they may encounter a lack of skilled staff, the unavailability of SBAs, impolite behaviour from health professionals (Matsuoka et al. 2010) and shortages of equipment and supplies that affect the standard of care (Al Serouri et al. 2009). Women, therefore, have different experiences and expectations. For example, a study in Tanzania showed that women valued reliable access to drugs and medical facilities and respectful staff attitudes over other facility features, such as the type of providers, cost, distance and transport issues (Kruk et al. 2009).

Problems of increasing women's access to maternal care and services appear to be compounded by issues of competency (UNFPA 2011), the perceived limited midwifery skills of SBAs and unexpected costs of care (Matsuoka et al. 2010). The low level of knowledge and competency among health professionals and barriers to good quality delivery services as well as official and unofficial fees are serious factors contributing to the low percentage of births which take place in medical facilities, and to resulting high maternal mortality ratio in Cambodia (World Health Organization 2008a).

The World Health Organization reported that when a woman's economic status is low, she is unlikely to have a skilled assistant at delivery and life-saving emergency obstetric care (WHO 2005). In Cambodia, the strongest determinant of delivery location was household wealth, with women from the lowest quintile of household income being nearly 12 times more likely to give birth at home than the wealthiest. A woman's level of education and previous antenatal attendance were also found to affect the choice of health facility birth and the use of skilled birth attendance in Cambodia (Chomat et al. 2011; Yanagisawa, Oum & Wakai 2006). Koblinsky et al. (2006) suggest that removing financial barriers to care for pregnant women, including user charges, and removing health system constraints are aspects of increasing access to, and utilisation of, maternal health services. Increasing women's access to quality maternity care has become a focus of global efforts to avert maternal death, particularly from complications, and to ensure every woman achieves the best possible health outcome in pregnancy and childbirth (Adegoke et al. 2011; UNFPA 2011).

A reduction in maternal and neonatal deaths will only occur with the use of skilled health personnel, especially midwives who have the required skills and abilities to

provide skilled care during pregnancy, labour and childbirth, particularly in an emergency (UNFPA 2011; World Health Organization 2005). In Cambodia where women's access to, and use, of skilled attendants is limited, other providers, particularly private birth attendants, including midwives, nurse-midwives and doctors with midwifery skills are also caregivers in pregnancy and childbirth. It is, therefore, critical to understand the actual practices provided by public and private SBAs during labour, birth and the immediate postnatal period and their working environments in Cambodia.

2.8 The way forward for improving maternal health

The following section is organised around the concepts of competence and competency based on the literature, and identifies the way forward for improving maternal and newborn health in Cambodia.

2.8.1 The concepts of competence and competency

Evidence has shown that two requirements are fundamental to the prevention of avoidable maternal deaths – access to SBAs and good-quality emergency obstetric care. For that reason, special attention has been paid to the competence and competency of SBAs. The terms cover the knowledge, skills, attitudes, and professional behaviour that are required for quality midwifery care (WHO et al. 2008). However, there are different understandings of the concepts of competence and competency (Ireland et al. 2007). For example, Ireland et al. (2007) define competence as the ability to carry out a task to the required standard, while competency is the discrete knowledge, skills, attitudes and experience required for individuals to perform their jobs correctly and proficiently. Gonczi and Oliver describe competency as comprising three characteristics: attributes – that is, ‘what is known (factors such as knowledge, abilities, skills and attitude)’; performance – that is, ‘how an attribute is used’, and standards – ‘the expected minimum performance outcomes’ (Gonczi, Hager & Oliver 1990). Competency-based standards as described by Gonczi and Oliver have been an appropriate method for testing overseas professionals and can be used to help professionals gain recognition whose overseas qualifications would otherwise not be recognised. Furthermore, competency-based standards can potentially improve career progression by providing a valid basis for promotion, and by removing barriers between occupational levels (Gonczi, Hager & Oliver 1990).

Others distinguish between the two terms slightly differently, and see competency as defined by two similar but separate features. Being competent is a set of behaviours while competencies are a set of minimal standards (Strebler, Robinson & Heron 1997). A competency is a definable, workable unit of knowledge, skills and abilities which can be tested. There is said to be a hierarchy effect such that a series of competencies added together make someone competent to carry out a number of domains of tasks. Manley and Garbett (2000) claim there are greater differences between these concepts than their labels and these need to be understood before choosing the most appropriate approach for the purpose intended (Manley & Garbett 2000). They apply the term competencies generally to measurable or observable knowledge, skills, abilities, and behaviours critical to successful job performance.

According to the International Confederation of Midwives (ICM) (2010), the term “competencies” describe the broad statement heading each section of its definition as well as the basic knowledge, skills and behaviours needed of the midwife for safe and effective practice of the profession in any setting. An understanding of the meaning of competence and competency can help midwives individually at the clinical practice level and midwifery associations at the policy level to articulate more clearly the distinct requirements expected of fully qualified midwives within the SBA and sexual and reproductive health workforce (Fullerton et al. 2011). Competence and competency are critical to the domains of midwifery education, legislation and regulation, and to the deployment and retention of professional midwives. In the essential ICM competencies for basic midwifery practice, seven domains of competencies have been developed and tested as essential practice competencies for midwives throughout the world (Fullerton et al. 2003; Fullerton & Thompson 2005; ICM 2011a). These domains are outlined at Table 2-2 below.

Table 2-2: Seven Domains of the Essential ICM Competencies for Basic Midwifery Practice

1. Midwives have the requisite knowledge and skills from the social sciences, public health and ethics that form the basis of high-quality, culturally relevant, appropriate care for women, newborn babies and childbearing families.
2. Midwives provide high-quality, culturally sensitive health education and services to all in the community in order to promote healthy family life, planned pregnancies and positive parenting.
3. Midwives provide high-quality antenatal care to maximise health during pregnancy, which includes early detection and treatment or referral of selected complications.
4. Midwives provide high-quality, culturally sensitive care during labour, conduct a clean and safe delivery, and handle selected emergency situations to maximise the health of women and their newborn babies.
5. Midwives provide comprehensive, high-quality, culturally sensitive postnatal care for women.
6. Midwives provide high-quality, comprehensive care for the essentially healthy infant from birth to 2 months of age.
7. Midwives provide a range of individualised, culturally sensitive abortion-related care services for women requiring or experiencing pregnancy termination or loss that are congruent with applicable laws and regulations and in accord with national protocols.

As the term competency has many different definitions according to different multi-disciplinary concepts and labels, throughout this research the term competency is used to refer to basic skills, attitudes and practices required of all the maternal health workforce who provide care to pregnant women at all levels sufficient to practise their profession in accordance with predefined national clinical standards (Fullerton et al. 2011). WHO recommended that any health worker providing midwifery care at any level of the health care system, including the primary care level should meet the core competencies required of any SBA outlined in the 2004 WHO ICM International Federation of Gynaecology and Obstetrics (FIGO) statement (World Health Organization 2004a).

2.8.2 Models of quality care

Being skilled in the provision of maternal care is only one component of a more complex reality of quality of attendance (UNFPA 2011). It is evident that there is often a significant difference between the number of health workers designated as SBAs and those with midwifery competencies who meet evidence-based standards (Harvey et al.

2004; Harvey et al. 2007). Quality midwifery care requires a focus on competencies and essential packages of care for maternal and newborn health. In practice, improving care quality is difficult, as it can be challenging to assess objectively; it is hard to reach consensus among staff on what is good care; and there is a difference between staff and patients' views of what constitutes good care (Wilkinson 2001). Various formulations for defining quality care can be found in the literature. Donabedian is one of the earliest and the most prominent researchers who explored the definition and the process involved in the provision of quality care.

He states that:

The quality of care consists in the application of medical science and technology in a way that maximises its benefits without correspondingly increasing its risks. The degree of quality is, therefore, the extent to which care provided is expected to achieve the most favourable balance between risks and benefits (Donabedian 1980, pp. 5-6).

According to Donabedian, quality of care can be assessed on three levels: structure, process and outcome. *Structure* refers to the question: 'what facilities, equipment, staff etc. were there?'; *process* implies 'what was done to the patient?' and *outcome* asks 'what was the result for the patient?' He makes the assumption that without proper procedures of structure and process, good outcomes are unlikely to be achieved (Donabedian 1980). He further states that:

“Where the quality of care is concerned, though we know something about these matters, there is much more that we are ignorant of ... Almost everything we say therefore, is provisional, hedged with reservation, tinged with doubt. And yet, while we search for a more perfect truth, we must act, in good faith, upon what we think we know” (Donabedian 1980, p. 450).

Quality of health care consists of the proper performance (according to the standards) of interventions that are known to be safe and affordable to the society in the question, and have the ability to produce an impact upon mortality, morbidity, disability and malnutrition (Roemer & Montoya-Aguilar 1988). Huezo and Diaz (1993) confirm that quality of care involves not only physical and technical aspects, but human aspects as well. They stress seven rights for clients including information; access to service; informed choice; safe services; privacy and confidentiality; dignity, comfort and expression of opinion; and continuity of care and the service providers' needs such as effective supervision and management; training, information and development;

supplies, equipment and infrastructure (Huezo & Diaz 1993). This move has shifted beyond the traditional approach of concentrating basically on clinical changes for improvement in the quality of health services, to a model that is designed to meet the needs and expectations of women and community.

There has been a growing interest in quality improvement (QI) of health care in many countries of the world (Leatherman et al. 2010). QI is a component of performance management, which can be applied to improve the efficiency or effectiveness of a program, process or organisation, with respect to established targets and goals (Dilley, Bekemeier & Harris 2012; Landrum & Baker 2004). Evidence shows that health worker performance is often inadequate to deliver life-saving interventions for children and adults (Rowe et al. 2005). Public health authorities face challenging decisions about how to use limited resources to maintain essential public health services and how to improve the quality of care in the services they provide to their populations. Poor health worker practices contribute to the low use of health facilities by poor or disadvantaged groups, and improving their performance may increase the use of health services (Tanser et al. 2001). Poor staff performance was found to be related to a lack of evidence-based practice, which can be harmful to women (Shaban et al. 2011). The quality of health care, therefore, must be assessed regularly in terms of provider performance and consumer satisfaction – social, emotional, medical and financial outcomes as well as the aspects of equity and performance according to the standards and guidelines (Pittrof, Campbell & Filippi 2002). To improve performance, a clear vision for high-quality public health services should be a policy priority and a QI system may be a useful practice to make this happen (Dilley, Bekemeier & Harris 2012).

Improvement of the quality and coverage of care for safe motherhood in Cambodia is a complex problem because the actions of individual SBAs within the system are interrelated and affected by other health providers and a weak health system. In addition, although QI processes have been institutionalised in the public health system, there is little emphasis on the efficiency or effectiveness of the use of QI in maternal health in Cambodia.

The WHO framework's six building blocks (service delivery; health workforce; health information; medical products, vaccines and technologies; health financing; and leadership and governance) can help to promote common understanding of what a health system is and what constitutes health-system strengthening in relation to the quality of care provision (World Health Organization 2007a).

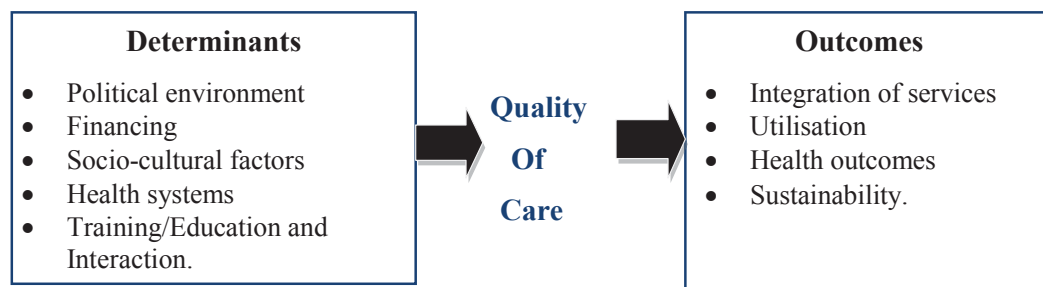
2.8.3 Quality of maternity care

Following the Safe Motherhood Initiative in 1987, there has been a focus on the quality of reproductive health services (Kwast 1998). Health professionals and organisations working in developing countries, including Cambodia, actively seek innovative ways to prevent maternal deaths and improve women's health care. Improvements in the quality of care are driven by multidisciplinary, technical and human resources factors. Winnard (1995) suggests program development to reduce maternal and neonatal mortality and morbidity be considered under six major categories:

- political environment
- financing
- socio-cultural factors
- health systems
- training/education
- interaction/collaboration.

The six categories outlined in Figure 2-1 below are the determinants of quality of care because they are all interrelated and can be assumed to affect the integration of services, utilisation of services, health outcomes and sustainability.

Figure 2-1: Empirical relationships between determinants and outcomes of quality of care (Kwast 1998).



Although there is no single universally accepted definition of quality of care, efforts have been made to assess care quality and maintain high-quality performance of health workers in poor-resource settings (Rowe et al. 2005). Available evidence indicates that a substantial proportion of maternal and perinatal deaths are due to poor technical quality care (Fauveau, Sheratt & Bernis 2008; Hamza 2005; Harrison 1997; Ronsmans & Graham 2006).

A number of tools have been developed, evaluated and implemented for assessing and identifying strategies to improve the quality of maternity service provision. These include:

- national accreditation programs (Blake et al. 1999)
- confidential inquiries into maternal deaths and maternal mortality review committee (De Swiet 2000)
- facility-based surveys for the assessment of quality of service delivery in developing countries (Bryce et al. 1992; Garner, Thomason & Donaldson 1990)
- facility-based maternal death reviews (Hailu, Enqueselassie & Berhane 2010; Khanam et al. 2010; Ministry of Health Cambodia 2006b)
- criterion-based clinical audits in developing countries (Wagaarachchi et al. 2001)
- near-miss cases review in resource-poor settings (Filippi et al. 2004)

Which tool is used depends on the evaluation objective of health managers, planners and policy-makers.

Promoting evidence-based practices of SBAs in managing normal birth and emergency obstetric care, supported by functional referral systems is crucial to providing better care for mothers and their newborns. However, the problems of promoting quality maternity care practices are compounded by issues of competence and recruitments of SBAs and their poor working environment (UNFPA 2011). Dogba and Fournier argue that staff shortages are a major obstacle to providing good quality emergency obstetric care (EmOC), and women are often dissatisfied with the care they receive during childbirth (Dogba & Fournier 2009).

EngenderHealth (2003) employed four steps to evaluate the quality improvement process in emergency obstetric care, which aims at helping staff to respond better to the needs and rights of clients. These steps are:

- information gathering and analysis
- developing an action plan
- implementing solutions
- evaluating progress and following-up.

According to EngenderHealth, these steps must involve individual staff, as well as teams in a health facility (EngenderHealth 2003). In general, however, the technical quality of EmOC has not been adequately studied (Dogba & Fournier 2009). A significant quality improvement has been seen as a result of the PROQUALI strategy in Brazil and the Yellow Star program in Uganda. The PROQUALI strategy used an accreditation model to improve and verify the delivery of reproductive health services and a communication strategy to promote those services. The findings of a quantitative and qualitative study of five pilot clinics using 61 quality criteria show a positive impact upon actual clinic and provider performance and on increased use of family planning services and client satisfaction. Only 16% of the 61 reproductive health service quality criteria were successfully achieved at baseline, whereas by the 12-months follow-up the average percentage of service quality criteria achieved was 94% (Blake et al. 1999). Uganda has undertaken quarterly monitoring against 35 standards for care quality set by the government. If a facility meets all standards for six months, it receives a Yellow Star as recognition. If a Yellow Star facility does not meet all standards for more than three months, the recognition is withdrawn. The findings from the Yellow Star monitoring program in Uganda showed that improvements in quality are evident.

Despite many approaches to improving the quality of care globally, their appropriateness for resource-poor settings has received little attention and their adoption remains sporadic (Leatherman et al. 2010). It is accepted that a quality improvement can make a difference at health service delivery and at the policy levels (Schneider 2006). Yet how this can happen on a large scale and what the determinants are for successful introduction of quality improvement interventions to improve maternal and newborn health within developing countries needs to be explored.

2.8.4 The quality improvement process

Weisman, Grason and Strobino (2001) define quality improvement as “the ongoing, systematic process of using quality measurements to identify problems and to implement strategies to improve the quality of care, usually within specific organisational entities, such as a group practice, a health plan, a hospital, a public health department clinic, or a community-based clinic” (Weisman, Grason & Strobino 2001, p. 55). The objective is to identify the causes of variation in the processes and outcomes of care and to strive continuously for higher levels of performance. Schneider (2006) defines QI as any process or tool aimed at reducing the gap between expected quality standards and actual performance in systemic and organisational functions. It is recognised as those methods that promote effective and efficient health care services, which meet progressively higher standards that relate directly to [patients] and community needs within the limits of available resources (Leatherman et al. 2010). QI encompasses total quality management (TQM), continuous quality improvement (CQI), the European Foundation for Quality Management (EFQM) and other quality management methods.

National policy in Cambodia provides a framework for quality assurance and improvement in health care which streamlines and sets the direction for the activities of government, non-governmental organisations (NGOs) and other stakeholders. Developing countries, including Cambodia, have adopted the WHO’s concept of quality assurance (QA) to guide all improvement efforts for strengthening health systems (World Health Organization 2007a).

The need to focus on quality improvement and/or assurance is crucial to closing the gap between the current and expected levels of quality of maternity care practices of public and private skilled attendants. The WHO (2004) suggests that public and private SBAs should meet acceptable minimum standards for service provision and have the duty to ensure high-quality care for mothers and newborn (World Health Organization 2004a). It is critical to recognise the importance of the role hospitals and health centres play in raising standards of care and so ensuring the survival of mothers and their children (World Health Organization 2008c).

The Cambodian Ministry of Health has developed a master plan for Quality Improvement, which can be used as a guide for implementing the National Policy on Quality. The effect of master plan for Quality Improvement is to provide quality health care that is safe, effective, patient-centred, timely, efficient and equitable, and to increase the public's use of cost-effective public health interventions (Ministry of Health Cambodia 2010b).

Although modern approaches to improving quality of care are increasingly used globally, their appropriateness has received little attention and their adoption is sporadic in many developing countries (Leatherman et al. 2010), including Cambodia. The literature on QI from developing countries is small, but there is an increasing body of research identifying what works to improve patient care and healthcare delivery (Leatherman et al. 2010). One health area where research has shown QI methods produce significant improvements in quality is emergency obstetric care. Measures such as an obstetric first aid box, training for medical personnel (with continuous QI, or CQI), and measures to improve community access, have resulted in significant reductions in maternal mortality. Even though the critical role of quality of care in strengthening health systems is widely acknowledged, Cambodia still lacks evidence or research on the efficacy and effectiveness of a QI system that could be employed to better support SBAs in delivering high-quality midwifery care within an appropriate environment.

Evidence-based maternity care, especially evidence on the safety and effectiveness of specific practices to help guide maternity care decisions and to facilitate optimal outcomes in mothers and newborns is critical. Although evidence-based practice was used first in the field of pregnancy and childbirth and experience has produced a wealth of clear guidance for evidence-based maternity care, there remain a widespread and continuing underuse of beneficial practices, an overuse of harmful or ineffective practices, and uncertainty about the effects of inadequately assessed practices. To inform policy-makers, health managers and the community regarding key mechanisms for QI for maternity care, an understanding of the knowledge gaps between the actual childbirth practices of public and private SBAs, as well as the involvement of childbearing women and expected outcomes of quality care is urgently needed.

The present study discusses current maternity care practices and identifies key indicators that show the health system, as regards maternity care, needs strengthening in Cambodia. The study further identifies factors that affect the use of evidence-based practice, and offers policy recommendations and other strategies that could lead to wider implementation of evidenced-based maternity care practices in Cambodia. These concerns about maternity care quality, and opportunities for its improvement, are not widely and currently recognised. Hence the importance of this study.

2.9 Summary

This chapter has reviewed the literature discussing historical evidence for reducing maternal mortality, evidence on SBAs including the contribution they make to the reduction of maternal mortality and/or the improvement of maternal health. In this section, the characteristics, role and practice of traditional birth attendants and private health providers who provide care were also presented. The quality of maternity care practices of SBAs, their skills and abilities to provide evidence-based interventions during labour, birth and the immediate postnatal period, and their working environment were reviewed. Quality improvement approaches from key stakeholders' views and experiences were reviewed and the use of the quality of maternity care from women's perspectives was presented. Gaps in the literature concerning SBAs and the quality of maternity care provision during labour, birth and after the immediate birth were identified. These knowledge gaps point to the value of and the need for further research on QI to evaluate its effect in resource-poor settings. The last section of this chapter addressed ways to improve maternal health, using existing definitions of competence and competency, and existing evidence on models of quality care and the need for functioning mechanisms for quality improvement.

The next chapter provides an overview of the aims and methods of the research; the setting for the study; the selection of participants and consent procedures; and methods of data collection. More detailed and specific descriptions of the data analysis process are also provided.

Chapter 3 Methods

3.1 Introduction

This chapter outlines the methodology used in this research, including the theoretical underpinnings, the study setting; the study participant selection and consent procedures; and the data collection and analysis techniques.

The study aimed to investigate the quality of maternity care in one province in Cambodia through an examination of observed and reported practices of public and private SBAs, and the quality of maternity care provided by these professionals from the perspective of childbearing women during labour, birth and the immediate post-partum period. The use of a quality improvement initiative was also investigated through the interviews with key stakeholders. In this study, answers to the following key research questions were sought:

1. What are public SBA practices during labour, birth and the immediate postnatal period and how do they compare with evidence-based guidelines? (Chapter 4)
2. How do public SBAs perceive their practice and the factors that facilitate or constrain their practice? (Chapter 5)
3. How do public SBAs perceive their working environments? (Chapter 6)
4. What are the practices and working environments of private skilled birth attendants? (Chapter 7)
5. What are women's perceptions of maternity care? (Chapter 8)
6. How could a quality improvement system be employed to better support skilled birth attendants to deliver quality maternity care in Cambodia? (Chapter 9)

3.2 Study design

3.2.1 Theoretical and methodological approach

The study uses a qualitative approach. This design was primarily selected as it allows for the description and explanation of complex, real-world phenomena pertinent to the field of health services research (Bradley, Curry & Devers 2007; Sofaer 1999).

Qualitative methods have been used to describe many types of complex settings and interactions, including interactions among patients, families, and clinicians; within and

between professional groups and organisations (Sofaer 1999). The use of qualitative methods enables people to speak in their own voice rather than conforming to categories and terms imposed on them by others. A key assumption of qualitative methods is that there are multiple realities to discover and these realities are socially constructed (Lincoln & Guba 1985). This study acknowledges such multiple realities exist for clinicians and birthing women and aims to describe and understand them.

Qualitative research methods originated from the social science disciplines of sociology and anthropology, and the humanities (Haverkamp 2005). Social science professionals have learnt a great deal about conducting qualitative research from colleagues in a variety of disciplines, including methods for participant selection, textual analysis, and establishing the trustworthiness of findings. One such qualitative research method is the naturalistic inquiry, or the study of phenomena in context – a tool appropriate for my study. Naturalistic inquiry, like constructivism, acknowledges that the differences among multiple realities cannot be resolved through rational processes or increased data collection and analysis (Erlandson 1993). A naturalistic inquiry is based on the assumptions that there are multiple realities being studied and these realities can be verified through the five senses, which are subject to the universal laws of science. This means that the inquiry will diverge rather than converge as more and more is known, and that all parts of the constructed realities are interrelated so that the study of any part necessarily influences all other parts (Erlandson 1993).

Many constructivists argue that what human beings call reality is not something objectively out there waiting to be discovered, but is constructed through social interactions (Stallings 1990). Constructivism was originally known as “naturalistic inquiry”, and more recently has been widely accepted as the “constructivist paradigm” (Lincoln & Guba 1985), and has emerged as a serious competitor to the positivist paradigm (Guba & Lincoln 1989). A paradigm is defined as a “basic belief system or world view that guides the investigator, not only in choices of method but in ontologically and epistemologically fundamental ways” (Guba & Lincoln 1994, p. 105). Previous research inquiry identified three paradigms, for example, empiric-analytic, hermeneutic and critical theory (Habermas 1975). Guba and Lincoln (1994), however, recognised four competing paradigms, including positivism, post-positivism, critical theory, and constructivism (Guba & Lincoln 1994).

One of the challenges for researchers is the lack of clarity in definitions of the term constructivism. Some researchers are therefore reluctant to acknowledge constructivism as a paradigm with an emergent methodology (Appleton 1997) because of its absence from literary texts that inform the researcher (Erlandson 1993). Guba, however, explicitly explains constructivism as seeking answers to the three fundamental philosophical questions (Guba 1990). These are: 1) the ontological question: What is the form and nature of reality and therefore what is there that can be known about it? 2) The epistemological question: What is the nature of the relationship of the knower to the known, or how can we be sure that we know what we know? 3) The methodological question: How should the researcher go about gathering knowledge to answer the research question? Based on these philosophical underpinnings, realities “are apprehendable in the forms of multiple, intangible mental constructions” (Guba & Lincoln 1994, p. 110), and thus, constructivism purports to be a relativist ontology. Relativism involves the view that beliefs and principles, especially evaluative ones, have no universal or timeless validity; they are valid only for the age in which, or for the social group or individual person by which they are held (Bullock, Trombley & Lawrie 1999).

Relativism’s fundamental premise is that reality is a social construct through which groups or individuals talk and act (Lincoln & Guba 1985). Constructivism also involves interaction between the researcher and the participants throughout the research process because the researcher is instrumental in accessing the multiple views of reality that may exist so meaning is created (Appleton 1997; Erlandson 1993).

Naturalistic inquiry often involves a long-term exposure to a setting and or a group of people (Lincoln & Guba 1985). It is, therefore, vital for providing an emic (insider) perspective on the way SBAs perceive their practice and their working environment, and on women’s experience of the care they receive from those SBAs in maternity units and how satisfied they are with that care. An emic perspective means that the researcher has to accept that others may hold beliefs that are very different from the researcher's own (Appleton 1997). In my study the constructivist paradigm allows a thick description of the concepts and understanding of human actions and enhances inductive interpretation directly from the data (Lincoln & Guba 1985) as it seeks descriptive and

personal information about what, how and why individuals perceive the knowledge, attitudes and practices of SBAs during labour, birth and the immediate postnatal period. In anthropology and other fields, a thick description of a human behaviour is one that explains not just the behaviour, but its context as well, such that the behaviour becomes meaningful to an outsider (Geertz 1973). In my research, the perceived practices of the SBAs and women's perspectives on maternal health care, as well as key stakeholders' views of the implementation of QI systems are under investigation – which makes this approach appropriate. A qualitative, naturalistic inquiry design was chosen for my study for that reason. This methodology is firmly guided by the constructivist paradigm that underpins the basic questions surrounding the nature of research inquiry (Appleton 1997; Guba & Lincoln 1989). It is an appropriate approach for my study because it allows an exploration of the patterns and influences inherent in the actual practice of SBAs and their interactions with labouring women during labour, birth, and the immediate post-partum period.

The naturalistic paradigm

Although there are many paradigms for arriving at truth, the paradigms that have been used to support disciplined inquiry are the rationalistic and the naturalistic (Guba 1981). Naturalistic inquiry is defined as “a paradigm of inquiry, that is, a pattern or model for how inquiry may be conducted” (Guba & Lincoln 1982, p. 233). Guba and Lincoln distinguish the naturalistic paradigm from the scientific or rationalistic paradigm in ways which can be grouped under five basic headings, which Guba and Lincoln refer to as axioms. These are: 1) the nature of reality (ontology); 2) the inquirer-object relationship (epistemology); 3) the nature of truth statements; 4) attribution or explanation of action; and, 5) the role of values in inquiry (axiology).

In naturalistic inquiry the nature of reality or ontological analysis will allow multiple, intangible realities, which can be studied only holistically. Inquiry into these multiple realities will inevitably diverge so that prediction and control are unlikely, although some level of understanding can be attained. The inquirer-object relationship or epistemology refers to the interaction between the researcher and the researched. Considerations to do with the nature of truth statement lead to the development of a body of knowledge related to context-bound working hypothesis that describe individual cases. An action may be explained by multiple interacting factors, events,

and processes that shape it and are part of it. Under the heading axiology, or the role of values, a naturalistic approach to research assumes findings will always be values-bound. This means it is influenced by the values of the inquirer, by the axioms or assumptions underpinning both the substantive theory and the methodological paradigm framing the inquiry, and by the values that inhere in the context under investigation. With respect to all of these sources of influence, an inquiry that is values-bound may be congruent or conflicting with others. However, the results of the inquiry are meaningful if problems, inquirer, paradigm, theory, and context are all reinforcing.

Although Lincoln and Guba's five-part schema is useful for clarifying assumptions about the phenomena under inquiry, it does not provide a basis for choosing either the rationalistic or the naturalistic paradigm (Lincoln & Guba 1985). Each paradigm is based on certain assumptions which must be tested in the context in which the paradigm is to be applied. Lincoln and Guba also suggest that a researcher using the naturalist paradigm must consider more than the five axioms mentioned earlier. They propose 14 characteristics of naturalist inquiry.

Lincoln and Guba's 14 characteristics of operational naturalistic inquiry can be justified in two ways: 1) by their logical dependence on the axioms that undergird the paradigm; and 2) by their coherence and interdependence (Lincoln & Guba 1985). Synergism occurs when these characteristics are linked. This means that when one is selected, the others more or less need to follow. The 14 characteristics of operational naturalistic inquiry are described in the section below. I then explain how my study relates to them.

Logical dependence upon the axioms

Characteristic 1: Natural setting. The naturalist argues that only natural settings can generate reasonable formulations and interpretations of findings derived from data obtained from the observation of normal activities because realities are wholes that cannot be understood without their contexts. This requires that the interaction between the researcher and the settings in which the phenomena occur must be studied in depth. Without meeting these conditions, the resulting findings may not have meaning or be transferable into other contexts.

Characteristic 2: Human instrument. The naturalist uses humans as the primary data-gathering instruments because humans' consciousness, flexibility and responsiveness allow them to offer a holistic interpretation of events, and to ascribe a meaning to differential interactions between human participants. The human instrument does not need to start with an a priori theory, hypothesis, or method to find its way to what is most salient in a situation. Even though there is a weakness of using the human instrument, the adaptability of naturalists on the data and emerging design is its ideal option using the tacit (implicit) knowledge.

Characteristic 3: Utilisation of tacit knowledge. As there is much interaction between the researcher and participants, nuances inevitably arise from the multiple realities which are in play. Those nuances can be captured if tacit or informal knowledge is legitimised and valued alongside propositional knowledge. Naturalists use this tacit knowledge in the propositional form in order to communicate with others while reflecting the fairness and accuracy of the value patterns of the researcher concerning the findings.

Characteristic 4: Qualitative methods. Naturalistic inquiry is appropriate when qualitative methods are used to deal with multiple realities. The methods also expose directly the nature of the interaction between the researcher and participants. It is, therefore, easy for the researcher to assess how far the results have been influenced by the researcher's own viewpoint. Qualitative methods are also sensitive and adaptable to the many mutually shaping influences and patterns that may be encountered.

Characteristic 5: Purposive sampling. Purposive or theoretical sampling is used by naturalists to enhance the researcher's ability to devise theory that takes adequate account of local conditions, local mutual shaping, and local values so that the study's results will be transferable. Purposive sampling can also increase the scope or ranges of data exposed and increase the likelihood that multiple realities can be discovered.

Characteristic 6: Inductive data analysis. Inductive analysis is used by naturalists because it is more likely to identify multiple realities and to make researcher-respondent interactions explicit, recognisable, and accountable. This method of analysis will also be able to fully describe the setting, make decisions about transferability to other settings

easier and identify the mutually shaping influences that interact within it. Values can therefore be an explicit part of the analytic structure.

Characteristic 7: A source of theory. A naturalistic inquiry is particularly suitable for describing, analysing and understanding perceptions, views, and social and organisational realities as it enables the target phenomena to be examined without the pre-selection or manipulation of study variables, and without a prior commitment to any theoretical views of the researcher (Lincoln & Guba 1985).

Characteristic 8: Emergent design. The design emerges without a priori selection because knowledge of the multiple realities cannot be predicted in a way which would allow the design to be devised adequately. The interaction between the inquirer and the phenomena under investigation is also unpredictable in advance; the patterns of mutual shaping that are likely to exist cannot always be known. In addition, the various value systems involved interact in unforeseeable ways to influence the outcome.

Characteristic 9: Negotiated outcomes. Naturalists prefer to negotiate meaning and interpretations with the study participants from which the data have been derived because it is their constructions of reality that the inquirer seeks to reconstruct. Inquiry outcomes are dependent on the nature and the quality of the interaction between the researcher and participants. Therefore, naturalists need to verify meanings and interpretations of findings with the study participants who live in the context in which the study is undertaken because the study participants can best understand and interpret the complex mutual interactions, especially the influence of local values and patterns.

Characteristic 10: Case study reporting mode. The case study mode is used by the naturalist as it is suitable to describe the multiple realities in the study site and the researcher's interaction with the participants and the consequent biases that may result. It is also possible to display the variety of mutually shaping influences that are present and the value positions of the researcher as well as the theories, methodological paradigms and local value patterns.

Characteristic 11: Idiographic interpretation. Naturalists tend to interpret data that occur in the particular context under study rather than generalise the findings of the study to a broader population or universally, as different interpretations acquire meaning according to different realities. Interpretations depend strongly for their validity on local particulars. These include investigator-respondent interaction, the contextual factors involved, local mutually shaping factors influencing one another, and local values.

Characteristic 12: Tentative application. Naturalists appear to be reluctant to generalise their findings as realities are multiple and different. This reluctance is also related to the researcher-respondent interaction, the extent to which the findings may be transferable to elsewhere depends upon the empirical similarity of sending and receiving contexts, the mutually shaping influences, and the value systems, all of which may not be duplicated or applicable elsewhere that vary by context.

Characteristic 13: Focus-determined boundaries. Naturalists are likely to place the scope of the inquiry on the basis of the emergent focus as it allows the multiple realities to define the focus rather than the inquirer's preconceptions. The particular setting under study can be closely linked by the investigator-focus interaction. Boundaries being set cannot be satisfactorily achieved without close contextual knowledge, for example, knowledge about the mutually shaping factors involved.

Characteristic 14: Special criteria for trustworthiness. Instead of using the conventional trustworthiness criteria (internal and external validity, reliability, and objectivity), naturalists define new, but analogous trustworthiness for naturalistic approaches as substitute criteria. This includes credibility, transferability, dependability, and confirmability. These criteria are appropriate for a paradigm based on emergent design, and are used to enhance the trustworthiness of naturalistic approaches. This differs from the conventional trustworthiness criterion, which focuses only on research outcomes and a single, tangible reality. Moreover, a naturalistic inquiry is always concerned about generalisability, stability and replicability of findings and an admission of the researcher-respondent interaction and the role of values.

Coherence among the 14 characteristics

The fourteen characteristics are needed as a group for naturalistic inquiry because they demonstrate a notable coherence and interdependence. This means that each of these 14 characteristics may be taken as a justification for the others and the exclusion of any one of them would jeopardise all (Lincoln & Guba 1985).

In undertaking research from a naturalistic perspective, Lincoln and Guba (1985) claim that naturalists are obliged to go into natural settings because they cannot predetermine what is important to control for, or even to study. Until the naturalists have spent some time in the setting, they cannot specify the focus of the study because of the lack of a prior theory or hypothesis as guides. Consequently, as the naturalists cannot identify the precise form of data to be sought, they must adopt human beings as the prime data collection instrument and must be prepared to use the capabilities of this instrument to the fullest relying upon their tacit knowledge. Naturalists prefer using qualitative designs as these allow participants to express freely their perceptions, opinions and lived experiences and therefore allow the collection of more in-depth, rich, and individualised data and deeper exploration of the research questions (Neill 2007; Polit-O'Hara & Hungler 1997). A naturalistic inquiry, in the spirit of constructivism, seeks to uncover the meanings and perceptions of the study participants.

Alignment of the study with the 14 characteristics

In my study, the naturalist approach was particularly important as I was studying the actual birth practices of public and private SBAs, women who had given birth with these SBAs and key stakeholders participating in the research. Moreover, naturalist approach can help viewing these understandings of practices and experiences against the backdrop of the overall insights into the quality of maternity care. In line with this approach, I have tried to draw my conclusion from what I observed SBAs doing, what they saw themselves doing and what SBAs said they were doing; what constraints on resources, or other requirements that drove them either consciously or unconsciously to do a particular action. To this end, I have observed SBAs who attended births in actual clinical settings, followed by in-depth interviews, focus-group discussions and informal interviews as methods of data collection. These multi-methods can be used to gather data in natural settings (Appleton 1997) as they are useful for gaining information and insights into a phenomenon under investigation (Lincoln & Guba 1985) so that the

extent to which findings may be transferable and applicable to other similar contexts may be judged.

Although no aggregations, generalisations or cause-effect statements can emerge, it is possible to negotiate idiographic (subjective phenomena) interpretations with knowledgeable respondents. My study therefore allows a thick description to be generated that will include all of these facets and make understanding possible for a reader. The trustworthiness of such process cannot be judged according to conventional criteria; but can be appropriately demonstrated using the naturalistic inquiry approach that I have used in this study. In conformity with Dreyfus and Dreyfus's model of skills acquisition (Dreyfus & Dreyfus 1996), participants for this study were recruited to reflect the range of skilled attendants working within Cambodian maternity care settings. This purposive sample was chosen taking into account the need to augment the scope and range of information obtained from one province in Cambodia, the context of this study, to the whole country.

3.2.2 The Study location and research sites

3.2.2.1 Choice of the province

One province in Cambodia was selected for this study as I am familiar with the province. I have worked there and it is well known to me. This knowledge facilitated access to key participants and services (Ministry of Health Cambodia 2006c). The province has approximately 1,105,151 people living in 12 administrative districts (Provincial Health Department 2009). These twelve districts are covered by seven operational districts for health services, which operate six referral hospitals and one provincial hospital, 90 health centres, and two health posts. The province has two levels of health services delivery. The first contact level for the public is a health centre, which provides a minimum package of activities (MPA) and the second level is a referral hospital, providing a complementary package of activities (CPA). Detailed information on the health services classified as MPAs and CPAs is set out in the introduction.

3.2.2.2 Choice of the study site

Three hospitals were selected as the study sites. These were a provincial hospital with Complementary Package of Activities 3 (CPA3), one district referral hospital with Complementary Package of Activities 2 (CPA2) and one district referral hospital with

Complementary Package of Activities 1 (CPA1). These three hospitals reflect the different functions and levels of care in the province and are responsible for complementing each other, and supporting the health centre within or outside its catchment areas when an emergency occurs and referrals are needed. For instance, midwives or doctors with midwifery skills who work in a hospital providing CPA1 refer women with complications to the higher levels of care, either to CPA2 or CPA3 (Ministry of Health Cambodia 2006c). These three hospitals have an average of 40 to 60 births per month (Provincial Health Department 2011) .

Two health centres were also selected as study sites. One of the 17 health centres under the catchment area of one Operational District was selected in the study because this health centre provides a full Minimum Package of Activities (MPA) or MPA3 and employs sufficient health personnel to meet the National Guidelines on Minimum Package of Activities for Health Centre Development (Ministry of Health Cambodia 2007c). This health centre conducted an average of 20 to 25 births per month (Provincial Health Department 2011). The health centre is situated in a busy town in the countryside, 15 km from the provincial hospital. The other health centre (HC), which is one of the 11 health centres under the catchment area of another Operational District was also selected as it provides services at the level of Minimum Package of Activities 1 (MPA1). This HC has only one primary midwife, one floating midwife⁶ and two nurses. This health centre, however, caters for similar numbers of women having normal births – around 20-25 births per month – as the health centre with full MPA (Provincial Health Department 2011). Both health centres have the responsibility of caring for women having a normal birth and have to refer those with complicated pregnancies to their allied referral hospitals (Ministry of Health Cambodia 2007c). Both health centres were selected as they were easily accessible.

The study includes various health-care facilities that reflect different ownership models and types of hospitals and health centres across Cambodia. The selection of facilities was therefore designed to capture as wide as range as possible of health-care situations and their links in one province in Cambodia given the time and financial constraints of the research study.

⁶ Floating staff are those who have the necessary skills in midwifery and are hired by government managers through bilateral contracts to work in an area which is under-staffed.

Five private maternity home clinics were also selected as these clinics are licensed by the Provincial Health Department to provide parts of the essential service packages for reproductive and sexual health. This includes family planning services, treatment of sexually transmitted infections (STIs), antenatal care and postnatal care. Each clinic had 2-5 beds and was run by a midwife, a nurse-midwife or a doctor with midwifery skills. On average these private maternity home clinics see approximately 10-15 births per month, which provided a sufficient number to observe.

3.3 Study participants

Participants consisted of 25 SBAs (eight primary midwives, thirteen secondary midwives, one nurse-midwife and three doctors with midwifery skills), five private SBAs, 30 women and five key stakeholders. These participants were selected as they were involved in maternal health care and services and volunteered to take part in the study. These participants were also able to communicate with me for the length of time necessary.

3.3.1 Participant selection

I initially intended to conduct observations and interviews with TBAs about their skills and practices during labour, birth and the immediate post-partum period and their working environments. However, it was not logistically possible to do so. As a result, I decided to include only public and private SBAs, women and key stakeholders in my study. However, the design of this study did not specify in advance the number of subjects – public and private SBAs, birthing women and key stakeholders – whose practices and experiences were to be examined; the aim rather was to reach data saturation or a point when no new insights would be obtained from expanding the sample further after an initial sample was selected and data were analysed (Ritchie, Lewis & Elam 2003). All participants were recruited through purposive sampling, which relies on individuals who are able to provide rich accounts of their experiences of childbirth (Hesse-Biber & Leavy 2006; Patton 2002). Purposive sampling has been defined as “a sampling procedure that is governed by emerging insights about what is relevant to the study and purposively seeks both the typical and the divergent data these insights suggest” (Erlandson 1993, p. 33). The methods of participant selection are described in detail in the following section.

3.3.1.1 Skilled birth attendants

Participants consisted of a convenient sample of SBAs, including primary and secondary midwives and doctors with midwifery skills. These participants were selected to ensure there were a mixture of SBAs and a range of facilities present in the sample, so as to assess the impact these factors have upon the findings. After reviewing ethics approval granted by the University of New South Wales Human Ethics Committee (HREC 09309), and the National Ethics Committee for Health Research of Cambodia (136 NECHR), the Director of the Provincial Health Department supported my research project. Study sites approvals were granted by the Provincial Health Department (Appendix 4). The Director of the Provincial Health Department wrote to hospitals and health centres (Appendix 5), informing the SBAs of the study and inviting them to participate. Skilled birth attendants who volunteered to participate in the study were contacted by a senior SBA who could explain the study in detail and provide consent forms (Appendix 7b). Skilled birth attendants, including primary and secondary midwives, nurse-midwives and doctors with midwifery skills who met the inclusion criteria, were enrolled in the study. Having agreed to take part, none of the participants refused to participate in or withdrew from the study. In total, 25 SBAs volunteered and participated in observations, individual in-depth interviews and the focus-group discussions.

3.3.1.2 Birthing women

The women whose views were sought were those who had recently given birth at each selected facility. Upon arrival, public and private skilled birth attendants informed women and their family members about the objective of the study. Women were recruited by snowballing, which is referral from one participant that leads to the recruitment of another participant and then another until the quota of participants or redundancy of data is achieved (Miles & Huberman 1994). Permission for the study was gained through the consent of the women, obtained by SBAs. Midwives asked for women's permission and consent both before and during labour (Appendix 8a and 8b), as pregnant women may reconsider or revoke their decision regarding the study, in particular when in a state of emotional and physical stress.

Participation was entirely voluntary. Women were told that participation in this study or refusal to take part would not affect their treatment or access to maternity settings or

other health services. Of 40 women from public facilities who consented to the observation of their births, only 20 were purposively selected for individual in-depth interviews because of time constraints and budget limitations. Ten women who had given birth at private maternity home clinics were also selected for individual interviews. In total, 30 women were interviewed before being discharged from public and private facilities (Appendix 9a and 9b). Each interview lasted about 60-90 minutes.

3.3.1.3 Private skilled birth attendants

Private skilled birth attendants were purposively selected as they were also government SBAs who worked in both public and private sectors. Seven private SBAs working in the hospitals were identified and were approached at public health facilities. Five agreed to participate in the study (Appendix 6). The five were selected as they are well known in the community they serve. They included three secondary midwives, one primary nurse-midwife and one doctor with midwifery skills. After the private SBAs volunteered to participate in the study, I started to observe their practices during labour, birth and after the birth. None of the private SBAs refused participation or discontinued from the study.

3.3.1.4 Key stakeholders

Stakeholders were purposively selected as they could provide rich information regarding the barriers and facilitators of the development, implementation and sustainability of quality improvement systems in public facilities. All the stakeholders were approached via a telephone call and a face-to-face meeting. Key stakeholders consisted of five medical doctors, including two from an NGO, one from the Ministry of Health, and two from the Provincial Health Department. All the participants agreed to be part of the study.

3.3.2 Participation compensation

As salaries of the public SBAs are low in Cambodia (Henderson & Tulloch 2008; Kingdom of Cambodia 2005; Soeters & Griffiths 2003), I provided SBAs with \$US15 cash as reimbursement for their transport costs and time. Private SBAs received the same amount of money as public SBAs as they were also the government health care providers. Birthing women were also offered a small gift of babies' clothes for their

participation in the research. The gifts did not total more than US\$20. Participants received the money or gift after their participation in the study was complete. Although cash incentives or gifts were provided to reimburse participants' contributions to this research, they were informed that their participation was voluntary and there were no penalties if they chose not to participate in the study.

3.4 Ethical considerations

The study was approved by the University of New South Wales Human Ethics Committee (HREC 09309) (Appendix 1), and the Cambodian National Ethics Committee for Health Research (136 NECHR) (Appendix 2) before commencement of the field work. In 2011, as I transferred from the University of New South Wales to University of Technology Sydney (UTS), the study was ratified by the UTS HREC 2011-061 (Appendix 3). The study site was also approved by the director of the Provincial Health Department (Appendix 4). Informed consent and participants' statements regarding the study had been prepared in both English (Appendix 7a) and Khmer languages (Appendix 7b), but I used the Khmer version as all the participants and I, are Khmer nationals. For 14 women who were not able to read and write the Khmer language, verbal consent was sought, and witnessed by a third person. Once all expressions of interest had been received, I provided contact details and chose the final list of participants to be included in the study. I then contacted them, and explained the objective of the study and the consent process.

The consent form stated that the participant observations, in-depth interviews and focus group discussions were to be kept confidential. All participants' names were substituted with pseudonyms to ensure confidentiality and anonymity and any organisations and or places that could be used to identify the participants would be withheld. I assured participants that I would not share their identity or individual responses with anyone and that only I and my supervisors have access to the data.

I also told all the participants that I would not be intervening in any birthing practices conducted by SBAs at the hospitals, health centres and private home clinics during my observation even if I observed substandard care or if a complicated case arose – where participants had available a team equipped for emergency obstetric care and were going to summon it. However, I would observe closely, and would ask for emergency

obstetric care team intervention if and when needed. Participants were also told that they could withdraw from the study at any point without giving a reason. Recruitment commenced at each site once data management procedures were established.

Ethical issues and the risks and benefit of participant observation

Researchers have an obligation to weigh the benefits and the potential harm of a research situation (Haverkamp 2005; Houghton et al. 2010). This may require ceasing the observation so that an emergency situation can be attended to and medical personnel summoned. However, in several situations, health personnel could not be called and I was the only doctor in attendance.

For example, of the 40 women observed, four women who had a normal vaginal birth experienced a post-partum haemorrhage within 24 hours. Two women were identified by me and referred to surgery when post-partum haemorrhage occurred. Two other women with complications were also detected by me and midwives. After the delivery of the placenta, these women bled acutely and were in clinical shock, indicated by their pale, sweating face, cold extremities and fast respiration. I offered to take the women's blood pressure when I noted their shock due to the obstetric haemorrhage. I also helped to increase the saline drip and asked midwives to look for blood for transfusion and the surgical team for help before referring to the operating theatre. Despite our best efforts, blood was not available in the blood bank and surgical team were at home when the emergency occurred. Two of these women died in the labour ward without having a blood transfusion and without receiving life-saving interventions such as a caesarean section. I intervened and tried my best to resuscitate the women.

Some may argue that I was too interventionist as I switched from being a total observer in the construction of knowledge and meaning with the research participants to become an active participant-researcher and even being their doctor and not a researcher at all (Lincoln & Guba 1985). However, had I not intervened, but simply observed the four women with preventable shock due to post-partum haemorrhage, I believe my ethical position as a researcher would have been untenable. Haverkamp (2005) states that "what makes research ethical is not a characteristic of the design or procedures, but of our individual decisions, actions, relationships, and commitments" (p.147). Therefore, I found it reasonable and humane to be able to save the lives of at least the two women

during my observation and provide some clinical and resuscitation skills and advice to the SBAs who agreed to be observed. My clinical training enabled me to gain the trust of participants, and my intervention in the emergencies further allowed them to feel comfortable talking freely. SBAs in the study admitted to a lack of confidence and at times competence in certain situations. They also pointed out the absence of a well-equipped team to respond to unexpected pregnancy-related complications made matters worse. The lack of effective health system support to assist the management of emergencies including the lack of blood supplies and the unavailability of an emergency obstetric team who could provide life-saving skills, were found to be the major contributing factors to the deaths of these two women. I am both a medical doctor and a researcher and my research reflects my passions: improving the quality of maternity care practices of SBAs, and the need to focus on the working environments of SBAs.

All the materials collected were kept in the locked cabinet of my office in Cambodia, then in Australia. Passwords were used for all documents or files saved on computers. Only members of the research team had access to tapes to the extent required to produce and check transcripts, monitor interview technique, and undertake other analytical procedures. All tapes, transcripts and field notes were transferred to an archival box that will be kept securely for a minimum of seven years at my office in Australia, then in Cambodia after publication of the research. At the completion of the data storage period, all paper notes and reports will be securely shredded and all tapes will be securely erased and destroyed.

3.5 Organising fieldwork

Fieldwork was undertaken over a period of four months from November 2009 to March 2010 (first round) and two months from November to December 2010 (second round). The first round of data collection was conducted to gather information through participant observations, in-depth interviews and focus-group discussions with SBAs, observation and interviews with private SBAs, and in-depth interviews with women who had recently given birth in each maternity setting, and interviews with key stakeholders.

The second round of data collection was undertaken at the previous study sites. In this round, the preliminary findings of the qualitative data analysis were presented to all

participants in each of the study sites. This process was designed to seek further clarification of participants' responses and their input into the analysis and findings. This focus aimed to ensure the accurate representation of the views of key participants through member checking/respondent validation. For example, a collaborative dialogue started with a series of questions: "What do you think of these preliminary findings? Do the findings make sense to you? Why or why not? What other factors may have contributed to the current situations? What improvements can be achieved with the available resources?" Hesse-Biber and Leavy (2006) contend that the exchange of views can provide innovative ways of understanding our data. Therefore, the participants' viewpoint ought to be presented within the interpretation and analysis of the data (Hesse-Biber & Leavy 2006). While the recorded views of participants in each facility were being checked back with them, member checking in each health facility, ongoing data analysis was also undertaken.

3.6 Data collection techniques

Data were collected through observation, in-depth interviews, focus-group discussions and informal interviews. The multi-method qualitative study was adopted to permit data triangulation (Patton 2002), and to maximise the opportunities for participation of all key participants who engaged in this study. Methodological triangulation allowed meanings and understandings to be verified from the various sources as they emerged (Adler & Adler 1994; Nolan & Behi 1995), and can be used in support of either (or any) method to provide a better understanding of complex phenomena within the context of natural settings – understanding that could not have been attained via the use each method separately (Erlandson 1993). The details of each method used in this study are described in the next section.

3.6.1 Non-participant observation

Non-participant observation was the first method employed in this study. Participant observation is defined as "a technique of unobtrusive, shared or overtly subjective data collection, which involves a researcher spending time in an environment observing behaviour, action and interaction, so that he/she can understand the meanings constructed in that environment and make sense of everyday life experiences" (Grbich 1999, p. 123). There are three possible roles for a participant observer. First, the researcher may be a 'total participant' who emotionally becomes the phenomenon or

part of it. Second, the researcher may take the role of a ‘participant-researcher/researcher-participant’, where some emotional engagement may happen; however, he/she is able to move from one role to another role within a setting under investigation. Finally, the researcher can be a ‘total researcher’ who is emotionally and physically separate – in effect, a non-participant observer. He or she visits the setting on regular occasions for limited periods. In my study, I took the role of a total researcher

Participant observation was undertaken as it is best suited to the study of natural clinical practice and the perceptions of public and private SBAs, and key stakeholders, and maternity settings where data are accessible (Grbich 1999). Participant observation was also used to understand the experiences and the emic (insider) perspectives of people, including the way they think, feel, and act. Participant observation is defined by Bogdewic (1992) as a prolonged period of intense social interaction between the researcher and the participants, in a setting, during which time data in the form of field notes are unobtrusively and systematically gathered by a ‘total’ researcher (Grbich 1999). The individual SBAs as well as a team of SBAs who attended births were observed every day over a period of two weeks, during which I maintained an emotional and physical distance from participants and the observation environment. As befits a total researcher, the participant observation was undertaken using an observational checklist and field notes.

The observation checklist is based on the national clinical assessment tool for the associate degree in midwifery developed by the Cambodian Ministry of Health and UNFPA (Ministry of Health Cambodia 2009b). This tool provides a benchmark against which to assess the skills and competencies required to manage women having normal pregnancies, births and the immediate post-partum period and the identification, management and referral of complications of mothers and newborn babies as per the minimum and complementary packages of activities at health centres and referral hospitals (Ministry of Health Cambodia 2006c, 2007c).

The national clinical assessment tool consists of the 60 steps for Normal Birth (Ministry of Health Cambodia 2009b). This is a comprehensive assessment based on World Health Organization guidelines. However, time restrictions put the full assessment beyond the scope of this study. Instead, a participant observation checklist was

developed by summarising the 60 steps of the national clinical assessment tool to focus on four key areas and 23 SBA activities as outlined in (Appendix 10). The observation of maternal problems in the first 24 hours after birth was added as a key area of focus because complications occur in approximately 15% of pregnancies and often cannot be predicted (Say, Pattinson & Gulmezoglu 2004). Death (due to post-partum haemorrhage) and referral to other levels of care were also included as two checklist items in this area. The administration of vitamin K was also included in the checklist under newborn practices to explore the application of this practice which although part of routine and standard care in developed countries (Hubbard & Tobias 2006) is not well documented in Cambodia. The tools were not pilot-tested as the majority of items in the checklist had already been pretested and were routinely used to assess midwives at pre-service education and in-service training by all the regional training centres in Cambodia. The observation checklists were used as a guide to observe SBAs' practice and were completed outside the birthing room to help reduce the impact upon health-care providers and women.

The observation of an SBA's practice was undertaken until theoretical saturation was reached (Glaser 1992; Patton 2002). This meant that I remained in the field until no new insights were being gained from successive data (Bradley, Curry & Devers 2007). For example, when my observation elicited information about a concept that I had seen before, or that contradicted previous observations, I expanded the number of study participants to include new participants to understand this new observation more fully. I undertook birth observation over two weeks at each of the health facilities, which allowed me to establish rapport and build the necessary trust to carry out the observations. More details will be discussed in the section in this chapter on rigour. After participant observations, individual in-depth interviews with SBAs who had participated in observation were undertaken.

3.6.2 In-depth interviews

In-depth interviews were selected as they provided an opportunity to record what the individual SBA wanted to tell about their practice and the factors that facilitate or constrain this during labour, birth and the immediate postnatal period. Interviews are the most effective and appropriate means to achieve the goal of this study (Liamputtong & Ezzy 2005) as they can clarify and expand upon the findings from observation

concerning what people actually do and what they say they do. Interviews were also appropriate to uncover and understand the women's perceptions and experiences of maternity care provided by an SBA.

Public and private skilled birth attendants who had consented to an observation of their practice volunteered and participated in individual in-depth interviews. In total, 25 public SBAs and five private skilled attendants participated in the interviews. The interviews consisted of a series of questions including: 'Tell me about your practice during labour, during the birth and after the birth? How do women have support in labour? What do you do for the baby in the immediate newborn period? And, What if the baby is not healthy at birth?' The framing of the questions was guided by an understanding of the skills required to manage normal pregnancies, labour, birth and the immediate post-partum period and the identification, management and referral of complications of mothers and newborn babies (Ministry of Health Cambodia 2006c, 2007b). The choice of these questions was guided by the national clinical assessment tools that determine the minimum and complementary package of activities for health centres and referral hospitals in Cambodia (Ministry of Health Cambodia 2009b).

All the women who consented to the observation of their births also volunteered for individual in-depth interviews concerning the care they received and their views on health facilities. In total, 30 women (20 who had given birth at public facilities and 10 who had given birth at private facilities) took part in the interviews.

The interviews with SBAs and women took approximately 60-90 minutes. They were conducted in health centres, hospitals and private clinics. The interviews were audiotape-recorded and notes were collected. None of the participants refused or requested that the recording device be switched off and/or for recorded data to be deleted during the interview process. A pseudonym was used for each so that participants would not be identifiable. After the in-depth interviews, focus group discussions were also undertaken with the same SBAs who took part in the observation and interviews.

3.6.3 Focus group discussions

Another method of data collection was focus-group discussion (FGD). Small groups of participants were brought together to discuss some of the subjects that were raised after the observations and in-depth interviews. Focus-group discussions allow for a naturalistic discussion of experiences (Tobin & Begley 2004). Moreover, FGD enables a mix of participants to explore issues (Green & Thorogood 2004). The focus-group discussions were also used to study ways that the group collectively made sense of their practice and experiences and to clarify group understandings of themes that had emerged from the interviews regarding critical perinatal care practice. The purpose of the FGDs was to clarify data gleaned from the observations and all the interviews and to discuss these in more depth. Within an FGD, I sought to clarify my understanding of what had been said and to explore alternative explanations with the participants. I also sought explanations for discrepancies identified in the interviews – in particular, convergent and divergent opinion concerning practices. Before the start of the FGDs, each group was asked a series of questions including: ‘Tell me about your practice during labour, during the birth and after the birth; What sort of problems do you have with physical resources and supplies? What factors facilitate or hinder your performance and motivation?’

The preliminary findings of the interviews were then presented to groups of individuals in similar contextual situations. The groups’ comments and interactions were written down and audio-recorded when the group agreed to this. FGDs were undertaken with the SBAs in groups of five. All group discussions lasted about 60-90 minutes and were held in the hospitals and health centres. All participants were also informed about the next round of data collection regarding dissemination of the preliminary findings and member checking with them.

3.6.4 Field notes and informal interviews

During the first few days of my fieldwork, no pregnant women were admitted to the selected study sites. However, I had conversations with individual SBAs in which I asked questions and learnt more detailed information as adjunct to the subsequent participant observation. Grbich suggests that information that is often relevant to the research question may occur in such casual, general conversations (Grbich 1999). This information was appropriate and can be employed as an entry point for formal

observation, in-depth interviews and focus-group discussions, in which SBAs' responses are tape-recorded. Relevant and important information in relation to perinatal care practice and the factors that facilitate or hinder SBAs performance was written down in my notebook after each conversation either in front of SBAs or after leaving them. As I visited each health facility on a regular basis, I had sufficient time to review my notes and record them on my laptop computer. My field notes contained what I heard, saw and felt about the daily activity of work, future schedule, fragments of conversations with SBAs and every special event or meeting I had with the hospitals and the health centres where maternal and newborn health issues were discussed.

An example was meeting a key QI team, including a group from a non-government organisation (Reproductive and Child Health Alliance), a chief of provincial maternal and child health, the provincial hospital director and a group of SBAs (Field notes 08/01/2010). Quality improvement follow up had been conducted by the team every three months using the referral hospital and health centre assessment tools (Ministry of Health Cambodia 2007d, 2008a) to explore progress of maternal health care in a provincial hospital. This assessment was part of the quality improvement process recommended by the Ministry of Health. The hospital director told me that this was the second-round assessment. He said that the result of this second-round assessment was 'worse than the first one'. He told all the SBAs that if the result of the next evaluation remained unchanged and did not improve, the Reproductive and Child Health Alliance (RACHA) would not provide further financial support for the hospital. The assessment showed that many problem areas identified in the previous assessment cycle remained unsolved. These included five areas of focus in relation to maternity services – the structures of the maternity services, the birth unit, the quality of documentation and medical record-keeping, client interviews, and general hygiene. The assessment found that there were no referral and request forms for requesting ultrasound scans at the maternity ward; no proper record of diagnosis nor any register of discharge – to name a few. One of the main issues is the lack of a form recording the receipt of payment for medical charges attached to the dossiers or given to the patient. This was found to be related to unofficial payments received by SBAs (Field note 08/01/2010). My engagement in this assessment provided an excellent opportunity to identify gaps, measure progress in maternity care services and seek to understand why no special

attention has been given to solving the identified issues and using the designated QI tool.

3.7 Data management and analysis

Data analysis was thematically analysed – a method of identifying, analysing, and reporting patterns (themes) expressed in the data (Braun & Clarke 2006; Ritchie & Spencer 1994). Thematic analysis is a useful and flexible method for qualitative research (Braun & Clarke 2006). Participants' responses in Khmer were transcribed verbatim and imported into the qualitative data management software NVivo version 8 and 9 (Bazeley 2007). Transcripts were analysed in Khmer rather than in English for the following reasons. First, there are words or concepts that cannot be translated from one language or cultural context to another. Attempting to do so would lead to a distortion or loss of meaning due to a lack of an equivalent word or phrase (Baker 2001; Patton 1990). Second, even if linguistic equivalence is obtained, the nuances and intricacies of the original language can be lost in translation without the consideration of functional and cultural equivalence (Peña 2007). Finally, literary devices such as metaphors, analogies and proverbs, which heavily rely on cultural context and are difficult to translate, are often necessary in a qualitative analysis because of “their ability to bring richness, imagery and emphatic understanding to words” (O' Leary 2005, p. 261).

Analysis began with the reading and rereading of transcripts several times to develop an overall sense of the themes based on the research objectives, to identify common patterns and categories (Bazeley 2007). Following the suggestions of Miles and Huberman (1994), emerging categories and themes were listed and summarised on a discovery sheet for further investigation and/or as unanswered questions for the next contact with participants (Miles & Huberman 1994). Each new piece of data was consistently compared with earlier data. This process of comparative analysis was useful as it is in line with the use and choice of methodology informed by the constructivist paradigm. This paradigm uses a hermeneutic and dialectic approach. Hermeneutics is related to “the art, the skill, or theory of interpretation, of understanding the significance of human action, utterances, products, and institutions.” (Vashishtha 2010, p. 380). This approach is used to gain an understanding of higher levels of meaning of the constructions rather than a superficial grasp at a purely descriptive level (Appleton 1997). The dialectic approach “sees contradictions as

fruitful collisions of ideas from which a higher truth may be reached by way of synthesis” (Vashishtha 2010, p. 225). This approach attempts to seek an understanding of convergent and divergent thinking about the phenomenon under investigation, which may result in contradictory viewpoints and ideas (Lincoln & Guba 1985).

Data were then coded into text units and clustered together to form categories. The categories were defined and grouped into broader themes that constituted the descriptive analytic framework for analysis (Patton 1990). These were discussed with groups of participants to check my understanding of the narrative account and incorporate participants’ comments to improve the veracity of the data. Summaries of the transcripts were translated into English by me and discussed with my supervisors who do not speak Khmer. These aimed at achieving a negotiated consensus of the coding and conceptual structures to ensure the rigour of the research study.

3.8 Rigour of qualitative research

“Rigour is the researcher’s attempt to use as tight a research design as possible” (Grbich 1999, p. 61). Qualitative research methods are valuable in providing rich descriptions of complex phenomena; tracking unique or unexpected events; illuminating the experience and interpretation of events by the researchers with differing stakes and roles; giving voice to those whose views are rarely heard; conducting initial explorations to develop theories and to generate and even test hypotheses; and moving toward explanations (Sofaer 1999). Therefore, high-quality qualitative research should be systematic and rigorous, and should seek to reduce bias and error and to identify evidence that does not support initial hypotheses. The rigour of qualitative research has often been challenged by the rationalist. I thought qualitative research was a technique favoured by those conducting a naturalistic inquiry regarding the four major traditional criteria which the naturalist seeks to address. These are: truth value, applicability, consistency and neutrality (Guba & Lincoln 1982). Truth value refers to confidence in the truth of the findings of a particular inquiry for the respondents whose views and action are being studied, in the context in which the inquiry takes place. Applicability refers to the degree to which the findings of a particular inquiry may have applicability in other contexts or with other respondents. Consistency refers to extent to which the findings of an inquiry would be consistently repeated if the inquiry were replicated with similar respondents in a similar context. Neutrality refers to the degree to which the findings are

solely derived from the respondents and the conditions of the inquiry and not from the biases, motivations, interest and perspectives of the inquirer. While internal validity, external validity, reliability and objectivity are the preferred terms used within the rationalistic paradigm in relation to the four criteria mentioned (Guba & Lincoln 1982), four analogous tenets of rigour have been proposed within the naturalistic paradigm. These are credibility, dependability, confirmability and transferability (Guba & Lincoln 1982; Guba & Lincoln 1989; Lincoln & Guba 1985).

3.8.1 Credibility

Credibility refers to the degree to which isomorphism (being of the same form) exists between the data found by an inquiry and the phenomena the inquiry is intended to investigate (Guba & Lincoln 1982). Although this isomorphism cannot directly be used in either the positivist or naturalist paradigm, naturalists can at least indirectly access the multiple realities constructed by individual participants, and seek to understand whether the participants' realities can be trusted appropriately and whether the researcher's analysis, formulation, and interpretations are credible. A number of the approaches to attaining credibility recommended by Guba and Lincoln (1982) have been undertaken in this research study. These approaches include prolonged engagement, peer debriefing, member checking, and triangulation.

Prolonged engagement at a study site is recommended as central to successful participant observations to ensure trustworthiness of the descriptions and authenticity of the constructions and viewpoints of the participants (Lincoln & Guba 1985). I spent a period of 24 hours within two weeks in each of the maternity settings in order to gain a deep understanding of the observed SBAs' practice and the context under investigation, to build trust and to begin to detect patterns in the data.

Peer debriefing is another tool to safeguard against the loss of credibility. It involves discussion and exploration of specific issues of the inquiry with uninvolved peers (Lincoln & Guba, 1985). This means is used to keep the researcher honest, to identify biased concepts, to provide an opportunity to develop important methodological steps in the emergent design of a project, to leave an audit trail, and to discharge personal emotion, anxieties and stresses that might affect the inquiry. Peer debriefing was undertaken with the chief of skilled birth attendants following each interview session. I

was also in constant dialogue with my supervisors via e-mail. Transcripts of interviews were sent to my supervisors via email so they could read and comment on them. They also assisted me with the reading of transcripts, discussion of coding, development of conceptual categories and generating themes.

The credibility of the research process was also achieved through triangulation. There are four types of triangulations: use of multiple data sources, researchers, methods, and theories (Patton 2002). Data source triangulation involves the use of a variety of information sources in a study. Investigator triangulation uses multiple researchers, presumably with different areas of expertise, in conducting a study. Theoretical triangulation involves drawing on different perspectives or theories to provide new insights, and methodological triangulation uses multiple research methods to collect data. This study used multiple data sources, including participant observations, interviews, focus group discussions and informal interviews to study a single critical perinatal care practice from different cadres of SBAs, key stakeholders, and women who had recently given birth at each maternity ward.

Member checking was also undertaken to enhance credibility with members of various groups from which data were originally gathered. The preliminary findings of this study were presented to all the groups of public and private skilled birth attendants in their health facilities and discussed individually. A collaborative dialogue began with a series of questions: “What do you think of these findings? Do they make sense to you? Why or why not? What other factors may have affected the current working environment? Do you have any suggestions for improving your working environment resources?” Discussions were held with the individual participants to avoid censoring and conformity, which are a concern in data collection using focus-group discussions (Carey 1995). Separate discussions were, therefore, held with participants to provide them with an opportunity to adjust their statements or react to my analytic categories, interpretations, and conclusions (Lincoln & Guba 1985). No amendments were made by participants during member checking and the results match with individuals’, as well as groups’ experiences. Discussions and interpretations were also checked with my supervisors continuously throughout the study.

3.8.2 Dependability

The concept of dependability in the naturalistic inquiry is completely different from the positivist paradigm because it takes into account factors contributing to design-induced change and instability (Lincoln & Guba 1985). In a naturalistic inquiry the emergent design of a project can be changed and it may not be possible to repeat the study under the same circumstances in another place and time because another researcher may employ a different approach to analysing the same data (Guba, 1982; 1985). Further, data can be altered by the subjectivity of the researcher, or affected by their personal state of boredom, exhaustion, or psychological stress from the intensity of the process (Guba & Lincoln 1989).

Reflexivity, establishing an audit trail, and expert peer review are strategies that enhance dependability. These strategies help to document the research process and/or shifts in the study, and allow other researchers to investigate the process, judge the decisions that were made, and understand underlying factors in the natural settings (Guba & Lincoln 1989).

In a naturalistic study, the researcher is the main instrument for collecting data in the natural setting. Therefore, identifying our own biases and assumptions is central to the research process. Due to the importance attached to direct observation, participant observers are often anxious about the possibility of having to cope with and make sense of a number of activities. These include how access was gained, how mistakes and surprises were dealt with, how the data were collected and recorded, the method of data coding, analysis and interpretation. My note-taking has been an important source of data recording as it helped identify my own feelings, views, biases and perceptions. Asking different participants the same questions and observing for consistency in language and behaviour also enhanced dependability. Mapping links and relationships between categories, concepts and themes, as well as thorough notes reflecting the process and rationale for changes were kept during the data collection and analysis phases.

3.8.3 Confirmability

Confirmability is required to corroborate or authenticate the research findings. The concept of confirmability is concerned with ensuring that data, interpretations and outcomes of inquiries do not lie in the inquirer's certifiability (ability to produce

outcomes), but are grounded in the data which the study has found (Guba & Lincoln 1982; Guba & Lincoln 1989). This means that data can be tracked by their sources, with extensive documentation of the process used to assemble the interpretations – somewhat similar to the audit trail described under dependability. Field notes, keeping recorded data and interview notes, notes on data synthesis and documenting decisions related to data analysis such as coding, themes and categories are all part of this process. The findings that emerged from the data further contribute to the trustworthiness of the data. All of these methods were used during the research study, particularly in the data collection, analysis and writing-up. Techniques for confirming the data and interpretations of a given study involve a confirmability audit.

3.8.4 Transferability

In the constructivist paradigm, transferability depends entirely on the degree and extent to which the study is applicable to similar settings (Lincoln & Guba 1985). The technique for establishing the degree of transferability is ‘thick description’ (Guba & Lincoln 1989). The researcher can provide a meaningful database to facilitate judgments about the findings’ transferability to other similar settings in which the researcher has an interest. For example, in my study, I chose differing levels of healthcare services in which various SBAs operate in one province in Cambodia. This province is, however, similar to other provinces in size, structure and levels of health facilities and to other developing country contexts. Furthermore, my extensive clinical and surgical experience in maternal and newborn health enhances the transferability of the findings as the clinical judgment I have developed after many years of practice provides both the expertise and the intuitive ability to judge the research findings and their applicability elsewhere.

3.9 Limitations of the study

3.9.1 Difficulties and challenges

I faced a number of challenges in conducting this study, most particularly in the early stages. After ethics approval was granted from the University of New South Wales Human Research Ethics Committee (HREC), ethics approval was also needed from the Cambodian National Ethics Committee for Health Research (NECHR) in order to conduct fieldwork in Cambodia. I submitted the ethics application form online to the NECHR over a period of two months, but had received no information regarding the

approval. I obtained information on my application by telephoning the secretary of the NECHR. I was informed that the ethics application for my study was not granted due to the highly sensitive nature of the topic regarding quality of maternity care practices of SBAs in Cambodia. I was advised to revise the research proposal for the study and to meet with the chairperson of NECHR so that I could discuss my research proposal in more depth. After a long debate and extensive negotiation with the chairperson, approval for this study was ultimately granted from the National Ethics Committee for Health Research in Cambodia.

The study timeline was delayed due to the ethical issues mentioned above. Appleton (1997) recommends that the constructivist inquirer maintain the anonymity of study settings to protect the participants' identities in order to avoid issues of ethics. Issues of ethics in my study were potentially related to political issues rather than the study settings, the study participants, and the methods of data collection. For example, the chairperson of NECHR, who is also the secretary of state responsible for the Ministry of Health, admitted that the quality of maternity care in public health facilities is poor. He did not want any study to be carried out which might blame government health officials because he feared losing his position and arousing criticism of the government. Due to the possibly sensitive nature of the study, and the commitment to working with the Ministry of Health, particularly the National Maternal and Child Health Centre (NMCHC) on improving maternal and newborn care, all identifying information in this study has been removed to protect the identity of the research sites and participants.

3.9.2 Other limitations of the study

This study had a number of limitations that may affect the transferability of the results. First, the study was conducted primarily in provincial and district referral hospitals, health centres and private health facilities in one province in Cambodia for convenience of access to study participants. Second, specific issues relevant to maternity care provided by public and private SBAs in urban areas were not addressed. Moreover, the health facilities were purposively selected and observations begun only after women were admitted in labour. The findings were based on participant observation using a structured-observational checklist to assess SBAs and self-reporting by a single researcher which, although limited in breadth across Cambodian maternal health services, ensures minimal variability in the study context. The same SBAs volunteered

and participated in the observation, interviews and focus-group discussions. The participants may reflect a limited number of views or may be biased, telling me only what they thought I wanted to know. A small number of public and private SBAs, childbearing women and key stakeholders were purposively selected in this study, as it was impossible within the scope of the study to obtain a representative sample of all Cambodian SBAs, women and key informants. The views of those who did not use the selected study health facilities are not included in this study.

Another limitation of this study concerned the conduct of interviews in an area near the post-natal room or health facility. That may have encouraged some women to give accounts of care that may have been more positive and less reflective of their true perceptions because the women came from the countryside and their level of education was low. Secondly, the successful outcome of labour of the mothers and their newborn babies may have been seen by mothers as a sign of good quality of care. These women's perspectives were also influenced by Cambodian culture and norms. When women's and newborns' lives had been saved, they were likely to show their gratitude or pay in kind for a safe birth that met their expectations even if those expectations were very low. Furthermore, data in my study completely relied on women who can afford to access to both public and private facilities. Moreover, my study could not include women who had died from pregnancy-related causes and those who had given birth with traditional birth attendants. Therefore, findings from my study may represent a selection bias, skewing findings towards women who had better access to emergency obstetric and neonatal care in the first place. Last, but not least, there were no clinical data to be analysed in this study because this study sought to explore, in-depth, the views of SBAs working in maternity services about their practices and working environments. Another limitation was that most women realised that the researcher was a Cambodian medical doctor. It is possible that women who were unhappy with services may have declined to report their negative experiences and feelings, prompted by caution that doing so might have implications for the way they were treated in the future.

Although these issues may limit the generalisation of the findings, understanding and addressing the quality of maternity care through a multi-method qualitative study is an ideal approach. Collecting data through participant observation, interviews, focus-group

discussions, and informal interviews, and analysing it using a thematic approach are appropriate to this study (Appleton 1997). My study focuses on understanding the rich and comprehensive qualitative descriptive data produced from observation of the actual clinical practice, from interviews and focus-group discussion with public and private SBAs. Similarly, interviews with women who had recently given birth at each health facility (Tröm 2004) allowed women to recount freely the factors that were important for them (D'Ambruoso, Abbey & Hussein 2005). The study also provides important preliminary insights into many factors that shape women's acceptance and utilisation of public and private maternity care and services. This study, therefore, enables me to gain a better understanding of the multiple views and perceptions regarding the quality of maternity care practices that were previously unavailable or not researched (Liljestrand & Sambath 2012). A strength of this study is that judgements about the criteria of trustworthiness of the research process have been systematically and rigorously adopted and established within a qualitative, naturalistic inquiry design, with regard to credibility, dependability, confirmability and transferability as described by Erlandson et al. (1993). The procedures employed which demonstrate aspects of trustworthiness included prolonged engagement in the study setting, persistent observation and triangulation of data collection techniques, purposive sampling, verification of transcripts and field notes with participants, member checking of preliminary findings through focus groups, a rigorous audit trail, including data analysis procedures and maintenance of a research journal throughout the study (Williams 2005). The findings may, therefore, be relevant to other contexts of SBAs' practice in Cambodia, as well as to other developing countries with similar contexts.

3.10 Summary

This chapter has provided an overview of the methodology used in this research including the theoretical underpinnings; the study setting; the study participants and consent procedures; and data collection techniques and analysis.

Four following chapters (4-6 and 8) present the findings of the study in the form of papers that have been accepted for publication because the papers describe the results succinctly and in accordance with the scholarly conventions of peer-reviewed articles. These papers have not been rewritten from their published form, but some tables were revised and reformatted. This means there is some repetition in the introduction,

literature review and method sections. Chapters (8-9) present the findings on women's perspectives of maternity care and a quality improvement system in Cambodia. The introduction and the details of data collection and analysis strategies presented in the published papers have been omitted from chapter 8, but have been presented in chapters 1 and 3.

The next chapter presents the quality of maternity care practices of SBAs in Cambodia in the form of paper that has been published in the International Journal of Evidence-based Health Care (Ith, Dawson & Homer 2012a).

Chapter 4 Quality of maternity care practices of skilled birth attendants in Cambodia (*Publication 1*)

Reference:

Ith, P., Dawson, A. & Homer, C. 2012, 'Quality of maternity care practices of skilled birth attendants in Cambodia', *International Journal of Evidence-Based Healthcare*, vol. 10, no. 1, pp. 60-7.

4.1 Abstract

Background

The World Health Organization's recommended package of interventions for the integrated management of pregnancy and childbirth provides guidance for the use of evidence-based interventions to ensure the best outcomes for mother and newborn. However, the extent to which skilled birth attendants (SBAs) follow evidence-based guidelines is not known. There are few studies into childbirth practices of SBAs in Cambodia. The aim of this study was to observe practices of SBAs during labour, birth and the immediate post-partum period and their consistency with evidence-based guidelines.

Methods

A structured non-participant observation study was undertaken. Data were collected using an observational checklist of evidence-based practices adapted from the Cambodian clinical assessment tools for associate degree in midwifery. Maternity care settings in one provincial hospital, two district referral hospitals and two health centres in one province of Cambodia were purposively selected.

Results

Twenty-five SBAs who attended 40 women during labour, birth and the postnatal period were observed. The results showed that the use of the partograph was low; birth companions were not permitted; cleanliness during birth was lacking; management of the third stage of labour was inappropriate; monitoring of mother and baby in the early postnatal period was lacking; the SBAs lacked skills in neonatal resuscitation; skin-to-skin contact with the newborn and early breastfeeding were rare; and intramuscular injection of vitamin K varied.

Conclusion

The findings suggest that the current SBA practices during labour, birth and the immediate post-partum period in one province of Cambodia are not consistent with evidence-based guidelines. Service improvements that address evidence-based practices are likely to have an impact on clean and safe childbirth, thereby enhancing outcomes for Cambodia women.

4.2 Introduction

Cambodia is a small country in south-east Asia with a population of 14 138 million (UNDESA 2011b). It is considered a middle income developing country. The maternal mortality ratio in Cambodia has decreased from 580 per 100, 000 in 1999 to 290 per 100,000 live births in 2011 (WHO 2011). Nonetheless, Cambodia will not reach the United Nations 2015 MDG5 of a target 75% reduction in the number of maternal deaths from 1990 levels (Bryce et al. 2008). The major causes of maternal mortality in Cambodia, as in many similar countries (AbouZahr 2003; De Bernis et al. 2003) are abortion-related complications, obstructed labour, haemorrhage, eclampsia and infection (Ministry of Health Cambodia 2006b).

Many developing countries, including Cambodia, have prioritized maternal health, focusing on increasing the number of births with a SBA in a health facility (Ministry of Health Cambodia 2006d). SBAs have been widely advocated as an effective way to reduce maternal and perinatal morbidity and mortality in developing countries (World Health Organization 1999b). WHO defines a skilled attendant as “an accredited health professional such as midwife, doctor or nurse who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns” (World Health Organization 2004a).

In support of Safe Motherhood Initiatives and improving the skills of SBAs, the World Health Organization’s recommended package of interventions for the integrated management of pregnancy and childbirth (IMPAC) provides evidence-based guidance to ensure the best outcomes for mother and newborn (World Health Organization 2006a). In addition, countries including Cambodia have their own national guidelines

that are tailored to the nation's unique context and health care system for midwives and doctors working in the health centres and hospitals (Ministry of Health Cambodia 2006c, 2007b). The National Guidelines outline the services, including maternal health care that should be provided at the various levels and are based on evidence. The minimum package of activities for health centres provides child immunization, antenatal care, normal delivery, neonatal care, breastfeeding, family planning, safe abortion, and refers complicated pregnancies to the hospital if necessary (Ministry of Health Cambodia 2007b). The complementary package of activities for referral hospitals provides normal birth and basic and comprehensive emergency obstetric care. (Ministry of Health Cambodia 2006c). These packages of activities are informed by the WHO's IMPAC guidelines and other international evidence (Ministry of Health Cambodia 2009b).

Increasing women's access to quality maternity care services has become a focus of global efforts to realize the right of every woman to the best possible health care during pregnancy and childbirth (UNFPA 2009; UNFPA 2011). Maternal deaths or serious morbidity could be averted if women are able to access to a skilled attendant during birth and the early post-partum period, particularly when complications arise (World Health Organization 2002, 2005).

However, problems of increasing women's access to maternal care and services appear to be compounded by issues of competency (UNFPA 2011) and the perceived limited midwifery skills of SBAs (Matsuoka et al. 2010). Competency is defined as possessing skills and knowledge sufficient to comply with predefined clinical standards (Kak, Burkhalter & Cooper 2001). The recent State of the World's Midwifery Report highlights the need to have a sufficient workforce of well trained, accessible midwives to improve maternal health in developing countries (UNFPA 2011). While addressing the need to train and deploy more midwives in a country is critical, strengthening the competency of the SBAs who currently provide care is also important. In addition, it is necessary to have a functioning health system that provides access to essential drugs, adequate equipment supplies and infrastructure that facilitates effective systems for communication referral and supervision which are required to maintain a motivated midwifery workforce to deliver life-saving interventions (Bell et al. 2003; Graham et al. 2001; UNFPA 2011). Elements of the work environment, such as management,

incentives and remuneration, education and training, regulatory frameworks and policies (World Health Organization 2004a) have a severe negative impact on the recruitment and retention of health professionals, the productivity and performance of health facilities, and ultimately on the outcomes of women. These aspects, while important, are beyond the scope of this paper although it is recognised that competencies of SBAs are one of the main barriers that affect service utilization and health outcomes (ten Hoope-Bender et al. 2011) in countries like Cambodia.

Many women in developing countries experience serious barriers to accessing services. Women with severe complications may die because they delay seeking emergency obstetric care, or even if they arrive at a health facility in time, they may receive inadequate or inappropriate care (Gabrysch & Campbell 2009; Ronsmans & Graham 2006). Studies have shown that practices that are not based on evidence or have unknown effectiveness have been used for decades, while those that potentially harm women and their infants continue to be used in many settings (Shaban et al. 2011; World Health Organization 1999a). For example, a study in Cameroon found that health workers providing reproductive health care were not aware of evidence-based interventions (Tita et al. 2005) and a study in Jordan found a similar lack of evidence-based practices in maternity care (Shaban et al. 2011). A national assessment by the Ministry of Health in Cambodia focused on the availability, quality and utilization of emergency obstetric and newborn care, but did not consider whether practices were based on evidence known to reduce maternal and perinatal morbidity and mortality (Ministry of Health Cambodia 2009a; NIPH 2009).

In Cambodia, only 44% of births are attended by trained skilled birth attendants (SBAs) (WHO 2011) and the extent to which SBA practice is evidence-based is unknown. In Cambodia, SBAs refers to primary and secondary midwives, nurse-midwives and doctors with midwifery who provide basic obstetric and emergency care in public health settings.

A primary midwife undergoes a one year-training program after completing secondary school education without necessarily attaining a year 12 grade (most applicants have only completed grade 7 schooling). The one-year Primary Midwifery program was introduced in rural Cambodia in 2003 in response to the severe shortage of midwives,

and expanded nationwide in 2005 (Sheratt, White & Chhuong 2006). A secondary midwife completes a four-year training program. Although primary and secondary midwives work at all level of health care system, the intention was that primary midwives would work at health centres in a supportive role to secondary midwives (Sheratt, White & Chhuong 2006).

Medical doctors undertake an eight-year program with additional 6, 12 or 18 months to be specialist medical practitioners and three years to major in a specialty (Ministry of Health Cambodia 2006a, 2010c). These specialties include basic emergency obstetric and newborn care and general surgery. Doctors who received 6-12 month training programs were accredited as ‘doctors with midwifery skills’ while those who had 18 month training were considered as a general surgeon.

The practices of primary midwives and secondary midwives differ according to the national guidelines (Ministry of Health Cambodia 2006c, 2007c). For instance, secondary midwives who work in health centres can perform normal births but are not authorised to treat complications or use vacuum extraction or forceps to assist births and have to refer women with complications to the referral hospital. However, secondary midwives who work at the hospital level are authorised to treat women with complications who are referred from lower-level peripheral health centres, except for surgical cases.

The practice of SBAs directly impacts upon the quality of care patients receive (Smith et al. 2004) and the economic burden of unsafe care including prolonged hospitalisation, loss of income, disability and litigation is compelling (Kohn, Corrigan & Donaldson 2000). Therefore, information about practice in relation to evidence-based standards is critical for quality improvement and cost effectiveness. In Cambodia, as in other developing nations SBA practice must be considered in relation to limited infrastructure, technology and resources. The aim of this study was to observe the SBAs practice during labour, birth and the immediate post-partum period and their consistency with evidence-based practice.

4.3 Methods

An observational study was undertaken from December 2009 to March 2010. Non-participant observation was used as it enabled the researcher to observe what people actually do, as opposed to what they think they do, or would like others to think they do. Approval for this research project was granted by Human Research Ethics Committees (HREC) of the University of New South Wales and the National Ethics Committee for Health Research of the Cambodian Ministry of Health.

The study was undertaken in one province of Cambodia in maternity units in a range of public settings, including one provincial hospital, two district referral hospitals and two health centres. These health facilities were purposively selected as they represent the range of basic and comprehensive emergency obstetric care in the province. The province in which the study was undertaken was selected as it is well known to the first author who had established access to key participants. The name of this province, however, has not been disclosed due to the sensitive nature of the topic of the study and the need for confidentiality.

Participants consisted of a sample of primary and secondary midwives, primary nurse-midwives and doctors with midwifery skills, who attended births during the observation period. The Director of the Provincial Health Department wrote to hospitals and health centres, informing SBAs of the study and inviting them to participate in the study. SBAs who volunteered to participate were contacted by a senior SBA who could explain the study in detail and provide consent forms. In total, 25 SBAs agreed to participate in the study.

The participating SBAs were given verbal and written information about the criteria for women. Women who accessed the participating health facilities for labour and birth were approached by the SBAs on their arrival. The SBAs informed the women, both verbally and in writing, about the study in order to seek their permission to allow the researcher to be present in the birthing unit. Written informed consent in Khmer was obtained from 40 women who volunteered to be observed by the researcher. All participants were assured that they had the right to withdraw from the study at any point of the study. It was explained to the women that their participation in this study or

refusal to participate would not affect their treatment or access to maternity or other health services. None of the participants refused to participate or withdraw from the study.

Data were collected using an observation checklist based on the national clinical assessment tools for the associate degree in midwifery developed by the Cambodian Ministry of Health and UNFPA (Ministry of Health Cambodia 2009b). The clinical assessment tool assesses the skills required to manage normal pregnancies, labour, birth and the immediate post-partum period and the identification, management and referral of complications of mothers and newborn babies as per the minimum and complementary packages of activities at health centres and referral hospitals (Ministry of Health Cambodia 2006c, 2007b).

The clinical assessment tools consist of 60 steps for normal birth (Ministry of Health Cambodia 2009b) which although comprehensive, was beyond the scope of this study due to time restrictions. The 60 steps were summarized and focused on four key areas and 23 SBA activities as outlined in Table 4-2. The observation of maternal problems in the first 24 hours after birth was added as a key area of focus as complications occur in approximately 15% of pregnancies and cannot be predicted (Say, Pattinson & Gulmezoglu 2004). Death (due to post-partum haemorrhage) and referral to other level of care were included as two checklist items under this area. The administration of vitamin K was also included in the checklist under newborn practices to explore the application of this practice which although part of routine and standard care in developed countries (Hubbard & Tobias 2006) is not well documented in Cambodia.

The observations were undertaken by the first author over two weeks at each of the health facilities. The first author is a medical doctor and a general surgeon who had received training in qualitative research methods, particularly observational research prior to data collection. Individual SBAs as well as teams of SBAs were observed over 24 hour periods. The observation checklists were used as a guide to observe SBA practice and completed outside the birthing room to help reduce the impact on the participants, both SBAs and women. The data were entered into an Excel spreadsheet and analysed using descriptive statistics.

4.4 Findings

Twenty five skilled birth attendants who attended the labour and births of 40 women in the provincial hospital, two district referral hospitals and two health centres were observed. The SBAs included primary and secondary midwives, primary nurse-midwives and doctors with midwifery skills. The average age of SBAs was 44 years and most had more than 10 year experiences in midwifery practice, except two primary midwives who had recently graduated.

All the women whose labour and births were observed were married. Only 25 (63%) women had primary school education and only one woman had secondary school education. The majority of women (88%) described themselves as housewives with only five (12%) reporting working in paid employment outside the home. More than 70% of women were primiparous and almost two-thirds of women had attended antenatal visit at the health centres during pregnancy (Table 4-1).

Table 4-1 Demographic Characteristics of the Women who were observed

Variable	Frequency (n=40)	Percentage (100%)
Marital status		
• Married	40	100
Employment status		
• Farmer/housewife	35	88
• Paid job	5	12
Education level		
• Illiterate	14	35
• Primary school	25	63
• Secondary school	1	3
Parity		
• Primiparous	29	73
• Multiparous	11	28
Had antenatal care this pregnancy		
• Yes	26	65
• No	15	35
Problems during pregnancy		
• Bleeding	5	13
• Eclampsia	3	8

4.4.1 Labour and birth practices

All the observed women were asked about their general health condition and well-being and their history of antenatal care on admission. All SBAs performed a vaginal examination on women's admission to maternity ward and this was repeated less than

every four hours. Only a quarter of women were monitored using the partograph even though partograph sheets were available at each of the health facilities. Various reasons were identified for this lack of usage including it not being part of the SBAs usual routine, heavy workload and time constraints (Table 4-2).

All births were conducted without hand washing before gloving although water, soap and sink were available in the labour wards. Family members were allowed to support women in labour while they were moving around in the early stages of labour, but almost all (95%) of them were not permitted to be present in during the birth. Only two women were able to have a family member with them during the birth. Most SBAs indicated that they could not deliver a baby in the presence of birth companions as they believed companions would affect the woman's compliance with SBA instructions. The risk of infection and disruption to the labour ward area were also reported as reasons for disallowing support in labour.

There were 38 vaginal births and two caesarean sections in the women observed. Episiotomy was routinely performed regardless of women's parity with 34 of the 38 women who had a vaginal birth having this procedure. SBAs indicated that episiotomies were important to avoid perineal trauma and tears which were more difficult to suture. They also believed that episiotomy would speed up the birth, a situation which was desirable given the high number of women in the labour wards.

Active management of the third stage of labour (AMTSL) was another aspect observed in the intra-partum care. It was observed that AMTSL was correctly performed in only five of the 38 vaginal births. There were wide variations of timing of oxytocin administration after the birth of the baby and fundal massage after the delivery of the placenta was missing.

After the delivery of the placenta, all SBAs examined the placenta for completeness and abnormalities. Even if the placenta was intact and normal, 35 women (88%) had a manual exploration and evacuation of the uterine cavity without anaesthetic performed by the SBAs. SBAs indicated that this procedure was an appropriate way to avoid postnatal complications, including retained placenta and subsequent post-partum haemorrhage (Table 4-2).

4.4.2 Post-partum practices

The majority of women (85%) observed were kept in the birth room for at least two hours after the immediate birth of the baby, but only five women (12%) were regularly monitored and checked. It was observed that in health facilities which were short of SBAs, postnatal care was strongly affected by other duties. It was observed that after completing a birth, the SBA would rush off to undertake another activity or to care for other women leaving the woman alone.

Most women (83%) did not experience an immediate complication although there were two maternal deaths in the 40 women observed. Four women who had a normal vaginal birth experienced a post-partum haemorrhage within 24 hours. Two of these women died as a result of the haemorrhage. While the complications of post-partum haemorrhage were detected by the SBAs, there was little support by the health system to assist the effective management of these emergency situations including a lack of blood and poor access to transportation for referral. Two women required a subtotal hysterectomy after their post-partum haemorrhage. Three other women had severe eclampsia, requiring transfer to a higher level of care (Table 4-2).

4.4.3 Newborn practices

Babies were not born onto a clean surface. Some of them were put on the floor near the birth table or onto a dirty weighing scale. The majority of babies (87%) were not put in skin to skin contact with their mother and only one baby was given to his mother within half an hour of birth. Babies were left alone on a nearby table or given to family members outside the delivery room. In addition, only two women (5%) started to breastfeed their babies within an hour.

The Apgar score was not commonly measured with only five babies having this assessment undertaken. SBAs did not monitor the baby in the first hour of labour; some SBAs did not notice newborn babies who cried after immediate birth, but within three minutes stopped breathing and became cyanotic. When family members reported the respiratory problems of one baby, the SBAs rushed to see the baby and sucked the secretion from their mouths and tapped the baby on the back. When the baby's condition deteriorated, SBAs gave inhalation with oxygen and left the room without doing anything else. SBAs did not explain or provide any information regarding the

status of the baby to the family members, but referred them on to tertiary care. One SBA indicated that this was the best she could do in the situation. She said that the doctors did not have the skills and experiences to help the baby.

Clean cord care is another element of newborn care. In four births, the umbilical cords were tied with unsterile thread. All babies had an antiseptic solution (Betadine) applied to their cord stump which was then covered with gauze. The administration of antimicrobial eye drops, such as tetracycline 1% ointment or chloramphenicol solution to the eye of the baby was common occurring in 14 (35%) babies. One quarter of babies were given intramuscular injection of vitamin K to prevent haemorrhagic disease of the newborn (Table 4-2).

4.5 Discussion

The findings of this study show that the current childbirth practices of SBAs are not consistent with evidence-based standards. Appropriate and adequate care was often not provided and could have contributed to harm. These findings are similar to other studies across developing countries, which show a high level of harmful practices for low-risk women (Buekens 2001; Shaban et al. 2011).

Evidence of hand hygiene was limited in this study. Hand-washing practices during birth and in preparation for birth were not widely practised or adopted as part of normal routine care. Poor compliance with hand hygiene by health staff is one of the underlying sources of health care-associated infections (Pittet & Donaldson 2005). The World Health Organization promotes the practice of ‘six cleans’ during birth (World Health Organization et al. 2003). These include clean hands of the birth attendants, clean delivery surface, clean perineum of the mother, clean cord cutting instrument, clean cord clamping instrument and clean cord care. In settings in which the majority of births are conducted in the home and/or under unhygienic conditions, clean delivery kits, a pre-packaged, single-use, disposable kits containing soap, a plastic sheet, a blade, and sterilized thread for conducting clean birth are invaluable. However, while births are conducted in a health facility where hygiene can be better managed, SBAs underestimated their patient contacts and the risk they pose to mothers and newborns from the spread of infections. The finding showed that despite formal pre-service education and in-service training concerning clean and safe delivery and the availability

of sink, water and soap, compliance with hand washing and barrier precautions is unacceptable poor practice reflecting similar challenges in all health care settings (Pittet 2001). The lack of proper hand hygiene among skilled birth attendants may be explained by the lack of knowledge of basic hygiene practices and understanding of the relevant WHO Guidelines on standard precautions and cleanliness, especially hand hygiene in health care (World Health Organization 2006a). In Cambodia, patients would not demand that their midwives or doctors wash their hands before they touch them or prepare to attend them during birth, as they felt that it could affect their future treatment and care. Dissemination of infection prevention information and health education messages at the community level and in health facilities focusing on clean and safe birth practices are essential to raise the hygiene awareness of women and their families. Such health education would enable women and their families to advocate for hand hygiene and help to change SBAs practice.

There is strong evidence that the presence of companions of the woman's choice during labour and birth has a positive influence on women satisfaction and great benefits with the birth process (Bruggemann et al. 2007; Hodnett et al. 2007). However, almost all SBAs in this study did not allow such support to be provided. This finding is similar to a study in Jordan, where the lay-out of the labour wards and limited knowledge of family members about childbirth prevented support in labour (Shaban et al. 2011). The lack of support in labour constitutes a challenging barrier to increasing skilled care utilization and improving maternal health outcomes as women, especially the poor and marginalized, will continue to seek traditional birth attendants in preference as they can provide social and cultural knowledge, consolation, empathy and psychosocial support at birth that has important benefits for mothers and their babies (Bergström & Goodburn 2001; Costello, Azad & Barnett 2006).

Cambodia has prioritized increasing the proportion of births attended by a SBA to enhance the quality of care during childbirth in health facilities and reduce maternal mortality. One of the challenges in this respect was the quality of obstetric practice, including limited use of the partograph for monitoring the progress of labour and inappropriate management of the third stage of labour. The partograph is an inexpensive tool that assists health workers in identification of concerns and early decision-making in relation to consultation, augmentation of labour, and possible transfer or caesarean

section to ensure positive birth outcomes. Lower cadres of various primary health care workers can be effectively be trained to use the partograph with satisfactory results highlighting the utility of the tool (Fatusi et al. 2008). The proportion of SBAs and facilities using partograph is low or not performed, as shown in other studies (Harvey et al. 2007; Nyango et al. 2010; Sheratt, White & Chhuong 2006). It is, therefore, important that policy makers and development partners need to address facility and skilled manpower shortages and to ensure that all SBAs receive this training or are motivated to use the partograph for all labouring women.

Post-partum haemorrhage (PPH) is one of the leading causes of maternal death, accounting for at least half the maternal mortality in Cambodia (AbouZahr 2003; Ministry of Health Cambodia 2006b) which is similar to other countries (Kongnyuy, Mlava & Van Den Broek 2009). The World Health Organization, the International Federation of Gynaecologists and Obstetricians and the International Confederation of Midwives recommend on use of AMTSL to PPH (Lalonde et al. 2006). The majority of SBAs in our study were aware of the components of AMTSL, but their practices did not comply with the elements of AMTSL, which is an area of significant concern with maternal mortality. These findings are supported by other observation studies, (Harvey et al. 2007; Liljestrand et al. 2009; Stanton et al. 2009) as well as a survey study in Nigeria (Oladapo et al. 2009).

The SBAs in this study lacked confidence in their skills to assess newborn babies and often failed to recognize the need for resuscitation when a baby had respiratory problems. The provision of basic neonatal resuscitation could avert 30 percent of intra-partum related neonatal deaths, as well as 5-10% of deaths due to preterm birth (Andersson, Högberg & Bergström 2000; Wall et al. 2009), and success is possible in low-income countries even without highly developed technology (Martines et al. 2005). These practices include maintaining warmth of the baby, early and frequent breastfeeding, keeping the baby and mother together, ensuring hygiene and the prompt recognition and treatment of illness. While newborn babies were born in institutions, SBAs did not display or use basic resuscitation skills which are simple and necessary to save the life of the baby because very few babies need advanced resuscitation such as endotracheal intubation and drug and these newborn babies may not survive without continual ventilation (Wall et al. 2009). Advanced neonatal resuscitation is not a

priority in settings without neonatal intensive care (Wall et al. 2009) and the perception of the need for specialist skills in neonatal resuscitation may be the result of a lack of knowledge of relevant clinical protocols, adequate training and mentoring and teamwork. Only 14 (35%) of the babies were given antimicrobial eye drops and a quarter were administered vitamin K. Evidence suggested that haemorrhagic disease of the newborn can occur when prophylactic vitamin K is not administered and that it can have devastating consequences (Hubbard & Tobias 2006). The routine intramuscular injection of vitamin K to all infants should be standardized in the national guidelines as well as the clinical assessment tools, which are key steps to improve newborn health.

Cambodia has made significant progress to reduce deaths in children under five (CDHS 2005), but newborn babies have been largely unnoticed or un-reported. The neonatal mortality rate in Cambodia has been estimated to be 30 per 1000 live births (UNFPA 2011). The lack of competency and experience of SBAs in assessing and recognizing the need for newborn resuscitation for births in health facilities could lead to a higher incidence of newborn with severe disability or chronic illness or even death. This study also showed that postnatal monitoring of newborn is not widely performed. Essential newborn care should be integrated into pre-service education and in-service trainings and hands-on practice provided so that skills are maintained and continuously upgraded.

Limited monitoring of women in the early postnatal period occurred meant women were frequently left alone. This could lead to a lack of confidence in the institutional care provided at the health facilities. It is likely that many women would prefer support in the early postnatal period. This lack of monitoring also meant that complications, for example, post-partum haemorrhage, were left undetected and contributed to morbidity and mortality.

4.6 Conclusion

Childbirth practices of SBAs during labour, birth and the immediate postnatal periods in one province of Cambodia are not always consistent with best practice and evidence. Enhancing education and introducing quality improvement systems will assist health service to ensure that harmful practices are prevented and evidence-based practices are implemented to improve maternal health and accelerate progress towards the United Nations 2015 MDG5 target of a 75% reduction in the number of maternal deaths. Future

research is needed to examine why these evidence-based practices are not being implemented in Cambodia.

Table 4-2: Frequency and Proportions of Practices in the Women who were observed

Activities performed by SBAs	Frequency (n=40)	Percentage (100%)
Labour and birth practices		
Ask the history of the woman	40	100
Use of partograph to monitor progress of labour	10	25
Hand-washing/hands rubbing (with soap and plain water or antiseptic)	0	0
Vaginal examination less than every 4hours	40	100
Monitoring of fetal heart rate	0	0
Care during labour and childbirth		
Birth companion was permitted to attend labour	2	5
Clean delivery surface	0	0
Episiotomy	34	85
Vacuum extraction	5	13
Correct use of AMTSL	5	13
Examine the placenta and membranes for completeness and abnormalities	40	100
Manual exploration/evacuation of uterine cavity	35	88
C-sections (plus subtotal hysterectomy)	2	5
Post-partum practices		
Follow-up and care of mother after birth		
Keep women 2 hours in the delivery room for follow-up	34	85
Monitoring of vital signs and amount of external blood loss within the first 2 hours after birth	5	13
Newborn practices		
Immediate care of newborn (within 1 hours)		
Assess Apgar Scores	5	13
Clean cord care (including cord ties and cutting surface)	35	84
Apply antimicrobial eye drops or ointment	14	35
Administration of vitamin K	10	25
Place the baby in skin-to-skin contact	5	13
Baby given to mother within half an hour	1	3
Early breastfeeding	2	5
Maternal problems in the first 24h after birth	7	18
Death (due to post-partum haemorrhage)	2	5
Referral to other level of care	3	8

Chapter 5 Practices of skilled birth attendants during labour, birth and the immediate post-partum period in Cambodia (*Publication 2*)

Reference:

Ith, P., Dawson, A., Homer, C.S.E. & Whelan, A.K. 2012, 'Practices of skilled birth attendants during labour, birth and the immediate post-partum period in Cambodia', *Midwifery*, In Press. <http://dx.doi.org/10.1016/j.midw.2012.01.010>

5.1 Abstract

Objective

Maternal and perinatal morbidity and mortality rates in Cambodia are high. The provision of quality care by skilled birth attendants (SBAs) in a supportive working environment is an important strategy to reduce morbidity and mortality. There has been little emphasis on examining this issue in Cambodia. The objective of this study was to establish SBA reported practices during labour, birth and the immediate post-partum periods and the factors affecting this.

Methods

A descriptive qualitative design was employed using in-depth interviews and focus group discussions with midwives, nurses and doctors with midwifery skills in two health centres and three referral hospitals in one province of Cambodia. Data were analysed using a thematic framework.

Findings

SBA practice is not always consistent with evidence-based standards known to reduce morbidity and mortality. These were: skills in the care of labouring women; provision of support in labour; interventions in the second stage of labour; management of the third stage of labour; cleanliness during birth; immediate care of the newborn infant and immediate postnatal care. Factors affecting SBA practice included lack of policy and authority; fear of litigation; workload and lack of human resources; and, financial incentives and socioeconomic influences.

Conclusions

A gap exists between evidence-based standards and current SBA practice during labour, birth and the immediate post-partum care. This is largely driven by the lack of a supportive working environment.

Implications for practice

The findings of this research provide maternal health services, workforce planners and policy makers with valuable information to contribute to the continuous quality improvement of maternity care. The findings highlight implications for practice that may improve the quality of maternal health care. Recommendations for decision makers were made and further research is needed in order to develop theories and recommendations to improve SBA practice in Cambodia, to the benefit of the Cambodia women and newborn babies.

5.2 Introduction

Every year, an estimated 350,000 women die from pregnancy-related complications worldwide (UNFPA 2011) and 99% of these women are from developing countries (World Health Organization 2010). A critical component of efforts to reduce maternal mortality is a competent and well managed health workforce. In particular, this means the availability of skilled birth attendants (SBAs) (AbouZahr & Wardlaw 2001) who can deliver evidence-based interventions (Kerber et al. 2007) in a functioning health system that provides emergency maternity care and special care for newborns with problems (World Health Organization, 2008).

A skilled birth attendant is an accredited health professional such as a midwife, doctor or nurse who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns (World Health Organization 2004a). This definition is debatable because of the underlying assumptions that SBAs have a standardised level of skills and knowledge. In reality, there are varying standards of health professional training globally and a range of practices across the cadres (Graham et al. 2001; World Health Organization 2004a).

The proportion of births attended by skilled birth attendants has been used as a proxy indicator to monitor progress towards achievement of Millennium Development Goal (MDG) 5 which aims to reduce maternal mortality by three quarters and provide universal access to reproductive health by 2015 (UNDESA 2011a). While the proportion of births attended by a SBA is important, it is also essential to consider the environment and workplace in which care is provided (Adegoke et al. 2011; Adegoke & Van den Broek 2009). This includes appropriate remuneration, education and supportive supervision, access to transportation, reliable medical supplies and effective regulatory frameworks and policies (World Health Organization 2004a). It is critical to build an understanding of SBA practice in maternity settings including their skills and competence.

A number of studies have examined the skills and competencies of skilled birth attendants and related health outcomes in countries with a high maternal mortality ratio. These studies highlight the differing levels of knowledge, attitude and skills by country and health facility (Harvey et al. 2004). Knowledge of the skills and competencies of SBAs is, however, limited in Cambodia (Sheratt, White & Chhuong 2006).

The health system in Cambodia

The maternal mortality ratio in Cambodia has decreased from 580 per 100, 000 in 1999 to 290 per 100,000 live births in 2008 (UNFPA 2011). Despite these improvements, it is estimated that Cambodia will not reach the MDG5 target of a 75% reduction in the number of maternal deaths from 1990 levels (Bryce et al. 2008). The major causes of maternal mortality in Cambodia, as elsewhere in the world (AbouZahr 2003), are abortion-related complications, obstructed labour, haemorrhage, eclampsia and sepsis (Ministry of Health Cambodia 2006b).

The health system in Cambodia is largely publicly funded with a small non-government and private sector. Health infrastructure, personnel and services were severely damaged over three decades by a violent civil war. In 1991, the country began restoring its political, social and economic structures, and health sector reform was launched in 1995. Midwifery training was reintroduced across the country in the early 1980s, which aimed to rapidly increase the supply of and access to primary and secondary midwives. A primary midwife undergoes a one year-training program after completing secondary

school education without necessarily attaining a year 12 grade. A secondary midwife completes a four-year training program that was increased from three to four years in 2003 (Sheratt, White & Chhuong 2006). Medical doctors undertake an eight-year program with an additional three years to major in a specialty, for example, obstetrics (Ministry of Health Cambodia 2009a).

Cambodia has prioritized maternal health, including increasing the proportion of births attended by a SBA to enhance the quality of care during childbirth in health facilities and reduce maternal mortality (Ministry of Health Cambodia 2009a). However, there are still significant regional variations with less than half of all rural women giving birth in a health facility compared with 86 percent of urban women (CDHS 2011). Most women still give birth at home without the assistance of a skilled birth attendant (Chomat et al. 2011). Socio-cultural factors, such as low levels of education and economic concerns still prevent many women from accessing public health services (UNFPA 2011).

Alongside efforts to increase the proportion of births attended by a SBA, the Cambodian health workforce is currently experiencing a severe healthcare personnel shortage due to high turnover and poor supply. There is a ratio of 7.9 nurses and midwives per 10,000 people and 2.3 doctors per 10,000 people (WHO 2011) which is lower than 2.3 per 1000, the minimum estimate for ensuring at least 80% of births are served by SBAs (Speybroeck et al. 2006). Factors such as low salaries, poor living conditions and the work environment contribute to the workforce shortages and low retention rates (Chhea, Warren & Manderson 2010; Henderson & Tulloch 2008). As a result, many Cambodian government health providers, particularly SBAs, work in both private and public sectors to supplement their incomes (Kingdom of Cambodia 2005; Sin et al. 2005).

In 2007, the Cambodian government introduced a cash incentive of US\$10-15 per live birth to be paid directly to SBAs who delivered babies in health facilities. This was to promote health facility births and address problems stemming from dual public-private practice and informal patient charges that impact on women's access to public services. Despite this, salaries remain inadequate (Hardeman et al. 2004; Kingdom of Cambodia 2005) and increases are unlikely to be sustained due to resource constraints (Janovsky &

Peters 2006). In addition, the provision of essential reproductive health drugs to health facilities, including oxytocins, misoprostol, Magnesium sulphate (Liljestrand et al. 2009) and access to medical supplies (Ministry of Health Cambodia 2009b) and procedures, such as caesarean section are also limited (Ministry of Health Cambodia 2009a).

Despite the introduction of midwifery training programs, significant health sector reform and government cash incentives for SBAs, there has been little examination of the practices of SBAs in the country. A midwifery review by the Ministry of Health in Cambodia in 2006 indicated that problems of SBA supply and distribution was compounded by issues of skills and aptitude. More than 50% of primary and secondary midwives did not feel confident or competent to manage a normal birth (Sheratt, White & Chhuong 2006). Another review, the national assessment of the Ministry of Health of Cambodia focused on the availability, quality and utilization of emergency obstetric and newborn care (Ministry of Health Cambodia 2009b), but did not take the skills of the SBAs into consideration. This study, therefore, aimed to explore the practices of SBAs and the factors that enable and constrain their work in one province in Cambodia.

5.3 Methods

A descriptive qualitative design was undertaken using a naturalistic inquiry approach (Guba & Lincoln 1994). This approach was suitable for describing, analysing and understanding the perceptions and views underpinning SBA practice as it enabled the target phenomenon to be examined without the pre-selection or manipulation of study variables and a priori commitment to any one theoretical view (Sandelowski 2000). Ethical approval was granted by Human Research Ethics Committees (HREC) at the University of New South Wales and the National Ethics Committee for Health Research, Ministry of Health Cambodia. Informed consent (in Khmer) for participant in individual in-depth interviews and focus group discussions was obtained from all skilled birth attendants prior to participation.

Public maternity settings in the provincial hospital, two referral hospitals and two health centres in one province of Cambodia were purposively selected as they reflect similar levels of basic emergency obstetric care provision, but different levels of comprehensive emergency obstetric care. The levels of care represented in this study are similar to

those across all the provinces in Cambodia. The province in which the study was undertaken was selected as it is well known to the author who had established access to key participants. The name of this province, however, has not been disclosed due to the sensitive nature of the topic of the study and the need for confidentiality.

Participants consisted of a convenience sample of SBAs, including primary and secondary midwives, nurses and doctors with midwifery skills, who attended births during labour, birth and the immediate post-partum period. Participants were recruited through purposive sampling, which relies on individuals who are able to provide rich accounts of the experience for the purpose of the study (Hesse-Biber & Leavy 2006; Patton 2002). The Director of the Provincial Health Department wrote to hospitals and health centres, informing SBAs of the study and inviting them to participate. SBAs who volunteered to participate were contacted by a senior SBA who explained the study and provided consent forms. In total, 25 SBAs volunteered and participated in both individual in-depth interviews and group discussions. In-depth interviews were the preferred data collection strategy as they provided an opportunity to establish how SBAs reported their practice during labour, birth and the immediate postnatal period and explore the factors affecting practice. Individual interviews were conducted for approximately 60 minutes. Group discussions were also undertaken with the SBAs in groups of five to gather more information. All group discussions lasted 60-90 minutes. Individual in-depth interviews and group discussions were audio-taped, transcribed verbatim and prepared for analysis using computer software.

The first author collected the data. Individual interviews and group discussion were undertaken in the participant's health facilities. The interviews and group discussions consisted of a series of questions including the following. "Tell me about your practice during labour, during the birth and after the birth?" "How do women have support in labour?" "What do you do for the baby in the immediate newborn period?" "What if the baby is not healthy at birth?" The questions were guided by an understanding of the skills required to manage normal pregnancies, labour, birth and the immediate post-partum period and the identification, management and referral of complications of mothers and newborn babies (Ministry of Health Cambodia 2006c, 2007b). These questions were derived from national clinical assessment tools that determine the

minimum and complementary packages of activities for health centres and referral hospitals in Cambodia (Ministry of Health Cambodia 2009b).

Data analysis was undertaken using a thematic framework, a process of categorisation based on prominent themes and patterns expressed in the text (Ritchie & Spencer 1994). Responses were transcribed verbatim in Khmer and imported into the qualitative data management software NVivo version 8. Analysis began by reading and rereading transcripts several times to develop an overall sense of the themes and listing emerging themes on the discovery sheet. Each new piece of data was consistently compared with earlier data. Data were then coded into text units and clustered together to form categories. The categories were defined and grouped into broader themes. The transcriptions and findings were discussed with the participants to improve the veracity of the data, then translated into English by the first author and discussed with the other authors; thereby achieving a negotiated consensus of the coding and conceptual structures (Grbich 1999). The final themes reflected the practices described by the SBAs. Rigour occurred through member checking and peer debriefing to ensure trustworthiness of the descriptions and authenticity of the constructions and viewpoints of the participants (Guba & Lincoln 1994).

5.4 Findings

In total, twenty-five SBAs, including eight primary midwives, thirteen secondary midwives, one nurse-midwife and three doctors with midwifery skills volunteered and participated in both individual in-depth interviews and focus group discussions. The average age of participants was 44 years. Most SBAs had more than 10 years experiences in midwifery practice except two primary midwives who had recently graduated during the period of this study.

Ten interrelated themes emerged which described patterns of SBAs practice. These were: skills in the care of labouring women; provision of support in labour; interventions in the second stage of labour; management of the third stage of labour; cleanliness during birth; immediate care of the newborn infant and immediate postnatal care; lack of policy and authority; fear of litigation; workload and lack of health personnel; and, financial incentives and socioeconomic influences.

5.4.1 Skills in the care of labouring women

All participants highlighted the importance of SBAs 'being competent' in the care of labouring women. This theme encompassed the initial history taking and assessment of women, monitoring the progress of labour, maternal and foetal well-being, using a partograph and the management of obstetric emergencies and other complications. Although all reported that a partograph was important to monitor the progress of labour, most admitted that they did not use this routinely. Participants stated that the partograph had been introduced at pre-service education and in-service trainings, as well as at workshops held in public health facilities, however, usage varied. Partograph use was related to the participant's usual routine, level of knowledge and confidence. Time constraints and workload affected use as SBAs were either too busy or short staffed to complete assessments (FGD#04). Partograph use was also said to be motivated by financial incentives provided by a local non-government organization (FGD#001).

Doctors and midwives reported that they had the basic knowledge and skills required to manage a normal birth and to identify complications, but they did not feel confident in managing obstetric complications, including severe pre-eclampsia and post-partum haemorrhage. Eclampsia, which was viewed as one of the leading causes of maternal death, was regarded as particularly difficult to manage. Hospital based SBAs said they would refer a woman with severe eclampsia to a higher level of care rather than treat them in the hospital. One doctor stated that 'out of ten women with severe eclampsia, five to six would be referred to the national levels because this condition is complicated and beyond our competence' (SBA# 031). Many SBAs claimed that they were unable to manage eclampsia because they did not receive training on the management of eclampsia, especially the use of Magnesium Sulphate (MgSO_4). In addition, midwives at the health centres were not permitted to administer MgSO_4 , and had to refer women.

5.4.2 Provision of support in labour

Support in labour from SBAs was reported to be lacking. Participants stated that some SBAs still used offensive and demeaning language and ridiculed the clothing, hygiene and cries of pain of labouring women. This behaviour was described as financially motivated. Women of low socio-economic status were unable to provide additional payments to SBAs, which affected their treatment and care. One SBA explained:

...actually I did not want to tell you, but I must say something; regarding poor people, I do

not know why. It is really difficult. You know before doing a C-section, some staff were so rude, and blamed the woman treating her like a dog. The woman was yelled and forced to change her position back and forth. She was shocked and depressed. This kind of behaviour and attitude reminds me that the morality and value of health professionals have completely gone. If the rich gives birth at this hospital, SBAs are not rude to them at all. (SBA#032)

Almost all SBAs believed that social support or companionship during labour and birth was not beneficial. They felt that the presence of a companion during birth might lead to maternal and neonatal infections and that birth companions may find medical procedures disturbing. SBAs were also concerned that companions might view errors and that the presence of family members would affect a woman's compliance with their instructions. SBAs not only felt that women would be less likely to co-operate, but that family attendance may lead to unnecessary panic and impede SBA practice.

5.4.3 Interventions in the second stage of labour

Some SBAs stated that they performed episiotomy and vacuum extraction to assist normal birth whether or not these were necessary and with the knowledge that they may cause problems such as trauma, tears or bleeding. Some acknowledged that these practices were beyond the scope of their practice but they still undertook them.

All SBAs said that they performed episiotomy routinely on nulliparous and multiparous low-risk women to prevent third degree perineal tears. However, they reported that they were motivated to deliver these interventions to supplement their incomes. This is because SBAs who perform these procedures charge their patients an additional fee.

Some episiotomy and vacuum extraction assisted births were sometimes performed correctly according to the protocols, sometimes not. If we do not use some interventions, we will not be able to get some extra-money from the patients. Our wages are very low. We must do something special for survival. Although we realized that these interventions were wrong or inappropriate or beyond our roles, we have to do it. (FGDs#004 and FGDs#001)

5.4.4 Cleanliness during birth

Most SBAs indicated that they have a good understanding of the WHO's six principles of cleanliness at birth (hand washing with soap and water, clean perineum, clean

delivery surface, nothing unclean introduced into the vagina, clean cord-cutting instrument and cord care (World Health Organization et al. 2003). However, all said that they were not able to follow some of these principles even if they had received pre-service education and in-service training. According to SBAs, this is due to the unclean clothing of labouring women, the unavailability of sterile gloves and lack of time. SBAs felt that the WHO standards of hygiene practices were unattainable and their attempts were pointless and therefore, not carried out. All SBAs reported that the systematic use of a 5-7 day course of antibiotics was a way of ameliorating the lack of cleanliness and preventing infection; making the aseptic procedure redundant.

5.4.5 Management of the third stage of labour

Active management of the third stage of labour (AMTSL) was another aspect of the intra-partum care discussed by participants. The components of AMTSL include the immediate intramuscular injection of 10 international units (IUs) of oxytocin to the mother within one minute after the birth of the baby, delivering the placenta by controlled cord traction, and uterine massage (World Health Organization 2007b). All SBAs reported learning about AMTSL in pre and in-service training and at workshops. Almost all felt that AMSTL was beneficial to speed up the timing of delivery of the placenta, prevent post-partum haemorrhage reducing the need for blood transfusion. A doctor with midwifery skills reflected upon his personal and professional experiences on the practice of AMTSL components:

After receiving AMTSL training at the national maternal and child health centre in 2000, I used 10 UI of oxytocin within one minute after the birth of the baby. After waiting from 3 to 5 minutes, I delivered the placenta, followed by controlled cord traction and fundal massage. I found AMTSL is useful and effective because AMTSL increases the timing of the delivery of the placenta and can prevent post-partum haemorrhage. (SBA#031)

Although all SBAs reported that AMTSL has been routinely used after the birth of the baby, a few secondary midwives expressed their concern with AMTSL. They acknowledged that AMTSL was useful to speed up the third stage and prevent post-partum haemorrhage, but believed it could also cause the placenta to be retained. These SBAs believed that the physiological approach, waiting for signs of placental separation approximately 30 minutes after the baby was born was safer and just as effective.

In my experience, I have found birth without the immediate injection of oxytocin after the baby was born is better than AMTSL. AMTSL appears to be good only in relation to the prevention of post-partum haemorrhage and the rapid expulsion of the placenta, but it

caused complications, such as retention of products of the placenta and the membranes. I have encountered many women with AMTSL-related complications. Women were safer and healthier when using the physiological approach because they did not have retained placenta. (SBA#037)

Routine manual exploration and evacuation of the uterus after delivery of the placenta was practised widely. SBA regarded these as necessary procedures. Two-thirds of the SBAs reported that they were concerned about the risk of maternal post-partum infection due to retained products of conception. All participants said that even if the placenta appears to be complete and intact, they always use their hands or insert an instrument with a tampon into the uterine cavity to clean the blood clot and debris of the placenta. This they reported satisfied their suspicion of retained products in order to ensure a clean and safe delivery.

... theoretically, when we were at school, we were taught how to examine the placenta for completeness and abnormalities before deciding to use our hands, a tampon or instrument introduced into the vagina. However, in practice, if we did not perform these procedures, we would meet many women with retention of products and membranes after birth. Consequently, women often come back and see us with fever. Therefore, we cannot follow the theory and trust ourselves and must explore and clean the uterus after birth to ensure a clean delivery. (SBA#012 & SBA #041)

5.4.6 Immediate care of the newborn infant and immediate postnatal care

Early mother-newborn skin to skin contact was not commonly practised by SBAs at the time of the birth of a healthy baby. Some SBAs believed that placing the baby on women's abdomen was unsafe.

Now, we have not put the baby on the mother's abdomen because the baby might be weak due to the position of the baby. When the baby is higher than the placenta, the blood could not circulate from the placenta to the baby. (SBA#023)

SBAs also revealed that early skin to skin contact was not encouraged because the clothing of the mothers was unclean and it was pointless when there were midwives waiting to hold and take care of the baby. This early contact was seen to hold up the team waiting to receive the baby.

All SBAs reported that identification and management of need for resuscitation was critical, but they admitted that they lacked basic resuscitation skills and experience.

Besides giving oxygen and light suctioning to a baby born with respiratory problems, one SBA said that:

We did not know what else we should do to save the life of the baby with respiratory distress because we had little competence and confidence in resuscitative skills for newborn. When the baby was born with weak breathing or asphyxia, we [midwives and doctors] could not make deep suctioning, the removal of airway secretion by inserting a suction catheter into the baby's oral airway and trachea. We did not know how to do bag and mask ventilation or endotracheal tube for ventilation or give any urgent medications. Consequently, many babies died at our hospital. (SBA# 021)

The injection of Vitamin K and the administration of prophylactic eye drops within one hour to the newborn baby (World Health Organization et al. 2003) varied by health facility due to SBAs knowledge and the availability of the drugs.

Immediate postnatal care is defined as care of women in the birthing room for at least two hours after the birth of the baby to prevent post-partum haemorrhage, and to monitor the condition of the baby (World Health Organization et al. 2003). The majority of participants recognised the importance of this critical period, but admitted that regular monitoring of women in the postnatal period could not be undertaken due to the number of births and the size of the delivery table. Close postnatal care was also dependent on additional payments. If this payment was not forthcoming, women may not be well attended by the SBAs, and be left with family members to report anything abnormal. For example:

When we delivered many births a day, we could not keep women for 2 hours. The table is small and it is difficult for women to lie on so we have to move them immediately to the postnatal room. In general, women are left unattended following birth. When women have problems, such as wound pain [from episiotomy] or they are unwell, they have to call a SBA. Sometimes, even if they called them, they were very slow to come. If SBAs were given some extra-money, they seemed to be happy to see them quickly. (SBA#039)

The financial interests of SBAs and the timing of their rostered schedule were said to affect the quality of postnatal care that women received. The SBA who took over after the birth received fewer payments and was therefore less motivated to provide care. SBAs were more committed to providing care during labour and birth than in the

immediate post-partum period because they were more likely to be financially rewarded by family members for attending births. One SBA said:

There are many SBAs during birth. After this, they all were gone. Normally, after the birth of the baby, we must do regular monitoring of the mother and her newborn baby, but most SBAs leave women alone unattended. They simply want to learn how to deliver a baby and get the money, but do not help to take care of women during postnatal period. (FGDs # 03)

5.4.7 Lack of policy and authority

A lack of clear policy to support midwives to manage obstetric complications and inadequate drugs and supplies influenced SBAs skills, knowledge, attitude and ability to provide effective care. Most SBAs admitted that, although they had more than 10 years experiences in midwifery practice in public health facilities, they were not confident and competent to manage complicated births, particularly neonatal resuscitation and management of eclampsia. Although the treatment regimens for management of eclampsia included the use of MgSO₄ in Cambodia, all SBAs reported that midwives were often not authorized to use MgSO₄. Moreover, distribution of oxytocin, misoprostol, hydralazine and antibiotics, vitamin K and eye drops were often lacking in the health facilities.

5.4.8 Fear of litigation

Another factor that influenced SBA practice was a perceived lack of legal protection in terms of medical indemnity insurance. A few SBAs said that they were reluctant to help women with complications because of fear of lawsuits. As a result, they were more likely to refer women to the next level of care. This was particularly the case when participants felt that a woman's life could not be saved:

When a pregnant woman arrived with a severe complication, we are scared and hesitated to help her. If we tried our best to help the woman, and could not save her life, we would be faced with the court of law. Therefore, no one dared help that woman because now there has been a growing issue of lawsuits in Cambodia. (SBA#025)

SBAs said that some midwives had experienced a law suit when a woman died at the health facility. They reportedly had to spend thousands of US dollars on their defence for their cases and faced a prison sentence. SBAs stated that neither the health managers

nor the Cambodian Association of Midwives could protect them in these situations. These SBAs said that they felt like giving up midwifery.

5.4.9 Workload and lack of health personnel

Heavy workload is another factor affecting SBA practice due to the lack of health personnel. Some SBAs held multiple roles which contributed to their workload. One SBA said that she was responsible for attending births, providing antenatal care and immunizations and outreach visits to the villages. Attendance at workshops and training were also required taking time out of work. Juggling many tasks was reportedly common practice and meant that SBAs rarely had time to look after a woman properly.

5.4.10 Financial incentives and socio-economic influences

Financial pressure influenced the practice of SBAs. Low salaries and poor working conditions were the most important motivating factors for health workers performance. All said that health professionals, SBAs in particular, respond to such issues with various strategies to supplement their income. One SBA said that ‘almost SBAs have engaged in dual practice in both the public and private sector’ (SBA#039). She added that if doctors or secondary midwives are busy with private facilities, they would give up public services so that they could earn additional income. When complications arose, including obstructed labour, placenta previa, SBAs would rather refer women to a private clinic rather than the referral hospital. This was because SBAs often received commissions from the private provider for referral or for providing home based treatment if a woman had undergone a caesarean section.

Some SBAs reported that timely and appropriate care and support in labour and birth was also related to socio-cultural and economic status of the women. When pregnant women were rich or the relative of a powerful or higher ranking person, they would be welcomed, receive faster services and better care from SBAs. As described earlier, most SBAs said that they always perform routine episiotomy in the second stage of labour regardless of clinical indication so that they could charge additional fees. Moreover, insertion of the hands or an instrument into the vagina after the placenta was delivered was regarded by the SBAs as a sign of being competent and attentive to women that also allowed additional fees to be gathered.

5.5 Discussion

Our study provides insight into how SBAs perceived their practice during labour, birth and after the birth, and factors that facilitate or constrain this at government maternity settings in one province of Cambodia. The findings show that SBAs practice is not always consistent with the practice outlined in WHO packages of interventions (World Health Organization et al. 2003). Factors found to influence SBAs practice and the provision of quality of maternity care included lack of policy and authority, fear of litigation, workload and lack of health personnel and financial pressures and socio-economic influences.

SBAs reported liberally using episiotomy and vacuum extraction regardless of whether these were necessary and indicated. This echoes studies in other developing countries, which show episiotomy is one of the most commonly performed surgical procedures, although it has been known to be harmful and unnecessary in many instances (Buckens 2001; Carroli & Belizan 2008; Shaban et al. 2011). Although there is considerable literature against routine episiotomy (Carroli & Belizan 2008; Goldberg et al. 2002; Prendiville, Elbourne & McDonald 2000), there are no specific policies or educational initiatives concerning episiotomy in Cambodia. The national protocols state that: ‘episiotomy should be done only if necessary’ (Ministry of Health Cambodia 2009b), but do not explicitly define the necessary indications. In this study, SBAs reported that episiotomy and vacuum extraction was routinely used to speed up birth and prevent the third degree of perineal laceration with low-risk women. Indeed, episiotomy is no longer recommended as a routine procedure because it linked to an increase of third and fourth degree tears and subsequent anal sphincter muscle dysfunction (World Health Organization et al. 2003). Vacuum extractions are indicated for prolonged second stage labour in certain clinical situations (World Health Organization et al. 2003). The use of vacuum extractions and episiotomy in the absence of clinical indications has social and emotional implications for women, as well as financial costs that are also borne by the health system (Borghi et al. 2002).

Post-partum haemorrhage (PPH) is one of the leading causes of maternal death, accounting for at least half the maternal mortality in Cambodia (AbouZahr 2003; Ministry of Health Cambodia 2006b). The World Health Organization, the International

Federation of Gynaecologists and Obstetricians and the International Confederations of Midwives recommend AMTSL to reduce PPH (Lalonde et al. 2006). The correct use of AMTSL in all vaginal births has been found to reduce PPH by around 60% and is more effective than physiological management in reducing severe post-partum haemorrhage and prolonged third stage of labour (Prendiville, Elbourne & McDonald 2000). In our study, most SBAs reported incorrect timing of uterotonic administration and poor compliance with all three AMTSL elements and some were reluctant to practice AMSTL. These findings are supported by other observation studies (Harvey et al. 2007; Ith, Dawson & Homer 2012a; Liljestrand et al. 2009; Stanton et al. 2009). A study undertaken in Cambodia showed that the overall rate of correct use of AMTSL procedures in public health facilities was only 17% (Liljestrand et al. 2009). This low uptake of AMTSL is echoed in research undertaken across seven developing countries where AMTSL was practiced in only 0.5 to 35% of observed births (Stanton et al. 2009). The value of implementing all components of AMTSL in women with low risk has not yet been accepted by SBAs and despite being included in the Cambodian AMTSL policy. This may also be the result of inconsistent training, poor supervision, low incentives and a lack of knowledge of relevant policy.

In our study, inappropriate use of antibiotics, both overuse and underuse, was influenced by a belief that antibiotics were more effective than usual hygiene methods. SBAs relied heavily on antibiotic therapy instead of using appropriate hygiene around birth including hand washing. This is similar to other studies including one in India, which showed that antibiotics were widely given to women after normal deliveries (Mehta et al. 2011). The widespread use of antibiotics instead of basic hygiene is an area of significant concern with serious short and long term ramifications, including infection, antibiotic resistance and potential transmission of blood borne viruses. This is an area for urgent research and education.

While financial pressures due to low salaries were found to greatly affect the care SBAs delivered, they were not the only underlying factors. The fear of litigation, heavy workloads due to a lack of human resources and the inadequate supply of drugs impact upon practice (Wiskow, Albrecht & De Pietro 2010; World Health Organization 2004a). Heavy workload resulting from insufficient staff and can lead to poor performance, inappropriate behaviour and attitudes and a lack of continuity of care (Dieleman &

Harnmeijer 2006). Shortages in the health workforce, particularly SBAs remain a serious barrier to providing quality maternity care and services in Cambodia.

Descriptions of many other important practices, including the use of oxytocics for augmentation of labour, misoprostol for post-partum haemorrhage, forceps extraction and caesarean sections did not emerge in the interviews and discussions. This may be because they were not seen as being important or perhaps were more widely used in the referral hospitals. Questions concerning issues such as training and supervision needs were not collected as they were beyond the scope of this study which was focused on the working environments that facilitates or hinders SBAs practice.

5.6 Conclusion and implications for practice

The findings of this research indicate that the practices of skilled birth attendants in one province of Cambodia are not always consistent with recommended technical guidelines. Factors affecting SBA practice included financial pressures, staff workload, fear of lawsuits unreliable drug supply and poor facilities. While individual factors such as knowledge, attitudes and skills influenced SBA behaviours, intractable systemic factors, including inadequate remuneration and financial incentives provided by the government for services emerged as important factors, affecting SBAs practice.

The findings from this study provide maternal health services, workforce planners and policy makers with valuable information to contribute to the quality improvement of maternity care. The findings of this research highlight implications for practice that may improve the quality of maternal health care. The recommendations listed below should be considered by decision makers. There is an urgent need:

- To ensure that incentive packages to motivate health workers to carry out evidence-based practices such as AMTSL are incorporated in performance management and workforce development strategies.
- For the Ministry of Health to address the widespread issue of additional (under the table) payments for services through the enforcement of regulations and improved oversight of SBA practice.
- For the Ministry of Health to strengthen appropriate use of medications to avoid the over reliance on antibiotic therapy and promote proper hygiene practices around birth by raising awareness of the relevant WHO Guidelines on standard

precautions and cleanliness, especially hand hygiene to prevent associated infections.

Further research with practical application is urgently needed to identify the evidence for harmful practice or unnecessary interventions in order to develop theories and recommendations to improve SBA practice in Cambodia, to the benefit of the Cambodia women and newborn babies.

Chapter 6 The working environments of public skilled birth attendants in Cambodia (*Publication 3*)

Reference:

Ith, P., Dawson, A. & Homer, C.S.E. 2012, 'Challenges to Reaching MDG5: A Qualitative Analysis of the Working Environment of Skilled Birth Attendants in Cambodia', *International Journal of Childbirth*, vol. 2, no. 3, pp. 153-62.

6.1 Abstract

Background

The proportion of women attended by skilled birth attendants (SBAs) has become a proxy indicator for reducing maternal and perinatal mortality in many developing countries. However, there has been little examination of the environment in which SBAs practise.

Objective

To explore the working environment of SBAs in one region in Cambodia and the factors affecting SBAs motivation and performance

Methods

A descriptive qualitative design was employed using focus group discussions with SBAs in two health centres and two district referral hospitals and one provincial hospital in one province. Data were analysed using a thematic approach.

Findings

Five inter-related themes were identified as the main factors impacting on the SBA's working environment. These were: the physical environment; remuneration and incentives; workplace culture; management practice; and, professional development opportunities. The desire to supplement income also impacted upon SBAs motivation, skill development and maintenance and technical skills.

Conclusion

Low wages and inadequate incentives within the context of a poorly functioning health system affected the working environment of SBAs in one province of Cambodia. These issues are likely to also affect the quality of maternity care. Policies that improve the working environment of SBAs through adequate remuneration and incentives and effective performance management systems need to be developed and implemented.

6.2 Introduction

An estimated 350,000 women die each year from pregnancy-related complications worldwide (UNFPA 2011). Almost all (99%) of these deaths are from developing countries (World Health Organization 2010). In Cambodia, maternal mortality ratio is high at 290 per 100,000 live births (UNFPA 2011). Nonetheless, based on current trends and a range of uncertainty of 180-480 death per 100,000 live births (Ministry of Health Cambodia 2010a), Cambodia is one of the countries, which is unlikely to achieve the Millennium Development Goal number five (MDG5) target of a 75% reduction in the number of maternal deaths by 2015 (Bryce et al. 2008). A policy of increasing the proportion of births with skilled birth attendants (SBA) is widely regarded as key indicator for reducing maternal mortality and morbidity especially developing countries where the proportions have been low (AbouZahr & Wardlaw 2001). This indicator does not consider the working environment in which SBAs practice (Adegoke et al. 2011; Adegoke & Van den Broek 2009). It is likely that the working environment influences the capacity of the SBA to contribute to improved outcomes for women and babies and is therefore an important consideration in efforts to address maternal health (World Health Organization 2004a).

The working environment refers to the physical place and working conditions that influence health worker motivation and performance (De Bustillo et al. 2009). Bustillo and others have grouped the key aspects of the working environments into employment quality and work quality. Employment quality relates wages, working hours, social benefits, participation and professional development whereas work quality refers to work autonomy, organizational structure, culture and trust, as well as occupational health and safety and the social work environment (De Bustillo et al. 2009). The working environment also includes access to transportation, reliable medical supplies and effective regulatory frameworks and policies (World Health Organization 2004a).

These factors have been found to significantly impact upon staff retention including burn out and turn over and rates of error which affect the quality of care patients receive (Wiskow, Albrecht & De Pietro 2010). Without an adequately motivated, well managed, skilled health workforce working within an acceptable environment, it is not possible to improve maternal health in line with the Millennium Development Goal (MDG) 5 targets (Dawson 2011a).

Cambodia's ability to achieve the MDG 5 targets is constrained by the lack of adequately skilled motivated health workforce (UNFPA 2011). The health workforce is experiencing a severe shortage due to high turnover and poor supply. The current ratio of 7.9 nurses and midwives per 10,000 people and 2.3 doctors per 10,000 people (WHO 2011) is lower than 2.3 per 1000, the minimum estimate for ensuring at least 80% of births are served by SBAs (Speybroeck et al. 2006). Low salaries and wages, poor living conditions and a non-enabling work environment seem to contribute to the unavailability or absence of skilled birth attendants at health facilities (Chhea, Warren & Manderson 2010). For example, many Cambodian government health providers, particularly SBAs, work in both the private and public sectors to supplement their incomes (Kingdom of Cambodia 2005; Sin et al. 2005). They work only a few hours at public health facilities and spend the rest of the day working in the private clinics (Henderson & Tulloch 2008).

The Ministry of Health in Cambodia has implemented a number of workforce policies and interventions to increase the number of births in health centres and hospitals (Ministry of Health Cambodia 2009a). Salaries for SBA have increased in line with other government officials and in 2007, a cash incentive of US\$10-US\$15 per live birth was introduced and paid directly to SBAs who delivered babies at hospitals and health centres (Ministry of Economy and Finance 2007; Ministry of Health Cambodia 2007a). The government is also committed to mobilising more resources to support emergency obstetric and neonatal care throughout the country, addressing management issues, increasing supplies and equipment, maintaining and renovating infrastructure, and strengthening the existing regional training centres as well as a private university that provide midwifery trainings to uptake more midwives to ensure coverage for the public facilities (NIPH 2009).

However, the impact of the working environment, particularly the policy of incentives on recruitment, retention and motivation of health workforce in Cambodia has received limited attention. One of the few studies examining the influence of incentives from the perspective of providers only assessed the effectiveness of the user pay program implemented at the National Maternal and Child Health Centre. This program aimed to address problems stemming from dual public-private practice and informal payments in the public system that impacted on women's access to, and utilisation of, maternal health services. Although attitudes towards patients improved, provider satisfaction remained low (Akashi et al. 2004).

More research is required into the impact of the policy of incentives for health service delivery as well as other aspects of the working environment of SBAs. This paper explores the perceived working environment of SBAs and the factors affecting their motivation and performance during labour, birth and the immediate postnatal period in one province of Cambodia as this is likely to influence clinical outcomes.

6.3 Methods

A descriptive qualitative design was undertaken (Sandelowski 2000) from December 2009 to March 2010 and November to December 2010 as part of a doctoral research project. Approval for this project was granted by Human Research Ethics Committees (HREC) at the University of New South Wales and the National Ethics Committee for Health Research, Ministry of Health Cambodia.

Data were collected using focus-group discussions (FGDs) in order to provide rich accounts and allow participants to build on one another's responses. Five FGDs each consisting of five SBAs were undertaken in public maternity settings in the provincial hospital, two referral hospitals and two health centres in one province of Cambodia. These sites were purposively selected as they reflected different levels of care, including basic emergency obstetric care at the health centre and basic and comprehensive emergency obstetric care provision at the referral hospitals. The levels of care are similar to those across all the provinces in Cambodia. The province in which the study was undertaken was selected as it is well known to the author who had established access to key stakeholders. The name of this province has not been disclosed due to the sensitive nature of the study and the need for confidentiality.

The Director of the Provincial Health Department wrote to hospitals and health centres, informing SBAs of the study and inviting them to participate. SBAs who indicated a willingness to participate were contacted by a senior SBA who explained the study in detail and provided consent forms. Twenty five SBAs including eight primary midwives, thirteen secondary midwives, one primary nurse-midwife and three doctors with midwifery skills participated. A primary midwife undergoes a one year-training program after completing secondary school education without necessarily attaining a year 12 grade. A secondary midwife completes a four-year training program that was increased from three to four years in 2003 (Sheratt, White & Chhuong 2006). The FGDs lasted between 60-90 minutes. They were audio-taped and transcribed verbatim.

The first author facilitated the FGDs. The first author is a medical doctor and general surgeon with 15 years of experience working in the province in which the study was undertaken, as well as training in qualitative research methods, including focus group facilitation. Each FGD was asked a series of questions including: “tell me about your practice during labour, during the birth and after the birth; what sort of problems do you have with facilities and supplies? What factors facilitate or hinder your performance and motivation?”

Data analysis was undertaken using a thematic approach, a process of categorization based on prominent themes and patterns expressed in the FGDs (Ritchie & Spencer 1994). Participants’ responses were transcribed verbatim in Khmer and imported into the qualitative data management software NVivo version 9. Analysis began by reading and rereading transcripts several times to develop an overall sense of the themes based and listing emerging themes (Bazeley 2007). Each new piece of data was consistently compared with earlier data. Data were then coded into text units and clustered together to form categories. The categories were defined and grouped into broader themes. The transcriptions and findings were discussed with all 25 participants to improve the veracity of the data, then translated into English by the first author and discussed with the other authors thereby achieving a negotiated consensus of the coding and conceptual structures (Grbich 1999). Rigour was realised through member checking and peer debriefing to ensure trustworthiness of the descriptions and authenticity of the constructions and viewpoint of participants (Guba & Lincoln 1994). The preliminary findings were presented to all the groups in their health facilities and discussed

individually. A collaborative dialogue began with a series of questions: “what do you think of these findings? Does it make sense to you? Why or why not? What other factors may have contributed to the current workplace? Do you have any suggestions for improving your working environment resources?” Discussions were held with individual participants to avoid censoring and conformity, which are a concern in the data collection using FGDs (Carey 1995). Separate discussions were therefore held with participants to provide them with an opportunity for participants to adjust their statements. No amendments were made by participants.

6.4 Findings

6.4.1 Physical working environment

One of the greatest barriers to providing quality maternity care was essential access to medical supplies. This included drugs such as misoprostol, magnesium sulphate, and hydralazine. A lack of essential drugs often resulted in the need for referral, for example:

Last night, we asked a pharmacist about the availability of misoprostol, sulphate of magnesium and hydralazine. He said that these drugs were out of stock. We had difficulty treating women with severe pre-eclampsia. Thus we need to refer a woman to the next level.

One SBA said that they experienced a woman with complications who died at their facility as a result of a lack of access to blood for transfusion:

One woman had a normal birth at the hospital, but developed a post-partum haemorrhage afterwards. We knew that the woman was at high risk when her uterus was not well contracted after the placenta was delivered. We resuscitated the woman by giving IV fluids and oxytocin before attempting to refer her to the next level. However, she died at our hospital due to acute bleeding as we did not have blood for transfusion to save her life.

Equipment was not always maintained and broken equipment was usually not replaced.

One SBA explained:

Most instruments are very old and some are not working. For instance, one lamp is broken, and the other had no bulb. Nobody fixed it. We deliver the baby in the darkness using a torch. If we have women with post-partum haemorrhage or perineal lacerations,

we would be in trouble. If the hospital director does not solve this problem, it would be difficult for our practice and women would be at high risk.

SBAs had access to running water, sink and soap for hygiene practices; however, they were not satisfied with the hygiene of their workplace as they recognised this increased the risk of infection. Poor hygiene was said to be related to heavy workloads, lack of role delineation and poor managerial support. For example:

We seem not to have any problem with water, soap and sink for washing hand and cleaning the ward to prevent health care associated infections during childbirth and after the birth. However, as we are always busy with other job and get tired, we have no time doing proper hygiene practices. Therefore, the birthing unit and the maternity ward are not really cleaned and tidily organised. Further, hygiene practices are also part of a lack of support of our organisational management committee.

SBAs felt that although they were competent to identify and manage complications, the lack of management support and the existence of mechanisms to replenish drugs and blood, to ensure hygiene practices and provide adequate medical instruments impacted on their ability to provide life-saving interventions. Consequently, SBAs said that they often had to refer women to other health facilities; however they do not accompany referred women because they did not receive any additional financial incentives as compensation.

6.4.2 Incentives and remuneration

All SBAs reported that they were satisfied with the government policy of cash incentives provision to conduct births in a health facility, although they felt that US\$10-US\$15 per birth was insufficient compared with private health providers' incomes.

They are concerned about the recent reductions in the incentives explaining:

Although the provision of cash incentive of US\$10-US\$15 is small compared with private incomes, we, midwives, are happy with this amount of money unless it is not cut. However, health managers told us that 20 to 25% of our incentives were cut for administrative work. Actually, we thought that they took our part . . . , but we could not say.

Despite these reductions, SBAs were still willing to receive incentives because it recognised that their salaries were inadequate and always untimely paid. It is, therefore,

professional values were some times over looked to supplement their income for survival. This involved charging patients and their families' informal and illegal fees to undertake certain procedures, for example:

Our wages are very low and not paid in time. We must do some surgical procedures such as episiotomy and vacuum extraction. Although we realized that these interventions were completely wrong or inappropriate or against our professional ethos, we had to do it so that we could gain more income for survival.

One SBA reported that his ability to perform a caesarean section was obstructed by other members of the health care team because they were concerned that this may affect the additional fees they could collect. This SBA said:

I was taught to do a lot of caesarean sections and hysterectomies through my in-service training at the National training centre. When I came to work here, the hospital director and the surgical team did not support and motivate me to apply what I had learnt. One day, I was ready and prepared to do a caesarean section for an obstructed labour, the surgical team said that they did not have anaesthetic drugs and told the woman to go to Phnom Penh. Actually, the drugs were available, but the anaesthetist team did not want to anaesthetise the woman for me to operate because they feared sharing service fees with me.

Dual practice in both public and private sectors was a means to earn additional income. Some SBAs referred patients from the public sector to their own private clinics to receive additional fees. Other fee-generating practices included selling essential drugs, giving extra injections that were not indicated or performing unnecessary procedures. For example:

Some skilled birth attendants are invisible because they are busy attending birth at home. When they met pregnant women who can afford the cost of delivery, they persuade them to go to give birth at their private clinics because they want to get more money.

The need to supplement their income through private practice meant that staff were often absent from the public sector leaving other staff without support or guidance. This was highlighted in the following quote:

. . . when we had an emergency or complications, we got stuck because doctors were always absent. We need to call them because most of them sleep at their home at night time even if they were on duty. On the day time or at weekend, they were busy with

their private clinics. We were always told to wait . . . wait while we need them. It is really difficult to provide timely and appropriate care.

Despite this, some SBAs said that although they were poor they are committed to providing professional and ethical care because they would rather help women in their community than focus on personal gain:

We would not think too much about money and work for gratification. If our mind always linked to financial return, we would lose our professional values and not be able to help the people in our community.

Non-monetary incentives, such as verbal recognition or positive appraisal of their performance by their supervisors and management, would be appreciated as a sign of organizational support and increase their motivation to deliver quality care, but rarely received:

I understood that our salaries were already low . . . we would feel a sense of hard-working if we had been rewarded or appreciated by the director of the hospital. In contrast, we were often blamed . . . nobody takes care of us.

6.4.3 Workplace culture

Low wages and inadequate incentives affected SBA's motivation and workplace performance. Inadequate remuneration resulted in a conflict of interest among health professionals as practice was often driven by the desire to earn additional fees from birthing women. For example:

After each birth, a woman's family was invited to meet my boss in her office and then she closed the door shut. This is an opportunity for the doctor to speak with women's family and ask for informal payments. She has never shared the money with us. Therefore, we did not want to get involved with her work.

All primary midwives said that secondary midwives and doctors used their qualifications and roles to dominate care at birth. Although primary midwives are able to conduct a normal birth, they do not have an opportunity to practice on a regular basis. They felt marginalized and less motivated to provide care for women and their babies. This was highlighted in the following quote:

Doctors say that they spent 7 to 8 years study to be a doctor while senior midwives spent 3 - 4 year training to be a secondary midwife. They all said that they had more

skills and rights to attend all births. We [primary midwives] were not authorised to conduct normal births because our qualifications are lower than them. We did not feel like participating in perinatal care practices.

Midwives stated that although they had pre-defined roles, doctors and surgeons responsibilities were not appropriately shared, especially when an emergency obstetric care was required:

Our roles were to perform normal deliveries and attend minor complications while doctors and surgeons were responsible for doing patient assessment and surgical cases. In contrast, when emergencies or complications arise, the surgical team insisted that midwives need to assess women thoroughly, order blood tests, and provide medications and IV infusion before referring to the operating room. . . they just did the operation.

The workplace was also characterised by a culture of fear and blame. Most SBAs reported that they were reluctant to accompany women when referral was needed because not only was there a shortage of staff but they were fearful of being blamed for any issues that arose as a result of the referral. One SBA said:

We used to accompany pregnant women with complication to other hospitals. We were interrogated a lot of questions. They asked what we did. What kind of drugs we used and whether we put some medications in the IV fluid or not. If they found that we did something inappropriately, we were defamed or blamed. We got frustrated. We do not feel like going and challenging with other SBAs.

SBAs were not supported to practice what they had been trained for, saying:

Although we were taught how to manage normal birth, identify danger signs and manage complications and referral at pre-service education, we need to practice every day. However, at work, doctors or senior midwives do not want to mentor or teach us at all. We cannot build on or maintain our birthing skills.

As a result, staff felt undervalued which impacted on their sense of job satisfaction and pride in their work.

6.4.4 Management practice

SBAs reported issues with the way in which management responded to their needs. One described an attempt to make a complaint but found that not only was there a lack of a grievance process, but that management failed to act as well.

Midwives had been involved in health management and planning, but they felt that their voices were not considered in the decision-making process.

We were often invited to discuss our weaknesses, strengths and the need assessment. However, when SBAs raised workplace concerns, no solutions or feedback were given by management and issues remained unresolved.

Consequently, there was a sense of despair as SBAs viewed their workplace as unhealthy and unsafe because the practices of health managers were inadequate and this affected motivation and career advancement.

I did not feel like getting involved in meetings or discussing anything with the health managers because they never respect and listen to our opinion at all. So it seems to be useless to attend the meetings and learning more skills.

The workload and a lack of human resources also affected SBAs practice and the provision of proper continuity of care for women after birth.

We hold multiple roles which contribute to our workload. This moving from role to role is common and means that we rarely have time to look after a woman properly. We have to give up other jobs only if a woman had or developed a severe complication.

6.4.5 Professional development opportunities

Many primary midwives reported that professional status and hierarchy affects professional development opportunities. There was an inequitable selection to attend training programs related to reproductive health. Primary midwives said that they had been deprived of the opportunity to upgrade and enhance their birthing skills, for example:

We have never ever been invited to attend any training during our entire lives. They always chose secondary midwives, doctors or others to participate in different topics related to maternal and newborn care. As a result, we were not as skilled as them. We did not understand why there was such a discrimination of selection among midwives and doctors.

SBA's recognised that a competent workforce was critical in delivering life-saving interventions to women and newborns. However, they stated that the investment in health worker education was wasted if there is no provision for ongoing training and follow-up.

It took time and money to train doctors to be skilled in life saving skills to save life of women and the newborn. However, a newly qualified doctor who received surgical training course could be only an assistant to a surgeon over time. There was no post-training follow-up to check whether they were supported to apply what they had learnt or not.

SBA's reported that programs often focus on training courses but other interventions necessary to improve performance, including supportive supervision and feedback are often neglected, for example:

Now they were likely to focus on various training programs. After training, nothing was improved. We did not frequently receive a supervisory visit and motivation from our supervisors . . .

SBA's reported they wanted to improve their knowledge and skills in basic and emergency obstetric and neonatal care and progress their careers but opportunities were limited for some professional groups. A primary midwife said:

We intend to upgrade to become a secondary midwife so that we have full rights and autonomy to conduct normal and complicated births; however, we do not have good opportunity because the government did not provide such training for all the existing primary midwives.

Most SBA's said that they were not concerned about supportive working environment factors such as occupational health and work and family life balance because the need for fair and decent salaries and incentives and dual work was a priority to support their living and children's education expenses:

We know that safety and work and family issues are important, but for now, we had better to take care of ourselves. Adequate and appropriate salaries provision is very important for our living and pay for children's school fees. We desperately attend births at women's homes or the clinics as it is very risky to overcome the court of law when we cannot save women's lives, but we have to do it to supplement our incomes.

6.5 Discussion

The findings highlight that although an adequately resourced and maintained physical environment is important to SBAs practice, financial issues appear to heavily influence staff attitudes and behaviour and skills. Low salaries and inadequate incentives reportedly impact on technical skills, workplace culture, management practices, and skill development and maintenance, which may ultimately affect SBAs motivation and performance and maternal health outcomes.

Poor quality care is a major concern in low-income countries, and is in part contributed to low motivation of health workers (World Health Organization 2006b). Although SBAs are present, they need sufficient resources and support systems necessary to manage life-threatening complications (Parkhurst et al. 2005). Service quality, efficiency, and equity are all directly dependent on worker motivation which is often determined by the supportive working environments (Franco, Bennett & Kanfer 2002). Otherwise, they are not sufficient in themselves to ensure desired worker performance and maternal health outcomes although SBAs met the competencies to protect the public. However, the findings of our study are similar to others, which indicate that the working environments of health staff are poor and characterised by inadequate salaries and poor supervision, impacting on health workforce motivation and performance (Henderson & Tulloch 2008). A study from Tanzania showed that adequate remuneration was a clear prerequisite for the motivation of health workers whereas non-salary motivators only had an effect where salary requirements were satisfied (Chandler et al. 2009).

Many SBAs in our study reported that they responded to low salaries and a lack of transparency in incentives provision using different strategies such as routine episiotomy and vacuum extraction with low-risk women to subsidise their incomes. In addition, SBAs with higher level of professional status and seniority of positions appear to dominate particular tasks in order to maximise the fees or incentives they were able to receive. Our study reveals that low wages and poor incentives affect the workplace culture and management practices and can lead to unethical practice and poor teamwork. This finding adds to other research in Cambodia undertaken in 2003, which

showed that work ethics, motivation and quality of care were affected by low government salaries (Soeters & Griffiths 2003).

World Health Organization (2006b) calls for professional bodies to address ethical issues through the enforcement of regulations and improved oversight of training institutions, while providing adequate salaries and incentives for health workforce. Our study has found that despite government-funded salary increments along with cash incentives, these are considered inadequate and negatively impact on SBAs motivation and practice. It has been estimated that the salaries of health workers need to be multiplied 8 to 10 times to make up for the cost of living and encourage health worker to devote more time to public health services (Hardeman et al. 2004; Kingdom of Cambodia 2005). The lack of transparency and mal-distribution of the incentive provided by the government is unlikely to foster loyalty and commitment to the public health system and fails to prevent SBAs from seeking additional income from informal fees or private practice.

Although adequate incentives were key aspects of health workers motivation, they were not the only factor in job satisfaction. SBAs in our study said that they rarely received other support such as positive feedback, supervision and management practice incentives from the health managers. Other studies have shown that poor working conditions, management issues, career advancement and education and training opportunity are also important to motivation and retention of health workers (Awases et al. 2004; Henderson & Tulloch 2008; McAuliffe et al. 2009; Willis-Shattuck et al. 2008). Increased salary and income for the health workers are clearly not the only solution to the human resources crisis (Franco, Bennett & Kanfer 2002). Non-financial incentives have been found to be key aspects of human resources management that are critical to health workforce motivation and retention (Chhea, Warren & Manderson 2010; Henderson & Tulloch 2008; Mathauer & Imhoff 2006; Willis-Shattuck et al. 2008). A study in Africa indicates that health workers were potentially influenced by their professionalism and non-financial incentives including recognition, career progression and further qualifications and management issues (Mathauer & Imhoff 2006).

Building and maintaining a supportive work environment is critical because it affects recruitment, retention and health worker motivation, ultimately influencing productivity, performance and quality care (Dieleman & Harnmeijer 2006; Smith et al. 2005; Wiskow, Albrecht & De Pietro 2010). Although job safety and occupational health were not reported as primary factors leading SBAs' job dissatisfaction in our study, all health workers should reasonably expect to pursue their work and studies in safe and civil surroundings, free from discrimination, harassment and threatening or violent behaviour (Dawson 2011b). A study in Cyprus showed that midwives appreciated teamwork practice, safe climate, job satisfaction and working conditions as a friendly environment in their maternity units (Raftopoulos, Savva & Papadopoulou 2011).

Our findings are relevant to health services, planning and policy as it builds on current discussion concerned with improving maternal health in Cambodia. Although financial incentives and salaries are core factors, impacting on motivation of the Cambodian maternal health workforce, it is clear that the lack of human resources management and performance management system influences health worker motivation and adequate resources and appropriate infrastructure can improve SBAs practice and morale significantly. Strategies that align policy with financial commitment and effective management practice are likely to have a much-greater impact on health worker motivation and SBA's practice in Cambodia. The experience of other developing countries in this respect is encouraging. In Indonesia, the development of the Clinical Performance Development Management System (CPDMS) involved establishing national clinical standards linked to job descriptions, training, appraisals and incentives designed to improve and reward nurses and midwives performance (Hennessy 2002). This experience goes beyond a "pay for performance" model that rewards health care providers for meeting pre-established targets for delivery of healthcare services by introducing incremental financial incentives alongside comprehensive workforce and policy initiatives to encourage improvements in health care quality (Conrad & Perry 2009). The decision by the Cambodian government to modify the SBA incentive structures (Royal Government of Cambodia 2009) may affect the current public health system and may prevent SBAs from providing quality maternity care.

Although our study provides much-needed evidence about the working environment of SBAs, there are several limitations which may affect the generalisability of the results.

The study was conducted in primarily provincial and district health centres and hospital settings because of convenience and access to participants, which means that specific issues relevant to urban public hospitals were not addressed. It was, therefore, impossible to obtain a representative sample of all Cambodian SBAs. Moreover, the FGDs were facilitated by only the first author, in the interest of focusing the discussion on the working environment, as opposed to letting issues emerge spontaneously. Although this may limit the transferability of the findings, it is highly likely that the findings are relevant to other contexts of SBA practices in Cambodia

6.6 Conclusion

Low wages and inadequate incentives within the context of a weak functioning health system impact on the working environment of SBAs in one province in Cambodia. These issues are likely to also affect the quality of maternity care. Policies to improve the working environment of maternal health workforce through adequate remuneration and incentives and effective performance management systems need to be developed and implemented to accelerate progress towards the United Nations 2015 MDG5 target for maternal health.

Chapter 7 Observed and perceived practices of private skilled birth attendants during labour, birth and the immediate post-partum period and their working environments (Unpublished paper)

7.1 Introduction

This chapter presents the practices of private SBAs who attended women during labour, birth and the immediate post-partum period in one province in Cambodia. This research involved the observation of private SBA practices and interviews with private SBAs to garner their perceptions of practice and their working environments in Cambodian private maternity home clinics.

7.2 Methods

The study design, study participants and the method of data collection are described in chapter 3, including details of the private home clinic settings and how these were accessed.

7.2.1 Data collection techniques

A structured non-participant observation and in-depth interviews with five private SBAs were undertaken. An observational checklist that had been used with public SBAs was also employed with the private SBAs as these private professionals are also government employees. After observation, each private SBA was interviewed about their practice during labour, birth and the immediate postnatal period and their perceptions of their working environment. Details of the methods of data collection are described in Chapter 3.

7.2.2 Data analysis

Data were audio-taped, transcribed verbatim in Khmer and imported into the qualitative data management software NVivo version 8. Observational data were entered into an Excel spread sheet and analysed using descriptive statistics. Interview data was analysed, using a thematic approach based on prominent themes and patterns expressed in the text. The details of the data analysis strategy are also presented in chapter 3.

7.3 Findings

7.3.1 Observed births of private SBAs

In total, five private SBAs who attended the labour and births of 10 women in five private home clinics in the province were observed. The private SBAs included one primary-midwife, three secondary midwives, and one doctor with midwifery skills. The average age of the private SBAs was 47 years and most had more than 15 years' experience in maternity care practices. These five private SBAs were also employed at government facilities and undertook private work in addition to their substantive roles.

All the women whose births were observed under the care of these private providers were married with mostly primary school as their highest level of education. Only one woman had secondary school education. The majority of women were housewives with only two reporting working in paid employment outside the home. Six women were primiparous and had attended antenatal visits at the health centres during pregnancy (Table 7-1).

Figure 7-1: Demographic characteristics of the women who were observed at private facilities

Variable	Frequency (n=10)
Marital status	
• Married	10
Employment status	
• Farmer/housewife	8
• Paid job	2
Education level	
• Illiterate	4
• Primary school	5
• Secondary school	1
Parity	
• Primiparous	6
• Multiparous	4
Had antenatal care this pregnancy	
• Yes	6
• No	4
Problems during pregnancy	
• Bleeding	0
• Eclampsia	1

7.3.1.1 Labour and birth practices

All the observed women were asked by the SBAs on admission about their general health condition and their history of antenatal care, pregnancy and childbirth. Women's vital signs, including pulse, blood pressure and temperature were checked and monitored every 4 to 6 hours. After this initial observation, SBAs performed a vaginal examination on all the women upon admission to their clinics and this was repeated at least every four hours and sometimes more often. When contractions became stronger, women were told to endure the pain, to walk around the table supported by their family member, or to adopt any position that made them feel more comfortable. Sometimes another vaginal examination was undertaken when the uterine contractions were more frequent and closer, or upon the request of the woman's mother or husband. None of the information collected from the women was documented or recorded on a partograph form.

Support in labour was permitted. Family members were allowed to support women in labour while they were moving around in the early stages of labour and during the birth. All 10 observed births were vaginal births assisted by episiotomy and vacuum extraction. Episiotomy and vacuum extraction were performed on the women regardless of their parity or progress in the second stage or whether necessary indications were present necessary indications. Hand-washing was not undertaken. All 10 births were conducted by the SBAs without hand-washing before wearing gloves although water and soap were observed as available in their clinics (Table 7-2).

Figure 7-2: Frequency and proportions of practices in the women who were observed

Activities performed by private SBAs	Frequency (10 births)
Labour and birth practices	
Ask the history of the woman	10
Use of partograph to monitor progress of labour	0
Hand-washing/hands rubbing (with soap and plain water or antiseptic)	0
Vaginal examination less than every 4 hours	10
Monitoring of foetal heart rate	10
Care during labour and childbirth	
Birth companion was permitted to attend labour	10
Clean delivery surface	5
Routine episiotomy	10
Vacuum extraction	10
Use of AMTSL	0
Examine the placenta and membranes for completeness and abnormalities	0
Exploration/cleaning of uterine cavity	10
Post-partum practices	
Follow-up and care of mother after birth:	
Keep women 2 hours in the delivery room for follow-up	10
Monitoring of vital signs and amount of external blood loss within the first 2 hours after birth	10
Newborn practices	
Immediate care of newborn (within 1 hours)	
Assess Apgar Scores	5
Clean cord care (including cord ties and cutting surface)	5
Apply antimicrobial eye drops or ointment	10
Administration of vitamin K	10
Place the baby in skin-to-skin contact	10
Baby given to mother within half an hour	10
Early breastfeeding	10
Maternal problems in the first 24h after birth	
Death	0
Referral to other level of care	0

Active management of the third stage of labour (AMTSL) was not performed in the 10 vaginal births in this study although an oxytocin was given after the placenta was delivered. It was observed that after delivery of the baby, all SBAs waited for signs of placental separation before attempting the delivery of the placenta and drying the baby. After the placenta was delivered, an intramuscular injection of 10ml of oxytocin was given to the women. However, none of the SBAs examined the placenta for

completeness and abnormalities. Manual exploration and cleaning of the uterine cavity was performed on all 10 women. This procedure was undertaken by inserting the SBAs hand and an instrument comprised of a gauze tampon into the uterine cavity several times until the SBA found no evidence of a blood clot or placenta debris. Anaesthetic was not provided by the SBAs when undertaking this procedure although women screamed with pain or indicated they felt uncomfortable. All women were told that this procedure was critical to avoid the possibility of retaining the placenta or any products of conception which can lead to post-partum haemorrhage and postnatal infection (Table 7.2). Therefore, despite the pain, all women agreed to the procedure.

7.3.1.2 Post-partum practices

All women observed in the private home clinics were kept in the birthing room for only half an hour after the delivery and then transferred to a postnatal bed adjacent to the birth room. SBAs explained that this was necessary because the birthing room is small and dirty. All women were regularly monitored and checked. It was observed that after completing a birth, the SBA took vital signs, including blood pressure, pulse, temperature and frequently checked the pad to verify the amount of bleeding and never left women unattended.

7.3.1.3 Newborn practices

Once the babies were born, all SBAs held the baby upside down, slapped the babies' buttocks and hit their feet regardless of whether the babies cried or not. Eight babies were placed on a clean sarong on an adjacent table after the birth while two were put on a dirty floor near the birth table. While all the SBAs put on sterile gloves to examine and clean the baby, they touched unclean things in the room before and during the examination. For example, one midwife used her mobile phone to receive a phone call with her gloves on and then touched the baby again.

All the babies were placed in skin-to-skin contact with their mother after the birth but only stayed with their mothers for a few minutes before being taken away by the SBAs for cleaning and dressing. The babies were then given to family members outside the birthing room. However, all the healthy babies were given back to their mothers within half an hour so that all women could start to breastfeed.

Another important measure of the immediate health of the newborn baby is the measurement of the Apgar score. The scoring system includes skin colour or complexion, pulse rate, reflex irritability, muscle tone, and breathing. In this study, after the babies were born, all the babies were assessed, but not using all the five criteria of the Apgar score. For example, in one case an SBA assessed the baby's screaming and skin colour within one and five minutes after birth but the results of these assessments were only partly documented in a record. Although all the babies' breathing was normal, all SBAs suctioned the secretion from all the babies' mouths and noses to clear the airway at birth. In addition, tapping the baby on the back and toes and putting the babies' heads down was practised in all private facilities even if the baby was healthy. During the observation, none of the babies had respiratory breathing problems or required special resuscitation or referral to another health facility.

Aseptic procedure using a clean cord-cutting instrument was not performed according to the requirements and procedure of the World Health Organization's six principles of cleanliness at birth (World Health Organization et al. 2003). However, in all ten births, the umbilical cords, once cut, were tied with sterile thread, all had an antiseptic solution (Betadine) applied to their cord stumps, which were then covered with sterile gauze. Antimicrobial eye drops, such as tetracycline 1% ointment or chloramphenicol solution was administered to all babies. All babies were also given an intramuscular injection of vitamin K.

7.3.2 The perceived practice of private SBAs

This section presents the findings from individual in-depth interviews with all five private SBAs regarding their perceptions of their own practice and their reasons for them, as well as their understanding of their working environment. The perceived patterns of private SBA practice were described under the headings: labour and birth practices; post-partum practices; and newborn practices. There are a number of subthemes that are related to the first theme of skills in the care of labouring women. These are: provision of support in labour; interventions in the second stage of labour; management of the third stage of labour; and, asepsis during birth.

7.3.2.1 Labour and birth practices

7.3.2.1.1 Skills in the care of labouring women

All participants highlighted the importance of having skills in the care of labouring women. This included the initial history-taking and assessment of women on admission, monitoring the progress of labour, assessing maternal and foetal well-being, using a partograph, and the management of obstetric emergencies and other complications. All reported that, although a partograph was important to monitor the progress of labour, they were not part of their usual routine practice. All SBAs said that they did not use a partograph to complete assessments and record them in their private home clinics because of time. One midwife said:

I used a partograph for monitoring the progress of labour at the public hospital, but never used it in my solo clinic as I am very busy with work and my niece who works with me does not know how to use it. So I had no time to fill in the form. Moreover, I had already experienced delivering a baby without the need of partograph usage. Therefore, I felt that partograph is not necessary nor is it part of my routine practice.

All reported that they were able to perform a normal birth and manage certain obstetric complications, including eclampsia and post-partum haemorrhage before referral. Eclampsia was not considered as difficult if it was detected early and treated on time. All SBAs claimed that they could manage eclampsia with convulsions because they are familiar with treating this disease using hydralazine and MgSO₄ at the public health facility. However, they admitted that they often used diazepam instead of MgSO₄ as MgSO₄ is not available at their clinics or at the private pharmacy. However, SBAs said that if a woman had persistent seizures despite this treatment, they would refer the woman to another private clinic or a public hospital that could provide treatment.

7.3.2.1.2 Provision of support in labour

Support in labour was seen as important. All participants stated that good attitudes and behaviour from health-care providers were essential to attract more women to use their clinics. All said that women regardless of their socio-economic differences, or ethnic background were increasingly using private clinics because of polite and courteous providers and the reasonable charges. One private SBA explained:

We have never been impolite or rude to women who use our clinics. We know that clinical skills are important, but interpersonal skills such as friendliness and politeness are also essential. Moreover, the provision of continuum of care and supportive care to all women increases women's utilisation of private home clinics.

All private SBAs felt that the presence of a companion during birth might allow women's families to understand the progress of labour and the birthing process. SBAs in this setting were not concerned that companions might view errors and they did not feel that the presence of family members would affect a woman's compliance with their instructions. In contrast, the SBAs felt that women would be more likely to co-operate and that family attendance might provide some reassurance and support. For example, family members can feed and encourage women during labour.

I always allow a woman's family to stay with the woman in the birthing unit so that they can see something might occur. I am not scared of being seen doing things wrong. In contrast, family attendance might help to give some drinks or food to women and motivate women to push harder. Women's family member must know difficulties we face during childbirth. If they stayed outside the birth unit and some complications occurred they might suspect that some things had gone wrong with what we did.

7.3.2.1.3 Interventions in the second stage of labour

All SBAs stated that they performed episiotomy to assist normal birth as they found that it was necessary to avoid a third-degree tear or perineal laceration and believed that this surgical procedure was better than a natural birth. All SBAs said that they performed episiotomy routinely on nulliparous and multiparous low-risk women to speed up the birth and to prevent third-degree perineal tears. They also reported that they were motivated to carry out episiotomy by women who wished for their perineum to be repaired.

I often do episiotomy on all first childbearing women, as well as second- or third-time mums as my usual routine because I did not want to wait for so long. Moreover, episiotomy is much better than a natural birth because it helps to avoid various degrees of laceration, which is difficult to repair. Moreover, many women like to have their vagina repaired as some of them had various degrees of tears when they had delivered their babies with a TBA. So it is a good to do an episiotomy and repair it in order to satisfy the women.

7.3.2.1.4 Management of the third stage of labour

Active management of the third stage of labour (AMTSL) was another aspect of the intra-partum care discussed by all participants. The components of AMTSL, including the immediate intramuscular injection of 10 international units (IUs) of oxytocin to the mother within one minute after the birth of the baby, delivering the placenta by controlled cord traction, and uterine massage (World Health Organization 2007b) were reportedly not seen as important in the management of the third stage of labour in private practice due to SBAs' experience. All SBAs reported that they applied AMTSL at the public health facilities following the national protocols, but did not use this in their clinics. All believed that the physiological approach, waiting approximately 30 minutes after the baby was born, was safer and remained useful to reduce post-partum haemorrhage.

In the public hospital, I have been instructed to use AMTSL. I observed that AMTSL is not as good as the physiologic methods as it caused complications, such as retention of products of the placenta and the membranes. In my private practice, I often use the old method and I found that women were safer and healthier than using AMTSL. Women have never had any postnatal complications, such as post-partum haemorrhage after birth.

7.3.2.1.5 Aseptic procedure during birth

All private SBAs indicated that they had a good understanding of cleanliness at birth requirements and procedures, including hand washing with soap and water, clean perineum, clean delivery surface, nothing unclean introduced into the vagina, clean cord-cutting instrument and cord care (World Health Organization et al. 2003). Nonetheless, none of them actually washed their hands prior to the births. They stated that they were not able to comply with some of these asepsis rules even if they had received pre-service education and in-service training. This was due to a lack of time and heavy reliance on the use of antibiotic prophylaxis and treatment during birth and after the birth. SBAs felt that although the standards of hygiene practices were good, all SBAs reported that the routine use of a 5-day course of injectable antibiotics at the clinics and another 5-day course of oral antibiotics after discharge was a way of ameliorating a possible lack of cleanliness and preventing postnatal infection.

Routine manual exploration and cleaning of the uterine cavity after delivery of the placenta was practised widely. SBAs regarded these as necessary procedures. All SBAs reported that they were concerned about the risk of maternal post-partum infection due to retained products of conception. All participants said that, even if the placenta appeared to be complete and intact, they always used their hands or inserted an instrument with a tampon into the uterine cavity to clean away blood clots and debris of the placenta. They reported that this helped relieve their concern about retained products and ensured a clean and safe delivery.

I was trained to check the placenta for completeness and abnormalities before putting our hands or an instrument introduced into the uterine cavity. However, in real practice, I did not follow this guideline as I had negative experience of women who had retention of products and membranes after birth confined to this guideline. Thus, I often explore and clean the uterus after each birth to ensure a clean delivery and avoid my suspicion

7.3.2.2 Post-partum practices

Immediate postnatal care was another key aspect discussed by all participants. All participants recognised the importance of this critical period; therefore, regular monitoring of women in the postnatal period was undertaken at their clinics.

We often keep women for 2 hours in the birth unit after birth. In general, for the mother in the first hour, I check the vital signs (pulse, blood pressure, temperature, and blood loss) every 15 to 20 minutes, then every half hour in the second hour. In the meantime, I also monitor the baby carefully regarding breathing and complexion. If the women are well, I transfer the women and their newborn to the postnatal room.

7.3.2.3 Newborn practices

All private SBAs argued that keeping healthy mothers and infants together at the time of birth will improve bonding and breast-feeding, resulting in increased women's satisfaction and positive maternal and newborn outcomes. One SBA said:

I always put the baby on the mother's abdomen to create good bonding between the mother and her newborn. This would help make the uterus well contracted and the mother would get excited when seeing her live newborn. Moreover, the mother can also breastfeed her baby as early as possible and make the baby warm.

All SBAs reported that they knew how to identify a newborn with respiratory problems and when resuscitation is needed through using the Apgar score, but they admitted that

they lacked specialised skills in neonatal resuscitation and knowledge of the use of ventilation equipment and special drugs. Besides giving oxygen and light suctioning to a baby born with respiratory problems, they would refer the newborn to the referral hospital. One SBA said that:

When the baby is born with cyanosis or no cry, what I do is to massage the chest of the baby, suck secretion from the baby's mouth or nose and sometimes make mouth-to-mouth ventilation. Actually, I do not know how to do mask ventilation or put an endotracheal tube for ventilation or give any special medications. Therefore, my last choice is to refer the baby to another referral hospital if the parents agree upon my request. Otherwise, the baby would die.

Immediately after birth, the injection of Vitamin K and the administration of prophylactic eye drops to the newborn baby were routinely practised by all private SBAs due to their knowledge and experience and the availability of the drugs. They gained these skills from seeing the routine practice of other health providers. One SBA said:

When I was on my internship, I saw some midwives prescribed eye drops and intramuscular injection of vitamin K to the babies; therefore, at work, I practise this following what I had seen. I did not receive pre-service education or in-service training related to vitamin K administration.

7.3.3 The perceived working environment of private SBAs

This section presents the findings from the interviews with private SBAs regarding their perceptions of their working environments. Three main themes emerged. These were: the physical working environment; the relationship between private and public SBAs; and fees for services.

7.3.3.1 Physical working environment

One of the factors relating to the provision of quality maternity care discussed by the private SBAs was access to essential medical supplies. The availability and convenient access to essential drugs at private home clinics meant that women trusted and had confidence in these facilities. For example:

At home, I have different kinds of drugs and supplies for managing normal and complicated births. These include oxytocin, misoprostol, hydralazine (injectable and tablet), eye drops, vitamin K and antibiotics. Everything is at hand except MgSO₄ and

blood for transfusion. Women's families do not need to buy drugs outside the clinic. They just look after the women. In this case, women and their families put trust in our clinic.

7.3.3.2 Private-public skilled birth attendant partnership

All private SBAs said that roles, responsibilities, and relationships between the private and public sector are of significant concern. For example, there is neither clear or relevant policy nor any guidelines to support private midwives in managing obstetric complications and referral. One SBA who referred a woman with complications to a hospital was fearful of referring women to public facilities and described negative experiences with other SBAs in a public facility:

Once, I had a woman with a post-partum haemorrhage, and I referred her to the provincial hospital. I did not receive any help from these hospital providers; instead, I was blamed for doing harm to the woman and keeping her too late before seeking assistance from the hospital. I was very scared of referring women to the public facility. In fact, they were jealous and not happy with my private practice.

All SBAs admitted that although they had many years of experience in midwifery and were able to conduct normal and complicated births, they felt that pregnancy-related complications and childbirth were not predictable. All SBAs commented that service linkages between private midwives and other professionals, supported by comprehensive emergency obstetric services and functional referral systems, are critical to save the life of women and their newborns when and if medical interventions are needed.

Although I have 15 years of maternal experience, complications of pregnancy and childbirth are difficult to predict. Pregnancy-related complications could have been prevented if public and private SBAs worked in partnership at differing levels of care, backed up by quality emergency obstetric care in functioning public services that provide blood transfusions and caesarean sections and access to transportation.

Fear of litigation is another factor private SBAs reported that prevents them from referring women to a public facility. One private SBA expressed her dissatisfaction and fear of public SBAs.

I used to refer a woman with complications to the hospital; the hospital staff asked the woman's family what I had done; why I had delayed referring her to this hospital. If the

woman gave birth at the hospital, she would not have had such complications. So it is pretty scary to hear these questions because the woman and her family might get upset or angry with me. If something went wrong, a woman's family might sue me because of the incitement of some public providers. So it is safer to refer women to another private clinic that is able to help me.

7.3.3.3 Fees for services

The pressure to generate income through fee for services also influenced the practice of private SBAs. Low salaries in the public sector and the need for personal gain were the most important motivating factors for private SBAs performance. When complications occurred, including obstructed labour, and post-partum haemorrhage, SBAs would rather refer women to another private provider whose clinic provided life-saving interventions. This was because SBAs often received a commission and a warm welcome from a private provider. In addition, SBAs noted that women sometimes returned to their private clinic afterwards.

I often refer women with complications other private providers because they have never blamed me. Instead, they are friendly and give us some incentives about US\$15-US\$20 if the woman had undergone surgical interventions. Sometimes, I can even get the women back to my clinic for further treatment if the woman was safe and happy to come to my home.

Fee for referral services seems to be the norm in health care settings in Cambodian society. One SBA expressed experiences of giving incentives to those who refer pregnant women to her clinic:

As the government health staff salary is very low, and TBAs earn very little money from their practice, I always provide a small incentive (reimbursement of transport cost or coffee) for those who refer pregnant women to my clinic. Such a practice is the norm in our culture where people's time and efforts to refers women to a health facility because they intended to get some benefits. Moreover, if I do not give the incentives, others will do; thus, I will lose our clients as well as the incomes.

7.4 Discussion

Findings from my study provide insights into the observed and perceived practices of private SBAs during labour, birth and post-partum care in one province in Cambodia and their perceptions of their environments. The findings show that private SBAs do not often provide appropriate or adequate care to women. Practices, including episiotomy

and vacuum extraction, were routine even for low-risk women. Aseptic procedures around births were often not provided. All could have contributed to cause harm. Unnecessary interventions found in this study, including routine episiotomy and routine manual exploration of the uterus are similar to the findings of other studies across developing countries, which show a high level of harmful practices for low-risk women during childbirth (Buekens 2001; Shaban et al. 2011). However, all private SBAs said that they often provide women with respectful and social support during labour, at birth and after the birth.

It is interesting to note that there are differences between public and private SBAs' practice in support in labour. For example, in a public facility, birth companions or the involvement of family during childbirth were not permitted or were restricted due to a perceived risk of infection, of the women's non-compliance with SBA instructions, or of family panic. Public SBAs were concerned that medical errors might be witnessed (Ith et al. 2012). However, the presence of family during childbirth was reported by private SBAs to be highly important to allow the women to feel supported and reassured. Although studies in Russia and Nigeria show that women decline to have their partners or relatives present in labour for reasons of personal privacy (Bakhta & Lee 2010; Oboro et al. 2011), research evidence in developing countries shows that where the majority of births take place at home, companionship during birth is supported and felt to be necessary (Banda et al. 2010; Bruggemann et al. 2007; Hofmeyr 2005; Khresheh 2010). These studies show that the provision of support during labour is a cost-effective and beneficial practice for mothers and their newborn babies. A randomised controlled trial carried out in Brazil, for example, showed that the presence of a companion of the woman's choice had a positive influence on the woman's satisfaction with the birth process and did not interfere with other events and interventions, with neonatal outcome or breastfeeding (Bruggemann et al. 2007). Furthermore, continuous support provided by midwives during labour may reduce the duration of labour and the number of unnecessary interventions, such as caesarean sections or instrumental vaginal births (Hodnett et al. 2011; Hofmeyr 2005; Kashanian, Javadi & Haghighi 2010), as well as reduce maternal stress and anxiety (Yuenyong, Jirapaet & O'Brien 2011). Thus, the Cambodian Ministry of Health should develop a new model of care or policy of support in labour appropriate to the expressed needs and wishes of the women attending public facilities in Cambodia.

All private SBAs in this study reported that they could manage normal and complicated births; however, gaps exist between their current practice and evidence-based standards. For instance, SBAs said that they were aware of the importance of the aseptic procedures recommended by the WHO guidelines to ensure clean and safe delivery. However, SBAs appear not to apply their skills and knowledge with evidence-based practice. None of them washed their hands before wearing gloves prior to conducting births, and common practices, such as the insertion of their hands or of unsterile instruments to clean the uterine cavity after the placenta was delivered were of significant concern. Private SBA practices were largely driven by routine, a lack of private staff and time. The risk factors for non-compliance with hand hygiene practices have also been found in other developed and developing countries (Barrett & Randle 2008; Ji, Yin & Chen 2005; Pittet et al. 2006). These include time constraints and busyness; clinical procedure; lack of knowledge and institutional support. Effective hand hygiene decontamination can lower the prevalence of healthcare-associated infections (Pittet et al. 2006; Pittet & Donaldson 2005). However, the requirement for hand washing is still neglected too often and poses challenges to healthcare providers to reduce infections. A study in rural China found that 71% of health workers in obstetrics and gynaecology did not wash their hands (Ji, Yin & Chen 2005).

All private SBAs said the reason they were unable to treat severe eclampsia was because MgSO_4 was not available in their clinics. However, all expressed their confidence in accessing essential drugs. This may lead women to select a private facility for their births. Evidence suggests that women in developing countries, like women in all settings, value access to drugs, facilities and caring staff over other features, such as type of providers (public or private), cost (formal and informal costs), distance and transport (Kruk et al. 2009; Matsuoka et al. 2010).

Complications in pregnancy and childbirth cannot always be predicted, but most can often be prevented. Therefore, the emphasis must be placed on a fully functioning health system – including skilled attendance backed up by the quality of emergency obstetric services, systems for communications, referral, transportation, and response systems – to provide adequate and appropriate care and reduce maternal mortality (Godal & Quam 2012). Private SBAs in this study, however, reported that they had

never received adequate and timely support from the public facility when an emergency occurred. In contrast, private SBAs were often criticised and blamed by public health providers when they referred a woman to a public facility. The lack of services linkages and support constrains the ability of private midwives to offer expanded services and quality obstetric care (White & Leah 2006).

Currently, developing countries, including Cambodia are not able to invest sufficiently in their health systems, and face shortages of health workers, health financing systems that are inefficient and under-funded, poor supplies of drugs and weak referral systems (Asante, Hall & Roberts 2011; White & Leah 2006). Private midwives often provide services where there are gaps in the public sector, or in areas where there are no public services (Konde-Lule et al. 2010). Private midwives are an important group of often overlooked service providers who are able to make a much-needed contribution if appropriately legislated for and regulated. In Indonesia, a review of recent changes in human resources for health shows that the decision by the government to convert doctors, nurses and midwives on contract to permanent civil service status, led to a significant increase in the number of healthcare providers. However, the situation is complicated. Though these providers have the right to practise privately, they are not explicitly authorised to do so under current regulations – which is problematic (Heywood, Harahap & Aryani 2011).

Although the availability of resources, and the availability of competent private SBAs, are essential conditions, they are not sufficient by themselves to ensure high-quality care is provided in the private sector without a link to the formal sector and national standards of care (White & Leah 2006). This is best achieved through regular supervision and/or (re)accreditation of all clinical facilities, and educational programs to train the private SBAs involved, especially regarding acceptable minimum standards for service provision and for the reporting of health-related data. The World Health Organization recommends that an enabling environment must be available to all skilled attendants whether they work in the public or the private sector (World Health Organization 2004a).

In Cambodia, many private providers, including midwives are government civil servants (Akashi et al. 2004; Soeters & Griffiths 2003). As their salaries are low,

especially in the public sector, health staff in that sector often need to supplement their income by taking up additional work in the private sector (Henderson & Tulloch 2008). This may lead to a conflict of interest, affecting the quality of work of the skilled attendants in both their private and public sector jobs and the care provided to women and newborns (World Health Organization 2004a). As mentioned earlier, private SBAs are likely to provide supportive and respectful care for women due to the pressure of competition and their personal interest in the success of their private practice. For example, in instances where private SBAs were unable to treat complications, they were often reluctant to interact with public health systems, but would rather refer women to other private clinics for assistance than public hospitals. These findings are echoed by the findings of a review in Ghana, Indonesia, and Uganda which revealed that the challenges for midwives in private practice, or interested in entering it, were inadequate supervision, weak interaction with the national health system, and competition from other physicians (White & Leah 2006). In addition, the quality of clinical services in the private sector can suffer without a link to the formal sector and national standards of care, impacting upon maternal health outcomes. It is therefore important that public-private partnership be established in order to strengthen the health system's ability to mobilise personnel and resources, measure health information, and assess expenditures and human resource needs, as well as involving professionals in determining service standards for the provision of high-quality care at all levels in both the private and public sectors (World Health Organization 2004a).

7.5 Summary

This chapter examined the observed and perceived practices of private SBAs during labour, birth and the immediate post-partum period and their working environment. Subsequent Chapters (Chapter 8-9) address women's perspective of maternity care and the key stakeholders' views of the implementation of a QI system in the Cambodian public facility.

The next chapter presents women's perspectives of maternity care during labour, birth and the post-partum period in Cambodia.

Chapter 8 Women's perspective of maternity care in Cambodia

(Publication 4)

Reference:

Ith, P., Dawson, A. & Homer, C.S.E. 2013, 'Women's perspective of maternity care in Cambodia', *Women and Birth*, vol. 26, no. 1, pp. 71-5.

8.1 Abstract

Background

Consideration of the needs of pregnant women and their ability and willingness to attend maternal services and pay for them is central to the provision of accessible and acceptable maternal care. Women's satisfaction with maternal services is poorly understood in many developing countries, including Cambodia in South East Asia. The objective of this study was to investigate women's perceptions and experiences of private and public skilled birth attendants, including midwives, during childbirth in Cambodia.

Methods

A qualitative design using a naturalistic inquiry approach was undertaken to seek sensitive personal issue. Thirty individual in-depth interviews were conducted with women who had recently given birth at private and public health facilities in one province in Cambodia. Data were analysed using a thematic approach.

Findings

Women's choice of health facility was influenced by their perceptions of safety and staff attitudes. Reported barriers to the effective utilization of public maternity services were costs associated with the birth, staff attitudes and a lack of supportive care during labour and in the post-partum period. Although private health care is more expensive than public health care, some women reported a preference for private birth attendants as they perceived them to provide safer and more supportive care in labour.

Conclusion

Women expect, but do not always receive humane, professional, supportive and respectful treatment from public skilled birth attendants. While the removal of unexpected costs and geographical barriers are important to increasing public maternity care and service utilization, improvements in maternity services should focus on addressing provider attitudes and enhancing communication skills during labour, birth and the immediate post-partum period.

8.2 Introduction

Many countries in South-East Asia have made considerable efforts towards reducing maternal mortality, a key Millennium Development Goal (MDG) (UNDESA 2011a). The maternal mortality ratio in one South East Asian country, Cambodia, has decreased from 580 per 100,000 in 1999 to 290 per 100,000 live births in 2011 (UNFPA 2011). However, as current trends indicate progress is slowing with a range of uncertainty of between 180-480 deaths per 100,000 live births (Ministry of Health Cambodia 2010a), it is unlikely that Cambodia will reach the United Nations 2015 MDG 5 target of a 75% reduction in maternal deaths from the level in 1990 (Bryce et al. 2008). Major causes of maternal mortality in Cambodia, as in many resource-poor countries, are abortion-related complications, obstructed labour, haemorrhage, eclampsia and infection (Ministry of Health Cambodia 2006b).

Increasing women's access to quality maternity care has become a focus of global efforts to avert death (UNFPA 2011). Whilst skilled attendance at birth is essential, barriers to the use of health facilities have been identified (Matsuoka et al. 2010). Many women in developing countries experience economic, and geographical barriers to accessing health services (Koblinsky et al. 2006) that are complicated by service and provider quality (Gao et al. 2010; Matsuoka et al. 2010). As in many developing countries, access to health care in Cambodia is constrained by poverty. Essential health services are expensive particularly in rural areas, attracting user fees and transport, food and accommodation costs (Matsuoka et al. 2010). Geographical factors including the time required to travel to facilities and transport availability are barriers affecting access (Titaley et al. 2010). Another barrier to maternity care is the perceived quality of care at facilities. Skilled birth attendants (SBAs) may not provide socio-culturally appropriate and respectful care leading to poor usage as women identify services to be unsuitable or

inadequate (Costello, Azad & Barnett 2006). Furthermore, even if women arrive at a facility in time, they experience a lack of skilled staff, impolite behaviour (Matsuoka et al. 2010) and a shortage of equipment and supplies (Al Serouri et al. 2009), all factors that affect the standard of care. Women in developing countries, like women in all settings, value access to drugs, facilities and caring staff. For example, a study in Tanzania showed that women appreciated reliable access to drugs and medical facilities and respectful staff attitudes over other features, such as type of providers (public or private), cost (formal and informal costs), distance and transport (Kruk et al. 2009).

Studies on access to maternity services often focus on geographical, socio-cultural and economic issues; however, there is a lack of knowledge about services from the perspective of women themselves (Gabrysch & Campbell 2009). Consideration of the needs of pregnant women and their ability and willingness to access skilled birth attendants (SBA) and pay for services is central to the provision of maternal care. The objective of this study was to investigate women's perceptions and experiences of public and private birth attendants during labour, birth and the immediate postnatal period in one province in Cambodia.

8.3 Methods

A qualitative design was undertaken using a naturalistic inquiry to explore sensitive personal issues. This approach was primarily selected as it allows for the description and explanation of complex, real-world phenomena pertinent to health services research (Bradley, Curry & Devers 2007). It is, therefore, suitable for describing, analysing and understanding the perceptions and views underpinning women's experiences enabling the target phenomenon to be examined without the pre-selection or manipulation of study variables and a prior commitment to any theoretical view (Sandelowski 2000).

Approval for this study was granted from the University of New South Wales Human Research Ethics Committee and the Cambodian Ministry of Health Ethics Committee for Health Research.

Public health facilities were purposively selected as they reflect similar levels of basic and comprehensive emergency obstetric care provision across Cambodia. Private health facilities were recruited through a mixed sampling strategy of purposive and

snowballing sampling with clinics suggested by public SBAs. The province in which the study was undertaken was selected as it is known to the author who has established access to stakeholders. The province name is not disclosed due to the sensitive nature of the study and need for confidentiality.

A convenience sample of women who had recently given birth at selected health facilities were recruited (Patton 2002). Women were approached by the SBAs on arrival who informed the women verbally and in writing about the study and sought permission. SBAs read the standardized information statement and consent form in Khmer language explaining the aim of the study, especially participants whose literacy skills were inadequate. The SBAs also asked another participant who was literate, to read the information statement and consent form until the women indicated that they understood the content. Then the consent form was obtained from study participants through signing or thumbs printing when they agreed to take part in the study.

Written informed consent (in Khmer) was obtained from 30 women. Interviews of 60-90 minutes were conducted in one provincial hospital, two district referral hospitals, two health centres and five private facilities. Interviews were audio-taped, transcribed verbatim and prepared for analysis using computer software.

An in-depth interview was conducted with each participant in the health facility in which they worked. The interviews consisted of a series of questions including the following. ‘Tell me about your perception and experience of childbirth during labour, birth and after the birth?’ ‘What do you think about private and public skilled birth attendants?’ ‘What support did you have in labour?’ ‘What did staff tell you to do immediately after your baby was born?’ ‘What do you know about other women’s perception of private and public facilities? How do you think this maternity service could be improved?’

Table 8-1: Details of the Staff Involved in the Provision of Maternal Care in Cambodia

Designation	Training	Role and Service level	Numbers	Ratio per 10,000 population ⁷
Traditional birth attendant	Informal apprenticeship + training provided by NGOs and government short courses	Delivery, referral, community support, community based	Not available, but the number of births undertaken by TBAs in homes in 2011 is 19,836 (=7% of all births) (Ministry of Health Cambodia 2011)	Not available
Primary midwife / primary nurse-midwife	A primary midwife undertakes 9 months/1 year and a primary nurse-midwife undertakes 1 year in nursing plus 4 months in midwifery (Ministry of Health Cambodia 2006a)	Antenatal and postnatal care, immunisation, support for secondary midwives at health centres (Sheratt, White & Chhuong 2006)	1,063 (Ministry of Health Cambodia 2004)	0.79
Secondary Midwife	3 years in midwifery (Ministry of Health Cambodia 2006a)	Antenatal care, delivery and postnatal care, and referral and immunisation (Sheratt, White & Chhuong 2006)	1,756 (Ministry of Health Cambodia 2004)	1.3
Post-basic midwife/secondary midwife	3+1 year (3 years in nursing and 1 year in midwifery (Ministry of Health Cambodia 2006a)	Antenatal care, delivery and postnatal care and referral and immunisation (for mothers and their infants)	Not available	Not available
Primary nurses/ Secondary nurses	A primary nurse undertakes 1 year and a secondary nurse 3 years in nursing	Provide nursing care and assist midwives or doctors at health centres or hospitals	Not available	
All nursing and midwifery personnel (2008)			11,736 (World Health Organization 2011)	7.9
Doctor with midwifery skills	8 years + 6-12 months in midwifery (Ministry of Health Cambodia 2006a)	Delivery (normal and complicated birth) and life-saving interventions (transfusion, caesarean section)	Not available	Not available
Obstetrician	8 years + 3 years in obstetrics	Manage complicated birth and surgery at provincial and national hospitals	Not available	Not available
Medical assistant	5 years (Ministry of Health Cambodia 2006a)	Delivery and support midwives and assist doctors	1340 (2004)	1
Medical doctor	8 years (Ministry of Health Cambodia 2006a)	General practice and support midwives (when complications occur)	2120 (2004)	1.6

⁷ Population 2004=13.5 million

Data were analysed thematically (Ritchie & Spencer 1994). Participants' responses in Khmer were translated into English and imported into the qualitative data management software NVivo version 8 (Bazeley 2007). Analysis involved reading and rereading transcripts to develop a sense of the themes as they related to the research objectives to identify patterns and categories (Bazeley 2007). Each new piece of data was consistently compared with earlier data. Data were then coded into text units and grouped into categories. The categories were defined and clustered into broader themes constituting the descriptive analytic framework for analysis (Patton 1990). The transcriptions and findings were discussed with the participants improving the veracity of the data and discussed with the other authors to achieve consensus.

8.4 Findings

Thirty women (20 gave birth in five public health facilities and 10 gave birth in five private health facilities) were interviewed. All women were married with mostly primary school as their highest level of education. Most were housewives (80%), with only 20% reporting paid employment outside the home. Around 70% of women were primiparous and almost two-thirds had attended antenatal visits.

Themes emerged describing women's perceptions and experience regarding the choice and use of maternal health services at public and private health facilities. These included a safe birth; staff attitudes; support during childbirth; and associated fees for services.

8.4.1 Seeking a safe birth

All women reported awareness of current services offered by providers, including home birth and private clinics, health centres and hospitals. Most women were concerned about safety issues leading them to choose SBAs over traditional birth attendants (TBA).

When complications, such as bleeding or convulsions occur, TBAs cannot manage it and finally refers us to the health centre or the hospital. I would rather go to the health centre or hospital as these health facilities have a team of well-trained and competent midwives who could provide life-saving skills during childbirth (#6 & #27).

Women who gave birth at private facilities said that they felt unsafe when giving birth in the hospital and health centres because women had experienced poor midwifery care.

I found that public health service is so slow and no one is really responsible for providing continuity of care. I once was left alone without health staff in attendance. The midwives helped me only for delivery; after the birth, they disappeared. I did not feel safe at all (#5).

8.4.2 Staff attitudes

Staff attitudes affected the choice of health facility. All women reported that they were reluctant to use or avoided public maternal health services due to attitudes of SBAs.

Many women did not like to go to the health centre or hospital as midwives or doctors were unfriendly (#19 & #12).

Poor women have had negative experiences, including impolite and rude behaviour from midwives during childbirth, which may affect our future choice of facility (#2 & #9).

Women who gave birth at private facilities were fearful of giving birth in the public facilities and described negative experiences with public midwives:

During birth, the midwives yelled at me impolitely. They said that I was not clean; my nails were very long and dirty. That's why I had a discharge and smelly odour. I was very scared and ashamed to come here. Therefore, I chose this private health facility for the second birth (#7).

Women stated that leaving home to seek facility-based care was not an easy option due to travel and food expenses and the lack of family support. However, women were prepared to travel if they felt comfortable with providers.

My house is close to the hospital and the fees here are not really expensive, but the staff are so rude. As I live close to the border, I prefer going to the hospital [over the border in a neighbouring country] although I need to spend more money on transport, food and family companion because health professionals here are friendly and courteous (#18).

8.4.3 Support during labour and the immediate post-partum period

All women reported that self-introduction, privacy, confidentiality and an adequate explanation of all procedures by midwives during labour and birth were essential. One woman said:

I did not know who looked after me during childbirth because midwives did not tell me about their names. When I arrived at the maternity ward they asked my history, took my blood pressure and pulse, but did not tell me about all this information. Then they told

me to get on the table and put their hands into my vagina in front of many people. They told me that I do not need to be shy because women are all the same when giving birth. Actually, I did not want many people to see my genitalia (#20).

Women's choice of personal support throughout labour and birth was also a concern. Birth companions in labour were reportedly not permitted in public health facilities. One woman stated:

I was alone and felt frightened during my birth. Midwives did not ask me whether I wanted my mother, husband or sisters to stay with me or not. If my mother or anyone of my family had stayed with me, I would have felt much stronger and confident to give birth (#16).

Women who gave birth at private clinics expressed their satisfaction with private birth attendants:

My childbirth had been a beautiful experience as my sister and mother was present with me all the time. This was completely different from the time I had my first baby attended by a midwife at the hospital (#22).

Some women perceived that their negative experiences at public hospitals were due to socio-economic status.

As I am poor, midwives did not provide as good reassurance or support for my birth as other women. This was my observation. Midwives spoke with me only a few words and left. I could not ask them as much as I wanted. This may be because I might not be able to make extra-payment (#25 & #1).

Disrespect and physical abuse in public facilities affected choice of facility.

One midwife said that I was the most difficult woman. She slapped me. She also complained that she could not sleep the whole night because of my slow birth (#30).

Women reported that follow-up during postnatal care was difficult to access at public health facilities that were different from those at which they had given birth. One woman expressed disappointment with midwives during postnatal care.

When I gave birth at a different health facility away from my residence, midwives of this health centre are not happy and friendly when providing immunisation to my child. They did not give me any advice or tell me about the next follow-up (#26).

8.4.4 Perceptions of fees of birth

Fees charged at public hospitals were reportedly barriers to accessing midwives. However, the desire for a safe birth meant that these women were motivated to attend health facilities.

Financial affordability remains a major barrier for poor women to choose qualified midwives; however, many women are scared of delivering at home with untrained providers, such as a TBA who has empty hands and can only deliver a normal birth (#28, #4 & #9).

Women who gave birth at public facilities said that they chose public services as the cost of delivery is cheaper than private facilities and safe for women and their babies.

This hospital charged me only 20, 000 riel (=US\$5) for the normal birth. My baby and I were healthy and safe and the fee is cheaper than the private clinics charge. Private clinics charged around 200,000-350,000 riel [\$50-\$80 US dollars] (#17).

Despite the fees being cheaper at public facilities, all women reported that there were additional costs and these fees were much higher than they expected and officially advertised.

When we delivered our baby at the health centre, midwives charged us two to three times higher than what they declared. The charge includes fees for cleaning the labour room, birth, placenta burial, episiotomy and vacuum extraction, as well as payments in gratitude to the SBAs. We no longer believe in this health centre (#5, #6 & #11).

Another woman expressed disappointment with SBA practice felt forced to pay fees at a public hospital.

The provision of pharmaceuticals was considered part of the cost. The alleviation of pain via anaesthetics during perineal suturing would only occur if a payment was made. When midwives sutured me, they did not use pain relief medication or local anaesthetics unless I paid for that. They sutured me like an animal. The suturing was extremely painful more so than the pain in labour or pushing period (#12).

8.5 Discussion

Our study provides insight into women's birthing experience of public and private-based maternal care and the factors that affect their access to, and use of, these services in one province in Cambodia. The choice of health facility was influenced by

perceptions of safety, the attitudes of the staff, supportive care during labour and birth, and the associated costs.

Our research shows similarities with studies in other countries concerning staff attitudes, women's birthing experiences and the uptake of maternal services (D'Ambruoso, Abbey & Hussein 2005; Matsuoka et al. 2010). These studies note women's feelings of discomfort, mistrust and unwillingness to give birth in public health facilities and seek care for complications. Disrespectful SBA behaviour in childbirth can deter skilled health care usage more than other recognized deterrents such as geographic and financial barriers (Bowser & Hill 2010).

Access to, and use of, skilled birth attendants, especially midwives, is a critical component of the MDGs, an important strategy to improve maternal health. Addressing women's expectations for respectful supportive maternal care is likely to result in user satisfaction and increased use of SBAs (Sitzia & Wood 1997). Although there are a lack of studies that rigorously evaluate the impact of interventions designed to reduce discrimination and abuse or promote respectful birth care (Bowser & Hill 2010), clinical audits and provider training may be useful strategies that could be applied in Cambodia. In Malawi, for example, a clinical audit assessed staff according to how they received women, their attitudes, respect of culture, and for women, provision and proper management of patient information, individualised care, patient waiting time, and confidentiality. Standards for woman-friendly care were achievable, acceptable to, and valued by health providers (Kongnyuy & van den Broek 2008). Other interventions have successfully addressed SBA attitudes and behaviours through education (Warenus et al. 2006).

Health care in Cambodia is expensive and the public system is chronically underfunded. User fees were introduced in 1997 to address government funding fluctuations and regulate unofficial fees (The World Bank 2006). Informal (unofficial) and additional fees in public facilities are charged by health workers to compensate for low salaries while others seek additional income through private and dual public-private practice (Akashi et al. 2004). Most women who gave birth in our study had to pay additional costs, creating extra financial burden and hardship. Furthermore, the dual and unregulated income supplementation practices of Cambodian government health

providers may lead to a conflict of interest and distortions in health staff attitudes, productivity and performance (Ministry of Health Cambodia 2006d) and contribute to low facility-birth rates and maternal mortality in Cambodia.

8.6 Conclusion

Our findings suggest that expectations of safe birth, staff attitudes, provision of respectful and supportive care and affordable transparent fees have considerable impact on the choice of health facility. While the removal of financial and geographical barriers is important to increasing the utilization of maternal health services, improvements in maternity care should focus on addressing staff attitudes and enhancing communication skills. Understanding the drivers of health seeking behaviour of women will improve maternal health and develop rational policy and delivery systems to ensure acceptable, accessible and of high quality to all women to accelerate progress towards the MDG 5 targets.

Chapter 9 Implementing a quality improvement system in Cambodia

(Unpublished paper)

9.1 Introduction

This chapter presents the findings related to the research question that sought to determine how a quality improvement (QI) system could be delivered to better support SBAs to deliver quality midwifery care in one province in Cambodia.

9.2 Methods

The study design and study participants are described in Chapter 3.

9.2.1 Method of data collection

Interviews were conducted with key stakeholders from the Cambodian Ministry of Health, the Provincial Health Department and an NGO. In total, five medical doctors, including two from an NGO, one from the Ministry of Health, and two from the Provincial Health Department volunteered and participated in the study. Participants were asked about their perceptions and experiences of the recently introduced QI system in one province of Cambodia.

9.2.2 Data analysis

The interviews were audio-taped, transcribed verbatim in Khmer and imported into the qualitative data management software NVivo version 9. Data analysis was undertaken using a thematic approach based on prominent themes and patterns expressed in the text. The details of data analysis techniques are presented in Chapter 3.

9.3 Findings

In total, five key stakeholders from the Cambodian Ministry of Health, the Provincial Health Department and an NGO participated in the study. Key themes emerged from the interviews including facilitators and barriers to the implementation of quality improvement initiatives for maternity care in public health facilities. Participants also suggested ways forward or strategies to improve the quality improvement system in maternal health. Facilitators which participants discussed included the collaborative development of QI with key stakeholders and factors that helped to enable the adoption

and implementation of a QI tool. The barriers that affected the QI process were reported to be related to the inappropriateness of a QI tool; the lack of effective leadership and management; and financial pressure on health-care providers. The themes and subthemes are described in more detail below.

9.3.1 Facilitators to the development and implementation of quality improvement

9.3.1.1 The collaborative development of QI with key stakeholders

Key participants reported that the Cambodian Ministry of Health had worked in close collaboration with all key stakeholders, in particular health development partners, to develop mechanisms for quality improvement (QI) through donor support. For example, a Master Plan for QI has been developed to provide clear direction for developing a dynamic and responsive system necessary for the delivery of continuous quality improvement for health care including maternity care. One stakeholder explained:

The Ministry of Health has developed a QI Master Plan for the delivery of quality improvement to improve quality health care in Cambodia with financial and technical assistance from various key health partners, including GTZ and RACHA.

NGO staff said that their significant role had been the provision of technical and financial assistance, which had ensured that the QI tool was of a high standard that had led to an improvement in the quality of maternity care. NGO participants felt the success of achieving continuous quality improvement depended on the shared vision and common goals of all key stakeholders. According to these interviewees, the implementation of the QI master plan required effective coordination, ongoing monitoring and evaluation of staff performance. One NGO respondent said:

We [NGO] have provided technical and financial assistance to local health providers through differing training and cash incentives to enhance the performance of health personnel to adhere to continuous quality improvement in hospital and health centres. Moreover, as NGOs and the Ministry of Health have the same goals, we are committed to working closely with the provincial and district levels to maintain all stakeholders' agreement. This process can be achieved through close collaboration and monitoring and evaluation support.

9.3.1.2 The alignment of QI with policies and guidelines

The QI tool was developed based upon the National Policy for Quality in Health, which was used as the roadmap for an accreditation system, in which minimum standards and

benchmarking are mainstreamed across the public and non-state health systems. One stakeholder described this:

This Master Plan was established based upon the 2005 National Policy for Quality in Health, which was further guided by a roadmap 2006 to ensure that public hospitals and health centres, as well as the private sector, provide the minimum acceptable standard quality of health, including MCH care for all Cambodian people.

All stakeholders stated that the Cambodian Ministry of Health has adopted the QI tool, using quality measurements to identify problems and to implement strategies to address different areas of health services delivery. These include administrative and financial issues, general organisation of each health facility, infrastructure and logistics, equipment, documentation and health information systems, hygiene, and quality of services. According to all stakeholders, the QI tool was found to be appropriate as it was developed in accordance with the national guidelines on the Complementary Package of Activities (CPA) for hospitals and the Minimum Package of Activities (MPA) for health centres. Participants considered the tool is, therefore, useful as a benchmark to assess areas of interest independently – for example, the quality of midwifery care.

The tool being implemented has focused on many areas of the health systems, which are based on Complementary Package of Activities (CPA) for the hospitals and the Minimum Package of Activities (MPA) for the health centre guidelines. This includes administrative and financial issues, general organisation of the health facility (resources, infrastructure, documentation and health information system, hygiene and quality of services). The tool is suitable and can be used as a benchmark to assess areas of focus independently.

9.3.1.3 Monitoring and evaluation of QI implementation

One of the key participants reported that a QI system had been implemented in a number of hospitals and health centres in Cambodia. However, they said that the results of the QI implementation were inconclusive and vary between health facilities and between provinces. Participants stated that lessons learnt and best practices had been recorded and collated as part of the evidence base designed to better support stakeholders through the early results of QI assessment. These results had been useful to inform decision-makers as they made necessary adjustments to policies and programs based on what had been learnt about their weaknesses, given the Cambodian context. One stakeholder from the Ministry of Health illustrated this saying:

It seems to be too early to draw a conclusion about the effectiveness of the implementation of QI activities and improved maternal health outcomes in public health facility. However, implementing the QI initiatives has given us a starting point from which we have been able to learn and gain experience –from the weaknesses and strengths that the QI implementation has revealed. The results of the QI assessment are useful for future development of QI system in Cambodia.

9.3.2 Barriers to the development and implementation of QI process

9.3.2.1 Lack of a comprehensive QI tool

Participants stated that a mechanism for QI had not been comprehensively developed because quality assessment did not focus on the process and outcomes of care in relation to the clinical skills and competencies of health providers, or on expected maternal health outcomes and/or women's expectations of services. One stakeholder said that:

The tool for QI was based on the national policy for quality of care and various areas, such as administrative issues, infrastructure and logistics, financial issues and health information systems in the entire system. However, the tool did not fully focus on clinical competencies and communications skills required for health professionals to improve their practice and provide adequate and appropriate care to women. It did not address maternal health outcomes such as maternal mortality and morbidity or women's satisfaction with service providers.

9.3.2.2 Ineffective leadership and management

9.3.2.2.1 QI team lacks power to ensure adequate funding for QI activities

Key stakeholders believed that the team appointed to lead QI at the national level did not contain strong leaders who had sufficient power to open discussions and request funds for QI activities. The participants said that the team members had expressed the need for someone with status who could advocate the timely flow of adequate funds. However, the participants felt that their QI managers could not make this happen.

Ministry of Health had set up a QI team to convey policy and decide the allocation of resources needed to implement the QI system through coordinating, monitoring and evaluating QI activities. However, our managers do not have sufficient power or status to request adequate funds for QI with other ministries, in particular the Ministry of Economy and Finance. It is, therefore, difficult to ensure a timely and adequate flow of

funds from the central levels to the Provincial Health Department. We don't know what we would do if our chief could not fight for us.

9.3.2.2.2 Poor political commitment and weak coordination

All key stakeholders recognised the importance of the relevant policy and master plan for QI to improve the quality of care in public health facilities but they believed that there was not a true political commitment or genuine partnership among policy-makers, managers and NGOs to take up responsibility at all levels. As a result, they felt that efforts to improve the quality of care were unlikely to happen. One stakeholder explained:

The Ministry of Health has a policy and a master plan for QI, which are vital to improve quality of care in Cambodia. However, it is pointless to try to improve quality of care in public facilities when all stakeholders, including policy-makers, development partners, health managers and SBAs, are not really committed to ensuring effective coordination at every level.

Key stakeholders also expressed their concerns regarding a lack of coordination with NGO staff at a local level. This they said was the result of inadequate and untimely financial support for QI activities from the Ministry of Health. According to participants, poor linkages resulted in a lack of willingness and active participation from health workers at the provincial level to ensure effective QI. For example, one participant reported that although problems or gaps had been identified by individual SBAs or health managers, nothing had been resolved or changed, which affected staff performance and care quality.

The provincial MCH staff and other health care providers did not want to get involved with local NGOs during the evaluation process of the QI implementation. They said that they did not have enough time to go to the health centre. Sometimes they attended the assessment, but they were not determined to solve the problems identified. This was due to the lack of adequate and timely funding for QI activities from the Ministry of Health.

9.3.2.2.3 Lack of health personnel to ensure effective implementation of QI

The interviewees noted that adequate numbers of health personnel are central to the improvement of quality of care in public facilities. However, they reported that policy-makers and planners, who had developed many strategies and policies to improve health services delivery, including the QI program, had not considered the impact of current

human resources shortages. Many programs, including the introduction of a QI system, require additional staff, or the result will be increased staff workloads at health facilities. One stakeholder illustrated this saying:

We need adequate numbers of health personnel, particularly secondary and primary midwives to provide adequate care to women who use our health centres. Our managers never think about our difficulties due to heavy workloads and the lack of sufficient staff to perform the job smoothly. However, many programs, including QI systems, have been integrated in health facilities by policy makers. So how can we hold so many responsibilities and ensure quality is improved?

9.3.2.2.4 Poor supervision and support resulted in limited management capacity

All stakeholders reported that staff at district referral hospitals and health centres had received minimal supervision and support from national or provincial health supervisors. This had affected the capacity of district managers. One participant said:

They [Operational District managers] received little support or direct supervision from the provincial and national health offices, affecting their ability to influence staff involvement in QI. Without ongoing supervision and strong support, district referral hospital and health centre managers did not have adequate power and status to foster competent staff who they wanted to do their best to follow the national policy guidelines.

9.3.2.2.5 Financial pressure on health care providers to account for quality improvement

NGO participants also admitted that the poor living and working conditions of current health personnel affect their performance, motivation and working relationships with NGO personnel. This in turn affects the maintenance of quality of care in public health facilities. Participants reported that poor staff performance and poor commitment to QI were related to low salaries and inadequate incentives.

It is hard for the government staff to be committed to being responsible for the task they have been assigned – to increase service-oriented, acceptable and effective communication, and the application of evidence-based standards, which we need because their living standards are poor due to low salaries and incentives.

We try to offer small incentives to encourage staff participation and motivation but the provincial staff often felt that these incentives are still insufficient to support decent living conditions; therefore, they are not willing to take part in a quarterly evaluation of QI activities.

According to the participants, poor living and working conditions, related to the low wages and intermittent incentives paid to government staff, meant that many staff engaged in private practice to supplement their incomes. Participants said that this can affect the implementation of the QI system as it is not a priority for staff. For example:

Health care providers are likely to concentrate on their private businesses. They even attract public patients to their own clinics to earn additional income. As their salaries and incentives are low, it is not easy to force them to focus on improving the quality of maternity care and services in a public health facility. Sometimes, they have just said yes in the meetings . . . but after that there was no indication of approaching problems and designing solutions to these identified gaps, because staff did not see it as important.

9.3.3 Ways forward suggested by key stakeholders

9.3.3.1 The need for a systems approach

All key stakeholders reported that although the QI system covered many areas of health services delivery, it appeared to focus on input factors – including infrastructure, drugs, physical facilities, administration, and management issues – rather than the process and outcomes of care. They claimed that processes related to SBAs' competencies and the outcomes of care such as patient satisfaction or maternal morbidity or mortality are critical to ensuring quality of care. Participants reported that these factors should be used in quality assessments to detect trends or to identify high – or low – performance of SBAs and should be considered in relation to the functionality of the health system. All interviewees noted the importance of effective channels of communication and response systems for health providers and facilities when and if pregnancy-related complications occur and when interventions are needed. Such response systems, according to the participants, should be reviewed as part of QI along with programs and health facilities. One participant said:

When a woman delivered at a health centre developed complications such as bleeding, the health centre staff did not clearly know who or which hospital should be informed or contacted before referral. Midwives often refer the woman to the nearby hospital, sometimes away from her home. This is because midwives expressed their negative experience of back-and-forth referral with some hospitals. They refer women to the next level of care, where they had never experienced in their first referral some of the problems or difficulties with those facilities.

9.3.3.2 The need for strong leadership and political commitments

Participants suggested that for quality improvement approaches to succeed in Cambodia, strong leadership and real political will were required at all levels of the health system and at national, provincial, and district and as well as community level. This, according to the participants, is essential for political action and consensus-building. One participant reported:

Improving and working with quality of care in maternal health care, there is an urgent need to have a potent and effective leader with the skills and ability to struggle and advocate for funds and ensure effective strategic coordination among all stakeholders undertaking QI initiatives to ensure the adoption and implementation of QI system. Moreover, ongoing monitoring and evaluation of the programs should be regularly conducted. To achieve this, government should have strong willingness and abilities to work in close collaboration with other stakeholders within and between ministries, including the Ministry of Economy and Finance and international partners, to translate the action plan, policy and activities into real action. Communities are just one part of the stakeholders.

9.3.3.3 The need for incentives packages and supportive working environments

The participants believed that economic considerations are a major part of the hospital or health centre management reform processes to improve quality of care in the health system. For example, one respondent reported that the provision of adequate remuneration and incentives and a supportive supervision and working environment can increase staff responsibility and involvement. This was said to improve staff performance and productivity, resulting in improved health outcomes for women. For example:

I think that the main challenge to the provision of quality of maternity care and improved access to maternal health services lies in the motivation and performance of staff. Therefore, the provision of adequate incentives is essential to support living standards of staff. Staff are likely to provide more efficient, timely, acceptable, evidence-based, and client-centred care if they work within a supportive working environment

9.4 Summary

This part of the analysis has provided valuable insights into how a quality improvement system could be employed to better support SBAs in delivering high-quality midwifery

care in Cambodia. The factors that may act as facilitators or barriers in the development and implementation of a QI system within government health facilities in one province in Cambodia have been identified, and the way forward for improving skilled attendance in Cambodia, have been proposed. The findings of this research provide policy makers, health managers and care providers with valuable information required to assess the appropriateness and effectiveness of the QI initiatives and allow them to adjust the necessary policies and programs contributing to continuous quality improvement to improve maternal health services in Cambodia maternity settings. A detailed discussion of the quality improvement system will be provided in Chapter 10.

The next chapter will present an overview and discussion of the implications of the whole study for maternity care in the wider context of health-system strengthening and quality improvement for maternity care provision in Cambodia.

Chapter 10 Discussion: an overview and discussion of the implications for maternity care

10.1 Introduction

This chapter summarises the purpose of this study, presents a synthesis of the findings and discusses their implications in relation to an innovative framework for coordinated action to improve maternal and newborn health developed in response to the findings. The implications for midwifery practice, policy and research are discussed in the context of health system strengthening and the quality improvement of maternity care provision in Cambodia.

10.2 Purpose of the study

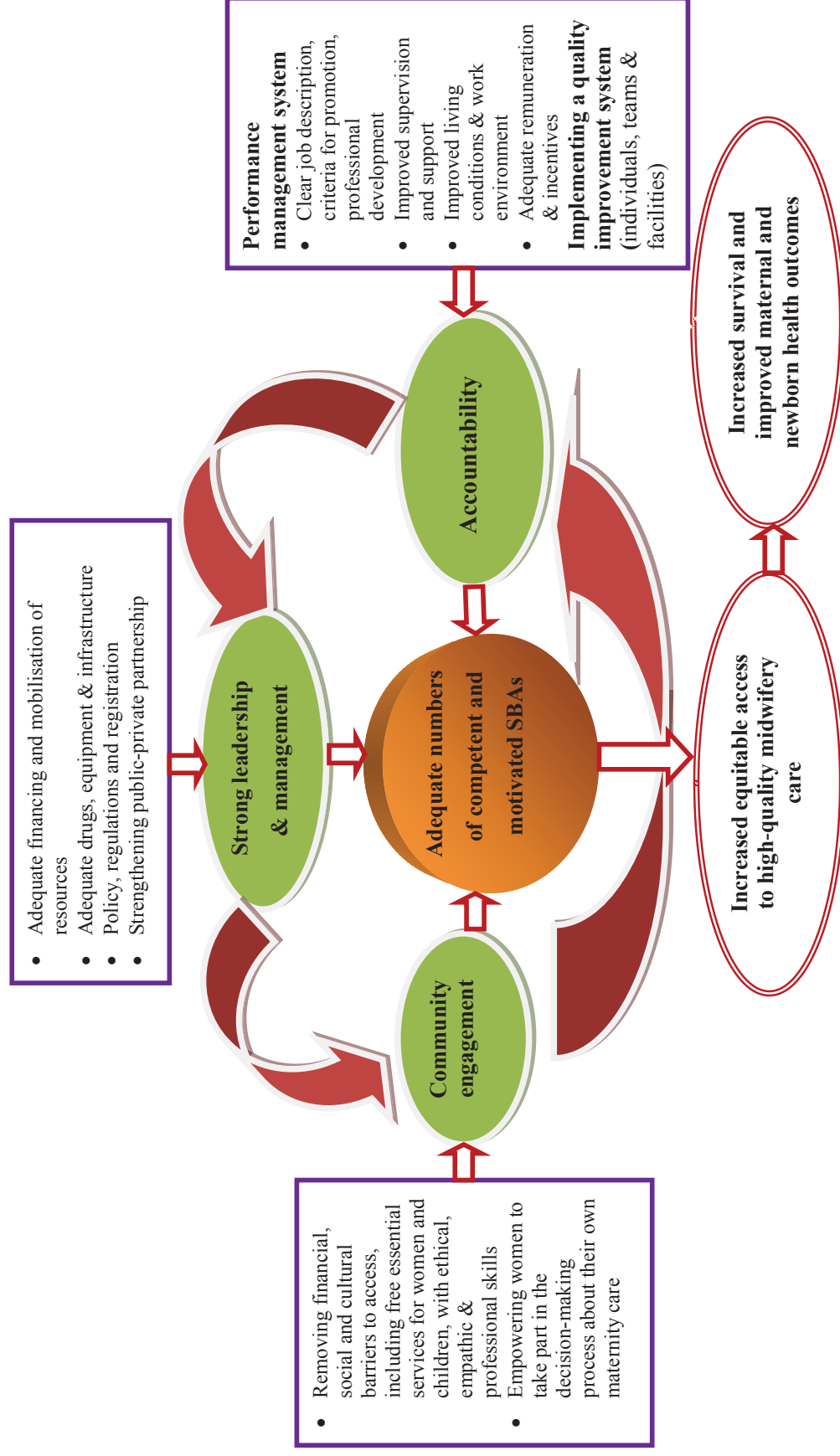
This research sought to answer six specific questions concerning maternal health care in one province in Cambodia:

1. What are public SBA practices during labour, birth and the immediate postnatal period and how do they compare with evidence-based guidelines?
2. How do public SBAs perceive their practice and the factors that facilitate or constrain their practice?
3. How do public SBAs perceive their working environments?
4. What are the practices and working environments of private SBAs?
5. What are women's perceptions of maternity care?
6. How could a quality improvement system be employed to better support SBAs to deliver quality maternity care in Cambodia?

10.3 Review of the research findings and discussion

A framework to the research findings was developed that provides a means of understanding the challenges to SBAs' provision of care and approaches to addressing these. The following section describes this conceptual framework for co-ordinated action to improve maternal and newborn health. This framework consists of three components of health system strengthening – accountability, strong leadership and management, and community engagement – that are critical to the provision of quality health care (See Figure 10.1 below). I will now describe the elements of this framework, drawing upon evidence from my research, and discuss potential ways forward.

Figure 10-1: A framework for coordinated action to improve maternal and newborn health in Cambodia



10.3.1 Adequate numbers of competent and motivated SBAs

10.3.1.1 Skills and competencies of SBAs

The findings of my study showed that childbirth practices provided by both the public and private SBAs during labour, birth and the immediate post-partum period are not consistent with the evidence-based practice (EBP) outlined in WHO packages of interventions (World Health Organization 1996; World Health Organization et al. 2003). These findings are supported by previous research in developing countries (Sakala & Corry 2008; Shaban et al. 2011; Turan et al. 2006; World Health Organization 1999a). Some of the observed and reported findings in my research, including SBAs' routine use of episiotomy and lack of support in labour, are also consistent with other studies in developing countries (Buekens 2001; Carroli & Belizan 2008; Shaban et al. 2011).

Also consistent with the literature was the inappropriate adoption or poor use of tools, such as the partograph (Harvey et al. 2004), or practices, including support in labour, and postnatal care (Shaban et al. 2011), routine manual exploration and cleaning of the uterus after the third stage of labour and active management of the third stage of labour, (Lalonde et al. 2006). Unnecessary practices are an area of significant concern as they can be associated with maternal mortality and morbidity. The practices of SBAs warrant further investigation as unnecessary interventions delivered to low-risk woman may have a greater impact upon maternal outcomes than we are currently aware of.

Some SBAs openly talked about their lack of confidence and competence to care for women, which is similar to the findings of the 2006 midwifery review by Sheratt, White and Chhuong (2006) in Cambodia. SBAs admitted that low confidence and skills were having an effect on the care they provided to women. Greater attention also needs to be given to supportive supervision by technically skilled supervisors in order to improve the skills and confidence of SBAs and promote normal childbirth. Consultant midwives and supervisors of midwives are instrumental in the promotion of evidence-based practice, with normal childbirth as a central focus. A system should be established in Cambodia whereby all midwives, in particular those working where there is no secondary midwife or medical doctor with midwifery skills, should have their

competence assessed locally and regularly by a senior SBA and action taken to address areas of weakness.

Some SBAs reported that there was disrespect, and even abuse of women giving birth during facility-based deliveries and a lack of support in labour and at birth at public facilities in Cambodia. These findings are similar to those of other studies in developing countries (Bowser & Hill 2010; Shaban et al. 2011). Inappropriate staff attitudes and impolite behaviour are an area of concern, which has been found to affect access, and reduce the use of maternal health services, particularly among childbearing women of low socio-economic status (Bruggemann et al. 2007; Matsuoka et al. 2010), who often give birth at home. Evidence suggests that the presence of a woman's choice of birth companion during labour and birth has a significant impact upon women's experience and benefits for outcomes (Banda et al. 2010; Bruggemann et al. 2007; Hodnett et al. 2007). It is interesting to note that my research did not always find that private SBAs' practice was consistent with evidence-based practice (EBP) during childbirth; however, in contrast to the majority of public SBAs, they provided support in labour and continuum of care to women. This finding was consistent with a systematic review by Basu et al. (2012) demonstrating that private providers can provide more timely and more sympathetic care to patients. However, private SBA service provision was not found to be more efficient, accountable, or clinically effective than service in the public sector.

Improvements in maternity services should focus on addressing SBAs' attitudes and enhancing the communication skills of health care providers (Warenius et al. 2006) and should be included as part of the criteria for a clinical audit of woman-centred care that should be undertaken regularly (Kongnyuy & van den Broek 2008). Furthermore, clear guidelines for EBP and strategies to minimise the negative effects of substandard care should be regularly reviewed as part of health services delivery, workforce policy, planning, and pre-service education and in-service training. The latter are of particular importance as they are directly associated with the levels of knowledge, attitudes and practice of SBAs that were highlighted in my study.

10.3.1.2 Education and training of SBAs

Although pre-service education and in-service training were not the main focus of my study, quality education and training may be significantly linked to the overall competence and confidence of SBAs, as highlighted by others (Sheratt, White & Chhuong 2006). The varying degrees of knowledge, skills and scope of practice of SBAs may be due to the different length, structure and content of midwifery training curriculum, which ultimately affect the quality of maternal and neonatal service provision and health outcomes (Sheratt, White & Chhuong 2006). The poor skills and competencies of SBAs in my study suggest that education and training improvements are required.

Quality education and training are central to produce an adequate and sustainable supply of competent midwives, even though training alone is not the only solution required (World Health Organization 2006b). In developed countries, professional education has been reformed to ensure professional competencies that are responsive to changing health needs, and to build cognitive skills for critical inquiry, enhance professional identity and promote values for leadership (Naylor 2006). Such professional education reforms are, however, challenging for poor countries due to resource-constrained settings (Frenk et al. 2010), where there is a shortage of staff who are highly motivated. This suggests that a focus on continuing education and training and the development of the capacity of existing qualified staff is necessary to ensure that all SBAs are confident and competent to provide low-risk care during normal births and to perform life-saving interventions where necessary.

10.3.1.3 The need for an adequate number of competent SBAs

My study has shown that midwife shortages are significantly linked to the lower quality of maternity services and evidence-based practice that can impact upon the care of individual women as well as the organisation as a whole. In my research, poor performance, inappropriate behaviours and attitudes and a lack of continuity of care were found to be related to heavy workloads and the lack of health personnel, particularly midwives (Ith et al. 2012). For example, SBAs undertook many additional tasks and roles contributing to their heavy workloads that meant that SBAs rarely had time to look after a woman in labour and postnatal period properly, affecting women's experiences. Evidence indicates that adequate numbers of health workers who are

appropriately distributed to areas of need can have a positive impact upon health outcomes (Anand & Bärnighausen 2004). However, global efforts to educate competent, caring, and committed health workers vary across time and countries (Frenk et al. 2010). Building human resources for health and the organisational capacity to manage them is becoming increasingly important in both developing (Speybroeck et al. 2006; Wyss 2004) and developed countries (James 2002) in order to expand access to quality services and provide evidence-based packages of care.

Although the Cambodian Ministry of Health has reported that 3,678 midwives are currently employed by the government and all health centres have at least one primary midwife and 51% of these health centres have a secondary midwife, current financial pressures mean that it is unrealistic to expect significant increases in numbers of secondary midwives to ensure 80% coverage by 2015. In these circumstances, maternity services will need to focus on developing new ways of working in order to maintain, and in some places increase, services and levels of safety and quality with available resources. A study in Cambodia showed that the quality of maternity care cannot be assured due to the increased use of services and poor staff support (Liljestrand & Sambath 2012). While getting staffing numbers right to achieve a target or to comply with an indicator is important, it is worthwhile considering how to support and motivate staff to make the best use of their existing skills in delivering care (James 2002; Sandall et al. 2011). All SBAs in my study reported that they received little direct supervision and support from their health managers.

Sustainable improvements in staff retention and productivity depend on addressing institutional and personal barriers, such as poor working conditions, job satisfaction, career prospects and inadequate incentives (Chhea, Warren & Manderson 2010; Henderson & Tulloch 2008). My study has highlighted that, while adequate numbers of health workers are critical, it is essential to focus on working environments and improving the competence of existing SBAs to ensure that they are motivated to provide EBP (Sheratt, White & Chhuong 2006; World Health Organization 2006b).

10.3.2 The need for accountability for SBAs

My study has shown that SBAs practice was influenced by financial rewards. Other authors have also found that low government salaries affected SBAs' practice (Soeters

& Griffiths 2003). Although inadequate pay and benefits are important, leading health professionals to job dissatisfaction and poor performance, evidence suggests that supervisors, job characteristics, management style, and service quality are key factors associated with a positive practice environment that can improve staff satisfaction and motivation (Smith et al. 2005). In Cambodia, efforts to increase the coverage of births by an SBA must consider the accountability of all key stakeholders in order to support SBAs to provide EBP. This in turn may encourage more women to use SBAs in public facilities. An effective performance management system and a quality improvement system are key mechanisms required to help provide an enabling environment that can help to motivate SBAs to deliver quality maternity care in Cambodia.

10.3.2.1 Performance management system

The inadequate and inappropriate care SBAs provide is often found to be related to poor human resources management and the lack of a performance management system (Henderson & Tulloch 2008). An effective performance management system refers to the provision of clear job descriptions, performance appraisal, criteria for promotion and professional development; effective supervision and support linked to systems that provide commensurate remuneration and incentives.

10.3.2.1.1 Job description, performance appraisal, criteria for promotion and professional development

In my research, SBAs reported that they did not have clear job descriptions or standard operating procedures to implement their skills and abilities to provide adequate and timely care to women with serious obstetric complications. Clarifying job descriptions and policy guidelines along with better in-service training can provide midwives with greater confidence about their roles and responsibilities leading to improved compliance with standards by midwives and nurses (Hennessy 2002; World Health Organization 2006b).

Primary midwives or nurse-midwives in my study were reportedly willing to upgrade their skills to become secondary midwives or to improve their birthing skills to progress their careers through training. Where such opportunities have been found to be limited or lacking for some professional groups, including midwives, job dissatisfaction and low levels of participation and commitment have been the result (Dieleman et al. 2003;

World Health Organization 2004b). Opportunities for continuing education, training and professional development have been noted as essential motivating factors for SBAs to maintain and upgrade the skills required to provide basic and comprehensive emergency care. This was highlighted in a review of lessons learnt in Malaysia, which indicated that upgrading and expanding the skills of nurses in fields such as child health and basic outpatient care in 18-month community midwife training not only raised their social status, but also enhanced the range of maternal and reproductive care services at the community level (Pathmanathan et al. 2003).

My study has added further knowledge to a review undertaken by the Ministry of Health in Cambodia in 2006 that demonstrated that primary nurse-midwives ranked the opportunity to engage in continuing professional development as the highest factor that would keep them in the profession. Prestige and recognition by the Ministry of Health were also scored highly by both primary nurse-midwives and post basic-nursing (3+1 year) student midwives (Sheratt, White & Chhuong 2006). The lack of a supportive working environment, including the lack of a clear policy to enable primary midwives to maintain and upgrade their competencies through continuing training and support in the workplace, compromises midwives' motivation and performance, as well as maternal health outcomes. This is especially true of SBAs who work in rural and remote areas without direct supervision or strong support.

10.3.2.1.2 Improved supervision and support

Another key aspect of a performance management system is effective supervision and support. SBAs in my study reported that they rarely received other support such as positive feedback, ongoing supervision or management practice incentives from health managers. This is consistent with the findings of other studies (Soeters & Griffiths 2003). Management support for ensuring the supply and maintenance of necessary equipment was reported lacking according to the SBAs in my study. This hindered the practice of SBAs and may have affected their ability to provide safe births. Evidence-based maternity care should address the safety and effectiveness of SBAs' practice and require managers to support SBAs in order to achieve optimal outcomes for mothers and newborns within available resources.

Supervision is important to the performance of not only the individual health worker and team, but also the health system and the quality of care provision (World Health Organization 2006b). This includes adequate technical support, clear job descriptions and responsibilities, norms, standards and codes of conduct. These factors can help the skilled attendant to continually assess the quality of their practice, share their work, and receive adequate support in managing normal births or complications (World Health Organization 2004a). Regular supervision or support, coupled with regular clinical audits, feedback and lifelong learning, are essential to improving SBAs' competence and confidence in Cambodia because they allow free and open discussion, and give care providers an opportunity to recognise their own weaknesses and their need for further support or training (World Health Organization 2006b). Building a high-performance workforce requires consistent, valued and competent staff (Chen et al. 2004) supported by adequate supervision and support. Training and ongoing support of supervisors can be a helpful step towards promoting such supportive supervision to all skilled birth attendants and enable them to function effectively. Weak support and poor supervision have been found to be factors in job dissatisfaction and low motivation in many developing countries, including Cambodia (Dieleman et al. 2003; Soeters & Griffiths 2003; World Health Organization 2004b), where the living conditions and the work environment of SBAs are often poor (Henderson & Tulloch 2008).

10.3.2.1.3 Improved living conditions and the work environment of SBAs

In my study, SBAs reported that poor living conditions and the lack of a supportive working environment were barriers to SBAs' practice and performance (Ith, Dawson & Homer 2012b). This is similar to the findings of a review of health worker working conditions in Pacific and Asian countries (Henderson & Tulloch 2008). My research found that SBAs' decisions to provide unnecessary interventions, such as routine episiotomy and/or vacuum extraction in low-risk cases, an inadequate continuum of care, and their request for informal payments (under-the-table) for services to supplement their low incomes, were related to poor working conditions, including low wages and inappropriate or intermittent remuneration. Evidence suggests that adequate remuneration is a clear prerequisite for the motivation of health workers which in turn affects performance (Chandler et al. 2009; Henderson & Tulloch 2008).

Poor living conditions due to low salaries and inappropriate incentives may also affect collaboration between SBAs and their communication with women and their families. For example, some of the SBAs observed had the basic skills and abilities required to perform life-saving procedures, such as caesarean section; however, they were held back from exercising those skills by other members of the health care team, who were concerned that this might affect the additional fees they could collect. Economic factors and conflicts of interest have an effect on professional working relationships in Cambodia, creating barriers for junior or new graduates to practise and maintain their birthing skills. SBAs in my study used their higher qualifications, status and roles in the health care system to dominate care for their private gain. This finding was dissimilar to a study in a developed country, where midwives believed their leaders were the main part of the team and could help support their work through a mutual respect for each other's roles (Lavender & Chapple 2004). In addition, midwives' leaders could use their position to deal on an equal footing with other health professionals. Low living standards and the poor work environment are areas of significant concern because they can detract from a collaborative and coordinated approach to the provision of maternity care within and across professions.

A poor working environment that includes serious conflicts of interest, mutual mistrust and poor institutional support is believed to lead to an uncoordinated pattern of emergency referrals for obstetric care. For example, in my research, public SBAs said that they often referred women with complications from their home clinic to another private provider who could manage emergency obstetric care because they had experienced a lack of mutual respect for each other's role and a lack of support from other public SBAs when an emergency occurred. Maintaining birthing skills via inter-professional collaboration, alongside mutual respect and strong support within and between health professionals, needs to be strengthened as this may have a significant impact upon referral systems that are critical to saving maternal lives. Supportive working environments require clear policy and regulations to foster linkages between public and private SBAs in Cambodia (UNFPA 2011). The health system relies on these skilled attendants; therefore, a national policy on human resources for health, and legally binding working conditions, are critical to ensuring the contribution SBAs make to maternal health is maximised.

The health, safety and well-being of staff and family-friendly working environments are all factors that influence health workers' satisfaction (Dawson 2010). Although job safety and occupational health were not reported as important by SBAs in my study, all SBAs should reasonably expect to work in a supportive working environment (Dawson 2011b). The poor working and living conditions of health care providers must be addressed through policy and the implementation of innovative strategies to improve motivation and performance (Henderson & Tulloch 2008). The development of appropriate workforce strategies and incentive packages is critical in countries like Cambodia to promote safe practice and motivate health workers to provide adequate care and timely referral (Chen et al. 2004; Chhea, Warren & Manderson 2010; Henderson & Tulloch 2008).

10.3.2.1.4 Adequate remuneration and incentives

Remuneration and incentives are key aspects of human resources management practice that is central to staff motivation and performance quality (Chhea, Warren & Manderson 2010; Dawson 2011a; Henderson & Tulloch 2008). For example, a cash incentive of US\$10-US\$15 per live birth, which was paid directly to SBAs who delivered babies at hospitals or health centres in Cambodia (Ministry of Economy and Finance 2007; Ministry of Health Cambodia 2007a), was shown to increase the number of births attended by SBAs at each facility. The broader effect was to improve the equity of the health system, by providing maternal health services free of charge to poor people (Liljestrand & Sambath 2012). Although, the majority of SBAs in my study reported that they had received cash incentives from the government, these incentives do not adequately reflect their cost of living. SBAs said that the mechanisms for distributing incentives lacked transparency. This was likely to affect the loyalty and commitment of SBAs to the public health system and motivate SBAs to seek additional income from informal or unofficial payments; to perform unnecessary or ineffective interventions, and to work in the private sector.

It is evident that there is little information concerning the pay and incentives required to motivate health workers engaged in maternal, newborn and reproductive health (Dawson 2011a). It has been estimated that the salaries of health workers in Cambodia need to be multiplied eight to ten times to be in line with the cost of living and to encourage health worker commitment to public health services (Hardeman et al. 2004;

Kingdom of Cambodia 2005). In Cambodia, it is often difficult to increase salaries to all government health officials because of limited budgets. Government-funded salary increments of 15% per annum, along with cash incentives, are considered inadequate and negatively impact upon SBAs' motivation and practice. Additionally, it is of significant concern that the decision made by the Cambodian government to modify or remove the SBAs' incentives payments (Royal Government of Cambodia 2009) may affect the current public health system and may prevent SBAs from providing quality maternity care due to the low incomes and poor living conditions.

Although strategies that align policy with financial commitment and effective human resources management practices are likely to have a much greater impact upon staff motivation, performance and satisfaction, non-financial incentives packages may play a significant role in improving staff motivation and performance in Cambodia. For example, recognition, career progression and opportunities to gain experience have been found to improve health workers' motivation and job retention (Chhea, Warren & Manderson 2010; Henderson & Tulloch 2008; Mathauer & Imhoff 2006; Willis-Shattuck et al. 2008), and should be included as part of the health system's strengthening of maternity care in Cambodia. The experience of Indonesia and Uganda in this respect is encouraging. In Indonesia, the development of the Clinical Performance Development Management System (CPDMS) involved establishing national clinical standards linked to job descriptions, training, appraisals and incentives designed to improve and reward nurses' and midwives' performance (Hennessy 2002). Uganda created the Yellow Star Program to improve the quality of health care services through a system of supervision, certification and reward. The experience of these two countries goes beyond a pay-for-performance model that rewards health-care providers for meeting pre-established targets for the delivery of healthcare services by introducing incremental financial incentives alongside comprehensive workforce and policy initiatives to encourage improvements in health care quality (Conrad & Perry 2009).

10.3.2.2 Quality improvement process

The findings in my study have shown that there were factors that facilitated the development and implementation of QI in one province in Cambodia. These include the collaborative development of QI with key stakeholders and the appropriateness of the QI tool. These findings reflect a positive environment and the Cambodian Ministry of

Health's increased awareness of the need to prioritise quality improvement initiatives to assist health facilities in achieving desired institutional and individual performance to improve health. However, functioning mechanisms for quality improvement are still challenging (Dilley, Bekemeier & Harris 2012; JHPIEGO 2003; Leatherman et al. 2010; Spencer & Walshe 2009). My research found that there were many barriers hampering the adoption of effective QI measures, which are similar to the findings of other research in developing countries (Leatherman et al. 2010).

There are four major barriers in the adoption of QI initiatives in developing countries (Leatherman et al. 2010). These include the lack of visibility of the issue; the current growth of international and regional healthcare initiatives; the difficulties associated with embedding QI within existing health system structures; and the financing of QI. The lack of visibility refers to the lack of a clear definition of the term 'quality' in policy and management guidance and in the discrete processes and interventions of QI that are most likely to achieve the desired outcomes. The large number of global health initiatives competing for attention and funding makes another initiative focussed on QI appear unproductive; hence an attempt to integrate a new initiative could bring confusion rather than clarity.

The QI tool used in Cambodia is not well known due to the lack of visibility of midwifery. There has not been a strong link between the QI tool and maternal and newborn health. For example, evidence-based performance indicators such as partograph usage, AMTSL, cleanliness during birth, a clear rationale covering drug use for birthing women (oxytocin and antibiotics), and evidence-based interventions (episiotomy and vacuum extraction), were not incorporated in the QI tool. The implementation of QI was not reported to have improved SBAs' practice according to the participants in my study. Effective QI requires clinical competence to be interconnected and linked to other aspects of human resources management (Mainz 2003), especially linkages between structure, process and patient-health outcomes (Palmer 1998). In Cambodia, quality of care should focus on three levels: structure or input, process and outcome (Donabedian 1988). Without proper procedures focussed at these three levels, good outcomes are unlikely to be achieved. Structure, process and outcomes could be used to form the basis for quality improvement and prioritisation in the health care system (Donabedian 1988; Mainz 2003).

The relevance, accessibility, efficiency, acceptability, effectiveness and impact of SBAs' performance can be evaluated at the level of individual SBAs, teams and management (Dawson 2010) and could be incorporated into a QI system. Measurable indicators of health-worker performance can be integrated into a quality improvement system for the Cambodian context. Donabedian (1988) and Hornby and Forte (2002) present a systems approach to identify health-worker performance, using inputs, processes and outputs (Donabedian 1988; Hornby & Forte 2002). Key considerations in human resources for health (HRH) systems are the numbers of staff available for case management, their skill mix, and the cost of personnel in relation to total health expenditure. Process-level HRH indicators are related to efficiency. This includes the organisational environment in which SBAs work and the barriers that obstruct the provision of adequate care to childbearing women and newborns. At the individual level, the efficiency of services and care includes the management of women in labour, their emotional and social support in labour and their satisfaction with the services provided to them. Assessing quality at this level requires the measurement of task performance – which concentrates on technical competence – as well as the measurement of contextual factors, including the extent to which a professional performs a paid role outside the public system in private clinics or at a woman's home. The latter may impact on measurement of acceptability, which are a component of the quality improvement system that is necessary to an effective and functional health system. Outcomes depend on what was the result for the patient (Donabedian 1988). Changes in the effectiveness of HRH performance can result in changes in health outcomes. For example, an output indicator might be the proportion of women who give birth with an SBA in a health facility, which has strong links with maternal outcomes such as maternal mortality.

Leading change within organisations, particularly those which manage maternity facilities, is a complex and dynamic process (Greenhalgh et al. 2004); however, effective implementation strategies and tactics need to be considered (Bingham & Main 2010). The capacity of professional employees to implement changes has been found to be related to leaders' and clinicians' knowledge, attitudes, and practices, as well as the characteristics of the QI system, and the implementation climate (Bingham & Main 2010). This highlights the need to develop and adopt QI initiatives in accordance with

the local context, including the available systems and resources structures in order to achieve sustainable health care quality (Umar, Litaker & Terris 2009). In Laos, for example, the QI process, logistics and equipment have been integrated with human resources for health (HRH) policies and practice to promote staff motivation in the Skilled Birth Attendance Development Plan 2008-2012 (Lao People's Democratic Republic 2009). Included here are the development and dissemination of standards of midwifery practice for clinical practice areas and a mechanism for regular and periodic auditing of standards, for quality assurance and improvements. Also included in the Laotian QI system is the provision of essential equipment and drugs, including a mechanism to prevent drug depletion, as well as transportation and systems of communication for referral.

For Cambodia, to effectively implement a quality improvement tool for health, particularly for maternity care, the potential barriers should be identified during the policy formulation process as well as during implementation, and strategies devised to address these. For example, participants in my study identified that the implementation of QI systems was hampered by the lack of political leadership, ineffective coordination among key stakeholders, inadequate funding for QI and the lack of financial incentives support at the health service delivery level. As a result, policy makers and health managers may need to develop a better understanding of what additional inducements are needed to encourage health workers to perform their tasks efficiently and sustainably and ensure adequate funding and comprehensive support for QI are available at all levels.

Financial accountability is also an important part of QI. Resource tracking at country and donor levels will help countries and donors to account for their commitments to achieving improvements to maternal health MDG (Borghi et al. 2006). The capacity to plan and guide QI also lies within existing health care institutions and the political leadership of the Cambodian Ministry of Health. Partnerships and coordination between local health systems and international and national programs supplying technical and financial assistance for QI may also help to support implementation and accountability. My study has highlighted an urgent need to strengthen the existing mechanisms for QI systems to ensure that SBAs are sufficiently skilled and work in a supportive working environment and that women are satisfied with the health system.

10.3.3 Strong leadership and management

There are many factors embedded within the health system as a whole that were found in my research to affect SBAs' practice, their working environment and the effectiveness of QI systems. A key component of a functioning health system is a competent, motivated and well-performing midwifery workforce (UNFPA 2011). The successful implementation of quality maternal health services requires strong human resources management practices and inter-disciplinary leadership from within the organisation at all levels of care. Maintaining a technically competent, service-oriented midwifery workforce requires a clear vision of what an organisation aims to achieve and what might be possible. This process needs strong political commitment and sustained effort at all levels, including individual SBAs, teams, health managers, women and the community.

Building and maintaining an effective policy and management practice that foster mutual respect, personal dignity, and provides the support necessary to motivate health workers to deliver quality care, requires strong leadership. Health-care organisations need to strengthen their internal human-resource management capabilities to bring about the necessary changes in their workplace culture and the health system to become learning and supportive working environments (Khatri, Brown & Hicks 2009). Organisational culture can involve a partnership of community health workers, women and their families with public and/or private SBAs, as well as key development partners working in an enabling environment where quick support and referral to a facility are available and accessible. This is an effective way forward for the safe motherhood initiative (Graham et al. 2001) in Cambodia. In addition, effective strategic coordination is needed among public and private SBAs, stakeholders and the community that will help to mobilise funding for maternal health.

10.3.3.1 Health financing and mobilisation of resources

My research revealed that inadequate funding for QI affects ongoing supervision and human resources management practice, leading to ineffective coordination among key stakeholders and poor staff motivation and performance. Although investment in midwifery training, an increase in the number of midwives employed, and the provision of incentives for them within an expanded, more equitable primary health care network have together helped to lift the proportion of births taking place in facilities, and the

proportion of births attended by SBAs, the quality of maternity care is still lagging. This is also confirmed by other studies in Cambodia (Liljestrand & Sambath 2012).

Improving the working environments of SBAs to provide quality of maternity care cannot be achieved by one strategy. Multiple initiatives that align policy and practice with effective health workforce strategies and financial and non-financial commitment are likely to have an effect on the motivation, performance and productivity of health workers and on maternal health outcomes.

10.3.3.2 Adequate essential drugs, equipment and infrastructure

The provision of reproductive health drugs such as oxytocin, misoprostol and magnesium sulphate, and access to essential medical supplies including blood and working equipment, were all found to be limited at health centres and hospitals in my study. Without essential drugs, medical supplies, working equipment, blood replacement and functional referral systems, a competent and motivated midwifery workforce may perform poorly, while with competent assistants and all necessities at hand, a marginal provider may perform well (Harvey et al. 2007). Despite the potential for medicines to be misused or overused in Cambodia, attention needs to be paid to the pharmaceutical supply system so that it is able to cope with the expected increased demand for oxytocin following any increase in births at health facility.

A case study in India showed that although the presence of SBAs to address complications in birth is important, inadequate infrastructure, including shortages of blood, led to multiple referrals back and forth and a tragic chain of events that resulted in the deaths of women (Sri 2009). A comprehensive systems approach to ensure skilled and motivated health workers in the right place at the right time, with necessary infrastructure, drugs and equipment and policy and regulations is clearly essential to avoid maternal mortality in Cambodia.

10.3.3.3 Policy and regulatory frameworks

Policy and regulation to empower SBAs, particularly midwives, to prescribe some essential drugs such as magnesium sulphate (MgSO_4) to treat eclampsia are critical to saving women's lives. In Cambodia, magnesium sulphate cannot be given at hospitals by midwives without a doctor's permission (Liljestrand et al. 2009). The lack of a legal or professional right to administer essential drugs affects the ability of midwives to

provide effective care. A whole-of-health-system approach depends on clear policy and regulatory frameworks to support midwives to ensure that quality is improved. These policies not only protect the public, but also support the provision of effective maternal and newborn health care (UNFPA 2011; World Health Organization 2007a).

It is internationally accepted that all health care providers who care for women and newborns, especially midwives during childbirth should be empowered to provide, at a minimum, basic emergency obstetric and neonatal care (UNFPA 2011). Evidence shows that significant progress in maternal mortality reduction cannot be achieved without strong political will. The empowerment of midwives to respond to the challenge (Fauveau, Sheratt & Bernis 2008) is critical. An emphasis on the role of midwives is central to the provision of essential services to mothers and newborn if the goals and targets for MDGs 4 (child mortality) and 5 (maternal health) (Campbell & Graham 2006) are to be achieved.

My study showed that a lack of legal protection in the form of medical indemnity insurance was a key factor affecting SBAs' ability and willingness to provide timely and adequate care to a woman with complications and in need of emergency obstetric care. SBAs said they referred women with severe complications even if they could assist them themselves due a fear of lawsuits. As a result, women were referred back and forth from one facility to another. This pattern of referral poses a high risk of mortality for women during this critical time.

Midwifery is not recognised as an autonomous profession in Cambodia, nor are midwives protected by legislation (UNFPA 2011). This highlights the need for the Cambodian Midwives Association (CMA) to be strengthened so that they can take a stronger role in leading the development of midwifery as a profession in Cambodia (Sheratt, White & Chhuong 2006). The CMA can help to address current weaknesses, relying on the three pillars of a quality workforce – education, regulation and association – in order to maintain and seek to improve the quality midwifery services (UNFPA 2011). This would contribute to improving the quality of education for midwives to maintain quality of care; develop regulation to promote the professional autonomy of a midwife and to fulfil government obligations to protect the public; and, build the professional association to represent midwives.

It is important to regulate and license the SBAs themselves, the institutions in which they operate, and the programs and institutions used in their training (UNFPA 2011). The WHO recommends that an SBA not be given a licence or accreditation for life so that systems can be put in place in order to update SBA skills. This requires the establishment of a licensing body and a set of accreditation requirements and procedures for the accreditation and or re-accreditation of skilled attendants, their workplaces and their training programs and training institutions, for fixed periods of time (World Health Organization 2004a).

As a health care system relies on midwives and other health providers with midwifery competencies (UNFPA 2011) to provide care to women, regulation is an efficient means to ensure these care providers are competent to practise, and therefore to protect women from substandard SBAs. Recently, the ICM has developed the ICM Global Standards for Midwifery Regulation (2011) in response to requests from midwives, midwifery associations, governments, UN agencies and other stakeholders for a focus on quality, education and care across the profession, (ICM 2011b). The goal of these standards is to promote regulatory mechanisms to protect the professional title ‘midwife’ and establish its scope of practice and criteria for entry into the profession. In addition, the ICM standard aims to contribute to the establishment of educational standards and practice competencies for midwifery; to accredit schools and education curricula in both public and private sectors; and license and relicense midwives, maintain codes of ethics and codes of conduct, and manage sanctioning. The health, safety, welfare and title protection of staff, as well as the needs of women, should be considered in relation to all human resources for health policies and practices and the objectives of the health care organisation (Wirth 2008). The maternal health care team needs a supportive and an enabling environment to protect the public (women and families). This must be supported by strong political commitment for safe motherhood which has been shown to be essential for reducing maternal mortality in other countries such as Sri Lanka, Malaysia and Indonesia (Pathmanathan et al. 2003; Shiffman 2003).

10.3.3.4 Strengthening public-private partnerships

In my study, public-private partnerships were found to affect patterns of referral and maternal health outcomes. Private SBAs reported a lack of timely and adequate support from the public sector when they referred a woman with an obstetric complication such

as obstructed labour, severe eclampsia or post-partum haemorrhage. They said they referred women to another private clinic that provided life-saving interventions in preference. The lack of collaboration and mutual respect across the two sectors was found to be motivated by a fear of criticism and/or a desire for private financial gain. For example, private SBAs reported that they were often blamed or criticised by public SBAs when they made a referral. In contrast, private SBAs felt that their referrals were better received by the private providers and that they could receive a financial commission. These findings are supported by a study in India, which found mistrust between private and public SBAs, and that barriers between the two were related to social, moral, and financial interests (De Costa, Johansson & Diwan 2008).

Many developing countries, including Cambodia, have extended essential services through the deployment and retention of SBAs, including midwives, but are constrained by scarce resources and a lack of health personnel. Therefore, other providers, including traditional birth attendants, auxiliary nurses and community health workers who are not defined as skilled attendants remain the main providers of primary health care for the poor in many low- and middle-income countries (Berendes et al. 2011; World Health Organization 2004a). These providers may be skilled and work privately or, in the case of TBAs, work outside the health system. International agencies, including WHO, ICM and FIGO have suggested that professional associations and the World Health Organization work with governments to find ways to increase public and private sector collaboration to enhance service delivery capacities in countries (World Health Organization 2004a). This will help countries to establish good human resources management policies and regulations, and referral practices, as well as the involvement of professionals in determining service standards for the provision of high-quality care at all levels in both the private and public sectors.

The National Reproductive Health Program in Cambodia has prioritised public-private partnerships to address the burden of high maternal and perinatal mortality in Cambodia (Ministry of Health Cambodia 2006d). However, there are no rigorous evaluation programs to assess the effectiveness of the implementation of this strategic plan in relation to private-public sector partnerships (Ministry of Health Cambodia 2006d). Private-public partnerships in maternal health remain a challenging issue, but if managed effectively could save women's lives. A study in India showed that a private-

public partnership was able to increase SBAs coverage among a cohort of 97,000 women from 27% to 53% over 7 months (Singh et al. 2009). A World Bank report has also claimed that public-private partnership would improve efficiency and effectiveness in the health sectors (World Bank 2009).

Co-operative interaction between public and private SBAs in Cambodia would have positive implications for the health of new mothers, safe delivery of babies, staffing, and quality emergency obstetric care. For example, the private for-profit sector largely comprises government health-care providers who also work in the private sector (Meessen et al. 2011). Therefore, there is a risk that it can negatively influence the quality of care of the public services because SBAs who work in the public facility may, as was found in my study, advise women and their families to visit private clinics, or may refer women to another private clinic for their own financial gain. As a result, doctors or secondary midwives may leave their public duties, depriving the public sector of staff, leaving women unattended or attended by their unqualified colleagues.

Effective links between public and private providers in the form of efficient and timely transportation of patients to a referral facility, communication links, and the organisation of services are critical to save women's lives. The need for linkages and partnerships with key stakeholders, especially between private-public sectors should be evaluated regularly in relation to human resource for health policies and practice. The effective implementation of these approaches and increased performance outcomes depend on human resource systems that are acceptable to managers and health personnel (Guest 1997), and deliver services that are acceptable to women and their families.

10.3.4 Community engagement

My study has shown that a woman's choice of health facility was influenced by their perceptions of safety, staff attitudes, expected costs of delivery and support in labour and postnatal care. This concurs with other studies in developing countries, including Cambodia (Gao et al. 2010; Matsuoka et al. 2010).

Many women in developing countries experience serious barriers to accessing maternal health services (Borghi et al. 2006; Koblinsky et al. 2006), particularly, the perceived

quality of care at public health facilities (Costello, Azad & Barnett 2006; Soeters & Griffiths 2003). For example, many women who gave birth in public facilities were not clear about the costs associated with the births. Most had to pay additional costs, creating extra financial burden and hardship, all of which affected their choice and use of public facilities. The correct official charges for services should be presented in a transparent and accountable manner to the public. Expanding the system of health equity funds to make health care free of cost for poor people is critical to increasing the utilisation of maternal health services (Liljestrand & Sambath 2012). Similarly, improvements in maternity care should focus on addressing staff attitudes and enhancing communication skills. A number of documented experiences from low- and middle-income countries have demonstrated how standards for woman-friendly care are achievable, acceptable, and valued by health providers (Kongnyuy & van den Broek 2008; Sitzia & Wood 1997; Warenius et al. 2006). This success was achieved through clinical audits and provider training and education and may offer useful strategies that could be applied in the Cambodian context.

Effective service delivery also depends on adequate information being provided to women and their ability and willingness to access and use maternal health services (Maternity Worldwide 2012; Mudokwenyu-Rawdon 2013). Evidence suggests that an effective health system relies on mutual trust between consumers (women) and providers (SBAs) (Frenk et al. 2010). This trust can be attained through the combination of technical competence and service orientation, guided by ethical commitment and social accountability that creates a core component of professional work. Engaging health workers, managers and community members in the design and implementation of human resources for health policy, procedures and systems is critical in ensuring that they are acceptable and appropriate, and of high quality to all women, which is an essential component of the MDGs and an important strategy to improve maternal health (UNFPA 2011).

10.4 Contribution of the thesis

My study offers a comprehensive insight into particular aspects of the current provision of maternity services from the perspectives of public and private SBAs, women and key stakeholders. It brings new evidence from a little understood field where there are few studies in Cambodia (Liljestrand & Sambath 2012). My research contributes rich

insights through the use of a qualitative, naturalistic inquiry design that employs multiple methods, including participant observation, in-depth interviews, focus-group discussions and informal interviews. These methods allowed participants' voices to be heard and added their experiences and reflections of maternity care practices and their working environments. An understanding of the complexity of the socio-cultural context provides valuable insights into how SBAs perceive their practices and importantly what drives them to perform unnecessary or harmful interventions. This approach to the research has helped identify strategies that can be employed to build the capacity of SBAs and seek innovative ways to improve the quality of maternity care and services through functioning mechanisms for QI processes in Cambodia. The study has also documented the experiences of birthing women, providing valuable insights into health care use so that services can be better tailored to meet their needs.

Improving the quality of care to ensure safe motherhood is a complex task in Cambodia. The actions of individual SBAs, teams and their working environments within the health system are all interrelated. The successful implementation of known life-saving interventions requires comprehensive and coordinated action (UNFPA 2011).

Although all aspects of the research findings are context-specific, insights gleaned from this study provide important information that can be transferred to other countries with similar settings. An analysis of the emergent concepts from the research findings has resulted in the design of an innovative framework (Figure 10-1) that provides a useful way forward to address the need for health systems strengthening for safe motherhood in the province in which the study was undertaken. This framework has implications for practice, policy and research in Cambodia and other similar countries.

10.5 Implications for midwifery practice, policy and research in Cambodia

My study highlights the importance of SBAs' practice during labour, birth and the immediate postnatal period and their working environments in one province in Cambodia. The findings from my study have implications for midwifery practice and policy and research into improving maternal health in Cambodia. The following section makes suggestions about immediate action that the Ministry of Health in Cambodia could take to ameliorate the problems and address the gaps identified by my research.

10.5.1 Implications for midwifery practice

The current childbirth practices of SBAs in my study were not found to be consistent with evidence-based standards outlined in the national guidelines of the Cambodian Ministry of Health, as well as the WHO's guidelines. Such practices may contribute to cause harm or death to childbearing women. To ensure all women have access to adequate and appropriate care, it is important to ensure that all midwifery practitioners have minimum competencies to save women's lives. This requires the Ministry of Health to regularly review, evaluate and systematically revise the structure and content of the midwifery training curriculum in line with the ICM essential midwifery competencies (Fullerton, Thompson & Severino 2011). The quality of pre-service education may be associated with the overall of competence and confidence of SBAs as suggested by my study findings.

It is also crucial that the Ministry of Health develop a national standard of entry into the profession and strengthen in-service training to ensure that all midwives or new graduates have the best possible opportunity of developing basic and essential midwifery competencies, because pre-service training alone does not guarantee competence. My study found that most SBAs had nearly 15 years' midwifery experience; however, they lacked competence and confidence in: the use of a partograph; the provision of care in normal birth; active management of the third stage of labour; cleanliness around birth; identification of a baby in need of resuscitation and the steps required to resuscitate the newborn; management of complications and referral. This evidence clearly shows that there is a need for better and coordinated follow-up of trainees in the workplace through continuing education and career progression in order to build and maintain the capacity of SBAs. There is also a need for the Ministry of Health to review and update the National Guidelines on CPA and MPA activities for referral hospitals and health centres and make recommendations for changes to support emergency obstetric and neonatal care, allowing health centres providing basic emergency and neonatal care to provide a wider range of drugs such as misoprostol and magnesium sulfate.

Competent midwives or supervisors as well as health managers, working in the Operational Districts and/or Provincial Health Department, who are well supported and

linked to the referral hospital, need to take action to ensure that all midwives can take professional control and apply evidence-based strategies (Fullerton et al. 2011) to save women's lives. In addition, facility-based maternal death reviews are required to raise SBA awareness of the values of EBP and their impact on maternal mortality.

SBAs, including midwives are expected to provide comprehensive, compassionate, complex and technologically appropriate care without causing harm to women and newborns (UNFPA 2011). It is crucial that SBAs critically evaluate their practice on a regular basis as their role in birthing care is central to healthcare effectiveness. Research into strategies to reduce unnecessary interventions through the use of self-regulation and critical reflection on birth practices should be promoted in Cambodia as these processes can help SBAs take control of their own learning. There have been few trials of strategies in developing countries to evaluate ways to change the behaviours of birth attendants (Buekens 2001). Evidence in developed countries, however, has shown that the use of opinion leaders was significantly more effective than audit and feedback and educational materials alone in increasing the number of women allowed to try normal labour and increasing the number of vaginal births (Lomas et al. 1991). Health-care systems are complex; however, improving the numbers of competent and motivated SBAs, and therefore the provision of quality midwifery care to women who need them at all levels is cost-effective and feasible in resource-poor countries, including Cambodia (UNFPA 2011) if all SBAs are supported by a functioning health system. Collaboration between midwifery education, midwifery services and research is needed to improve current SBAs' practice with ongoing support and monitoring of their practice. The proposed action framework derived from my study (Figure 10-1) may be valuable to build the capacity of SBAs and provides decision-makers, practitioners, key health partners and researchers with a tool to guide policy and target investments to maximise the impact upon maternal health improvement in Cambodia and other similar countries.

10.5.2 Implications for policy

Findings from my study have revealed that inadequate midwifery skills and competencies and the lack of awareness of evidence-based practice were heavily influenced by financial rewards and a lack of a supportive and enabling environment which has resulted in poor quality maternity care and services. These findings will assist

policy-makers to develop clear policy and practice, and to assess the effectiveness of action taken and will allow them to adjust the relevant policies on pre-service education, in-service training and health system support that can contribute to the continuous improvement of the quality of maternity care in Cambodia. Recently, the Cambodian Ministry of Health has made great efforts to increase access to, and use of midwives in health facilities (Liljestrand & Sambath 2012). However, significant challenges remain to be overcome to improve the quality of services and improve maternal and newborn mortality and morbidity. Findings from my study indicate that to be able to enhance and sustain SBAs' skills and competencies in response to future needs and to bring midwifery in Cambodia up to the level of other countries in the region, health authorities, agencies, individual SBAs and women could all play a role in changing birth practices. In particular, the Ministry of Health should focus on accountability and strong leadership and management.

10.5.2.1 The need for accountability

To motivate SBAs to implement their skills and abilities, and use available resources to provide adequate and appropriate care to women within policy guideline, stakeholders at all levels should create an effective performance management system and link this to a quality improvement system that can significantly impact upon staff motivation and performance and the quality of services in Cambodia, as highlighted by others (Henderson & Tulloch 2008; Soeters & Griffiths 2003). In order to begin to move towards performance management and improved working environments the Ministry of Health could clarify job descriptions, build professional development opportunities and improve its mechanisms for incentives.

10.5.2.1.1 Clear job descriptions and professional development opportunities

Job descriptions and the role of nurse-midwives, primary and secondary midwives, and doctors with midwifery skills in the workplace should be clearly defined in order to improve the working relationships among these providers, as well as other health professionals in Cambodia. This can provide individual SBAs and teams with great confidence and respect about their roles and responsibilities leading to good teamwork and improved quality of care. Inter-professional collaboration recognises and values the expertise, as well as the separate and shared knowledge and skills, of all health professionals, and leads to a collaborative and coordinated approach to improve

women's care (Fullerton et al. 2011). This is guided by shared values, mutual respect, dignity and effective communications to optimise participation in clinical decision-making within and across professions. Midwives represent the largest proportion of the Cambodian health care workforce (Ministry of Health Cambodia 2008b). Therefore, they need to be valued and supported by the health system so that their voices can be heard in a management role. Criteria for promotion and professional development opportunities should be established to motivate SBAs, including midwives, to take the lead in providing adequate and appropriate care to women.

Opportunities should also be given to midwives to be involved in health-sector policy development. In the health policy arena midwives should be actively involved in decision-making processes and be engaged in health-care reform. They should also participate on advisory boards where policy decisions are made to advance health care systems and improve maternal and newborn care. Midwives need to work in a more co-ordinated and efficient way with other health-care professions by engaging as a full partner in clinical design initiatives so that they are also accountable for delivering high-quality midwifery care. This will not only allow capacity-building, but will also assist career progression.

10.5.2.1.2 Adequate remuneration and incentives for SBAs

Low salaries and inappropriate remuneration are embedded in the current health system in Cambodia and affect SBAs' practice and the quality of services. These factors were found not only to affect staff attitudes and behaviours, but also their working environments, including technical skills, workplace culture, management practice and skill development and maintenance. Although adequate remuneration and incentives are key aspects of human resources management practice (Henderson & Tulloch 2008), the Cambodian government is unlikely to increase salaries or provide adequate incentives to all health professionals, including midwives. Therefore, in the short term, the Ministry of Health should ensure that the incentive packages provided are transparent and accountable in order to build trust and engender genuine responsibility for delivering evidence-based practice. A financial mechanism for the distribution of cash incentives, such as a voucher or accounting system, could be implemented to avoid mutual mistrust or suspicion among individual SBAs, teams and health managers. In addition, a non-financial reward program which could include benefits such as

recognition, career advancement, training opportunities could be a key aspect of human resources management that are critical to improving SBAs motivation and the quality of care provision in Cambodia. The award program would encourage SBAs to participate actively in the improvement process through self-monitoring and making their facility a place to be proud of. In Uganda, for example, the Yellow Star Program has been implemented to improve the quality of health services through a system of supervision, certification and recognition. The successful implementation of this program was, however, achieved through the support of the Ugandan Ministry of Health and key health partners.

10.5.2.2 The need for strong leadership and management

10.5.2.2.1 Adequate essential drugs and infrastructure and their rational use

Although procurement and distribution mechanisms are beyond the scope of this study, the Ministry of Health should look to ways of supporting the Provincial Health Department management in ensuring the supply of essential drugs such as antibiotics, oxytocin, MgSO₄, misoprostol and injectable hydralazine, and the maintenance of necessary equipment in health centres and the hospitals. Similarly, the Provincial Health Department should strengthen the appropriate use of medications to avoid the over-reliance on antibiotic therapy, and promote proper aseptic procedures around birth by raising awareness of the relevant WHO guidelines on standard precautions and cleanliness, especially hand hygiene practices to prevent associated infections. Provincial and district health managers should also formulate strategies to ensure health facilities that provide comprehensive emergency obstetric and neonatal care are equipped with adequate supplies of blood and an emergency obstetric team to provide life-saving interventions for women at high risk. Historical evidence from countries like Sri Lanka and Malaysia shows that SBAs working within functioning health systems, and able to perform caesarean section and blood transfusion, can bring down maternal mortality significantly (Graham et al. 2001). The components of emergency obstetric care are simple interventions that are based on scientific knowledge (Sri 2009).

10.5.2.2.2 Professional leadership and partnerships

Quality skilled care for mothers and newborns during and after pregnancy and childbirth depends on coordinated and integrated action involving women, their families, communities and the health system. It is clear from the interviews with women that they

had different experiences and levels of satisfaction with the care provided by public and private SBAs. It is essential to consider women's needs and to raise the profile of emergency obstetric care in their communities so that a comprehensive approach can be developed, that will help remove the identified barriers and promote access to, and use of maternal health services. Women in my study are likely to use skilled care for assistance during childbirth if it is accessible, available and affordable. It is essential for the Provincial Health Department to address the issue of unofficial payments for services through the enforcement of regulations and improved oversight of SBA practice. While it is important to remove extra payments associated with the birth, along with geographical barriers, improvements in woman-centred care should also focus on addressing providers' attitudes and enhancing communication skills and a respectful and supportive attitude during labour and postnatal care.

Partnerships among individual public and private SBAs, health managers, researchers and policy-makers are needed to provide support for the integration of research and policy into practice to improve maternal health outcomes. There is a need to establish a strong cohesive team of midwifery leaders to ensure that the midwifery profession is autonomous, visible, and protected by legislation. For example, the Ministry of Health should give professional rights to midwives, and authorise them to prescribe certain essential medication such as MgSO_4 to treat eclampsia.

The number of qualified SBAs needs to be increased. First, standards of professional ethics need to be enhanced through strengthening the professional ethics content in the midwifery curriculum. Professional codes of conduct also need to be developed and enforced in Cambodia. Secondly, the knowledge and skills of SBAs should be improved and maintained through continuing education programs. Strategies to promote regular continuous midwifery education (CME) are important for professional development at the level of the health facility and the health care system. It is important to plan CME systematically, targeting midwives in the country so that they have updated knowledge of EBP and are proficient to practise it. A functional referral system and service linkages should be strengthened at local, provincial and national level (World Health Organization 2008c). Midwives require knowledge, skills and educational support and ongoing supervision to become experts in their fields and ensure their skills are kept up

to date. Reflective, supportive and enabling structures are needed to allow workplace culture to become more conducive to and supportive of change.

10.5.3 Implications for future research and development

Understanding the maternity care practices of SBAs and the underlying factors affecting their practice is only one way to build the capacity of SBAs and contribute to health system and service strengthening. Many other important practices, particularly the use of oxytocics for the augmentation of labour, anticonvulsants for eclampsia, misoprostol for post-partum haemorrhage, forceps extraction and caesarean sections, require further investigation because the overuse or underuse of any of them is a matter of significant concern with serious short- and long-term ramifications, including maternal morbidity and mortality.

The benefits of quality midwifery and obstetric care provided by SBAs during labour, birth and the post-partum period continue to be an important question and one that this study has not been able to answer fully. Quantitative methodologies may be the best way to explore the effects of the level of unnecessary interventions in labour with low-risk women on maternal morbidity and mortality, in order to develop theories and recommendations to improve maternal health in Cambodia. Quantitative research may also lead to new questions about the prevalence of, or associations between, pre-service education and in-service training and clinical practices. Other questions concerning issues such as professional education and training needs, which were not canvassed as they were beyond the scope and limit of this study, should be also taken into consideration as they could affect EBP and the quality of midwifery services.

10.6 Conclusion

This chapter has reviewed the purpose of the study and presented a synthesis of the findings and the discussion of their implications around a framework for coordinated action to improve maternal and newborn health in Cambodia.

The current practices of public and private SBAs in one province in Cambodia are found not to be consistent with evidence-based practice known to reduce maternal and perinatal mortality. SBAs' practice was largely driven by the low level of skills and competencies of individual SBAs and teams, unsupportive working environments, poor

leadership and management, and the lack of consideration of the needs and requirements of childbearing women attending maternal health services. These key aspects are central in human resources management practices that need to be addressed as an integral part of improving the health system and the quality of services in Cambodia. To strengthen the quality of maternity services and minimise ineffective or unnecessary interventions or avoid informal or unofficial payments, efforts are required to address the challenges and the underlying factors that SBAs face during childbirth. Findings from my study have added to the body of knowledge, by providing strong evidence about the actual childbirth practices of SBAs and their working environments, the health-seeking behaviour of women and the delivery of a quality improvement system in Cambodia. This study suggests that there is an urgent need to support and sustain existing and future competent and motivated SBAs who care for women and their babies.

Although this study was undertaken in one province in Cambodia, the research findings are useful as the foundation on which to design an innovative framework for coordinated action to improve maternal and newborn health for the Cambodian context. This framework can be used to inform and plan midwifery practice improvement initiatives in maternity health settings in Cambodia. It is possible for the Cambodian government to increase the availability and uptake of skilled care in Cambodia and to reduce maternal and newborn mortality. Improvements in maternal health will only occur if the birthing care provided by both public and private SBAs is in line with EBP and supported by a functioning health system.

Ensuring SBAs are skilled and motivated to comply with evidence-based practice, an effective performance management system and key mechanisms for a QI system for individual or work units are all important objectives because they enable SBAs to deliver high-quality services and packages of interventions in a continuum of care during and after pregnancy and childbirth in order to meet their personal and organisational goals. Effective performance management systems, including clear job descriptions, criteria for promotion and professional development; improved supervision and support; improved working conditions and work environments; and adequate remuneration and incentives, should be incorporated into human resources

management practice, based on the context, cultures, values and available resources in which they are delivered (JHPIEGO 2003; Leatherman et al. 2010).

For change to happen, strong leadership and political will to improve maternal health should be initiated from within the organisation of the health system and its staff, engaging private SBAs and the wider community. Policy-makers, key partners and ongoing support, collaboration and a shared vision of what is desirable and what may be achievable are all needed in combination if the health system in Cambodia is to enhance and maintain the quality of maternity services at all levels. The challenges in maintaining competent and motivated SBAs, policy and regulation, education and training, along with human resources management systems, drugs, supplies and equipment, financial resources, and functioning linkages are key features of the health system which have emerged as significant factors affecting SBAs practice and maternal and neonatal health outcomes.

Maternal and neonatal outcomes also depend on women, their families and the community. They must be involved in decision-making regarding their own maternity care provided by SBAs. This will ensure that the care women receive meets their particular needs. To improve access to, and use of, maternal health services, the Cambodian Ministry of Health should address the financial, social and cultural barriers to access, including by providing essential services for women and children and women-centred care free of charge. Any form of informal or unofficial payments associated with births must be avoided.

The findings of this study are a useful starting point to strengthen the capacity of the health system to convert inputs into functioning maternity care and services that are accessible to and used by all women and their communities. This study can help policymakers, health managers, SBAs and key stakeholders to accelerate progress towards meeting the United Nations 2015 MDG 5 target of a 75% reduction in the number of maternal deaths from the 1990 level to 140 per 100,000 live births by 2015 in Cambodia and other comparable countries. Maintaining and advancing the midwifery profession in Cambodia is urgently needed to improve the quality, safety, efficiency and effectiveness of maternal and neonatal health care.

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Appendices

Note: All identifying information has been removed to protect the identity of the research sites and participants.

Appendix 1: Ethics Approval from the University of New South Wales

THE UNIVERSITY OF
NEW SOUTH WALES



HUMAN RESEARCH ETHICS
COMMITTEE (HREC)

25 November 2009

Professor Anna Whelan
School of Public Health and Community Medicine

Dear Professor Whelan,

**Quality of care in maternal and neonatal health care: workforce competencies in
Cambodia**
HREC 09309

Thank you your email and attachments to Mrs Annamarie D'Souza dated 15 November 2009.

At the executive meeting held on 24 November 2009 the Committee provided approval for the above project to proceed. In accordance with the guidelines set out in the National Statement on Ethical Conduct in Human Research* (NS) and exercising the authority delegated by the Deputy Vice-Chancellor (Research), I give permission for this project to proceed.

Would you please note:-

- approval is valid for five years (from the date of the executive meeting i.e. 24 November 2009)
- you will be required to provide annual reports on the study's progress and any adverse events to the HREC, as recommended by the National Statement on Ethical Conduct in Human Research;
- you are required to immediately report anything which might warrant review of ethical approval of the protocol, including:
 - (a) serious or unexpected adverse effects on participants;
 - (b) proposed changes in the protocol; and
 - (c) unforeseen events that might affect continued ethical acceptability of the project;
- any modifications to the project must have the prior written approval of the Committee and ratified by any other relevant Human Research Ethic Committee, as appropriate;

.. 1 ..

UNSW SYDNEY NSW 2052
A U S T R A L I A
Telephone: +61 (2) 9385 4234
Facsimile: +61 (2) 9385 6648
Email: ethics.sec@unsw.edu.au
Location: Rupert Myers Building,
C/o Research Office / Ethics,
Gate 14, Barker Street Kensington
A B N 5 7 1 9 5 8 7 3 1 7 9

(09309. cont'd)

.. 2 ..


-
- the Ethics Secretariat should be notified if serious or unexpected outcomes are experienced by research participants or if there are unforeseen events;
 - consent forms are to be retained within the archives of the School and made available to the Committee upon request;
 - if this approval relates to a clinical trial any serious adverse event arising in the course of the study should be reported promptly using the proforma on the Human Research Ethics website http://www.gmo.unsw.edu.au/Ethics/HumanEthics/InformationForApplicants/ProformasTemplates/C13_SAE%20Proforma.rtf

Yours sincerely,

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A/Professor Michael Grimm
Presiding Member
HREC

Appendix 2: Ethics Approval from National Ethics Committee for Health Research (NECHR)



ក្រសួងសុខាភិបាល
MINISTRY OF HEALTH
គណៈកម្មាធិការជាតិរៀបចំការស្រាវជ្រាវ
សំរាប់ការស្រាវជ្រាវសុខភាពដែលទាក់ទងនឹងមនុស្ស
National Ethics Committee for Health Research

ព្រះរាជាណាចក្រកម្ពុជា
KINGDOM OF CAMBODIA
ជាតិ សាសនា ព្រះមហាក្សត្រ
NATION RELIGION KING

លេខ **13.៤.NECHR**..... រាជធានីភ្នំពេញ, ថ្ងៃទី **11** ខែ **12** ឆ្នាំ **2009**....

Dr. Ith Ponndara

Project: Continuum of Care in maternal and newborn health care: case study in Cambodia

Reference: - December 04th, 2009 NECHR meeting minute
- Your modification protocol

Dear Dr. Ith Ponndara,

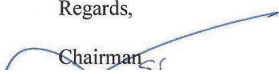
I am pleased to notify you that your protocol entitled “Continuum of Care in maternal and newborn health care: case study in Cambodia” has been approved by National Ethic Committee for Health Research (NECHR). This approval is valid for twelve months after the approval date.

The Principal Investigator of the project shall submit following document to the committee’s secretariat at the National Institute of Public Health at #2 Kim Il Sung Blvd, Khan Tuol Kok, Phnom Penh. (Tel: 855-23-880345, Fax: 855-23-881949):

- Annual progress report
- Final scientific report
- Patient/participant feedback (if any)
- Analyzing serious adverse events report (if applicable)

The Principal Investigator should be aware that there might be site monitoring visits at any time from NECHR team during the project implementation and should provide full cooperation to the team.

Regards,


Chairman

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H.E.Prof ENG HUOT

Appendix 3: Ethics Approval from the University of Technology, Sydney

30 March 2011



Dr Angela Dawson
Nursing, Midwifery and Health
UNIVERSITY OF TECHNOLOGY, SYDNEY

Dear Angela,

UTS HREC 2011-061 – DAWSON, Dr Angela, HOMER, Professor Caroline, ITH, Dr Ponndara – “Quality of Maternal Healthcare: Workforce Considerations in Cambodia” [*External Ratification: University of New South Wales Human Research Ethics Committee HREC approval – HREC09309 – 24/09/2009 to 24/09/2014 (UNSW)*]

Thank you for your response to my email dated 15/03/11. Your response satisfactorily addresses the concerns and questions raised by the Committee, and I am pleased to inform you that your external ethics clearance has been ratified.

Your UTS clearance number is UTS HREC REF NO. 2011-061R

Please note that the ethical conduct of research is an on-going process. The *National Statement on Ethical Conduct in Research Involving Humans* requires us to obtain a report about the progress of the research, and in particular about any changes to the research which may have ethical implications. This report form must be completed at least annually, and at the end of the project (if it takes more than a year). The Ethics Secretariat will contact you when it is time to complete your first report. You must also provide evidence of continued approval from the University of New South Wales Human Research Ethics Committee.

I also refer you to the AVCC guidelines relating to the storage of data, which require that data be kept for a minimum of 5 years after publication of research. However, in NSW, longer retention requirements are required for research on human subjects with potential long-term effects, research with long-term environmental effects, or research considered of national or international significance, importance, or controversy. If the data from this research project falls into one of these categories, contact University Records for advice on long-term retention.

If you have any queries about your ethics clearance, or require any amendments to your research in the future, please do not hesitate to contact the Ethics Secretariat at the Research and Innovation Office, on 02 9514 9772.

Yours sincerely,

Professor Marion Haas
Chairperson
UTS Human Research Ethics Committee

Appendix 4: Letter of Site Authorisation from the Provincial Health Department

PROJECT REVIEW FORM

Site Authorization Letter
[redacted] Provincial Health Department

August date 24..., 2009

Dr. Ponndara ITH
Chief, Technical Bureau, PHD
[redacted]
Cambodia

Dear Dr. Ponndara

I have reviewed your request regarding your study and am pleased to support your research project entitled “the Competencies of Maternal and Neonatal Health Workforce who Provide care to Pregnant Women during Labor, Delivery and the Immediate Postpartum Period in [redacted], Cambodia”. Your request to use [redacted] Provincial Referral Hospital, [redacted] Referral Hospitals and two health Centres as a research commitment is granted. The request will include observation, Focus group discussions with primary, secondary midwives and doctors with midwifery skills, the interviews with women after delivery and observation and interviews with traditional birth attendants. This authorization covers the time period of December 2009 to March 2010. We look forward to working with you.

Sincerely,
[redacted]

Production Note:
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Director, [redacted]
Provincial Health Department

Appendix 5: Letter from the Provincial Health Department to Operational District Offices

KINGDOM OF CAMBODIA

NATION-RELIGION-KING

MINISTRY OF HEALTH

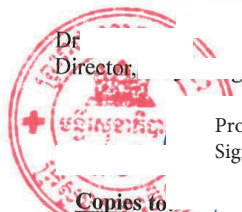
PROVINCIAL HEALTH DEPARTMENT

No. 12.01/10
Date November, 2010

With reference to the UNSW HREC 09309 dated on 25 November 2009, and the Cambodian Ethics Committee for Health Research dated on 11 December 2009 about the research study: "Quality of Care in Maternal and Newborn healthcare: Workforce Competencies Cambodia" conducted by Dr.Ith Ponndara, which started between December 2009 and March 2010 will restart between November- December 2010.

Director of Health Department is pleased

1. To announce that Dr.Ith Ponndara will be sharing his early findings and doing member checking/respondent validation in selected study sites in _____ Hospital, _____ Hospital and two health centre _____ and _____ Province so that he can augment the rigour of his research study and to seek in-depth understanding with all previous research participants.
2. To inform that Directors of Operational Districts and Directors of the selected hospitals and chiefs of Health Centres should facilitate and provide supportive environment, and to collaborate with Dr.Ith Ponndara during the period of his study. Some of the key informants could be invited to participate in a one day-workshop, which will be held at Provincial Health department
3. Midwives, Doctors and nurses with midwifery skills who are voluntary and willing to participate in this project, should contact a co-researcher or Dr. Ith Ponndara (the researcher)
4. That participation in this study is voluntary and there will be no coercion to participate. Your decision to be involved in this project will not affect your relationship with your workplace, the provincial health department and/or Ministry of Health of Cambodia
5. Administrative, personnel and technical offices of the relevant study site should be informed and implement this decision effectively upon the day of signing by the director of Provincial health department

Dr.
Director,


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Copies to

- The UNSW HREC
- The Cambodian National committee for Health Research
"For official recognition"
- Selected Operational Districts and Hospitals and Health Centres
- As in No 5 "for implementation" and "For documentation"

Appendix 6: Letter of Site Authorisation from Private Maternity Home Clinics

PROJECT REVIEW FORM

Site Authorisation Letter
Private maternity home clinics

February . . ., 2010

Dr.Ponndara ITH
Chief of Technical Office
Provincial Health Department

Dear Dr. Ponndara,

I have reviewed your request regarding your study and I am pleased to support your research project entitled “Quality of care in maternal and neonatal health care in Cambodia: Workforce Competencies”. Your request to use my home clinic as a research commitment is granted. I would be happy to be observed during my childbirth practice and interested in participating in the interviews with you. You can also interview with women after birth if they volunteer to join your study. This authorisation covers from December 2009 to March 2010. I look forward to working with you.

Sincerely,

Appendix 7a: Participant Information Statement and Consent Form for all Birth Attendants (*English version*)

UNIVERSITY OF NEW SOUTH WALES

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

**Traditional Birth Attendants, Private Practitioners, Midwives, Doctors
and Nurses with midwifery skills in Cambodia**

THE UNIVERSITY OF
NEW SOUTH WALES



SCHOOL OF PUBLIC HEALTH
AND COMMUNITY MEDICINE

Quality of Care in Maternal Health Care: Workforce Competencies in one province in Cambodia

You are invited to participate in a study of quality of maternal and neonatal health care in this Province. We hope to learn about how midwives, doctors and nurses with midwifery skills, traditional birth attendants and private practitioners are practising technical skills during childbirth practices. We are also interested in the environments in which you are working such as drugs and equipment supplies, the birthing facility and policy that can facilitate or hinder your practice.

You were selected as a possible participant in this study because we know that you have been identified as a midwife or doctor and nurse with midwifery skills, or a private practitioner or Traditional Birth Attendant – all who are very important in looking after childbearing women in this province.

If you agree to participate, we will ask you to participate in two or three parts of the study. Firstly, a participant observation will be conducted with all birth attendants, where I will observe how you assist women giving birth and how the current enabling environment including drugs, supplies and equipment in which you are working. If it is all right with you, I would like to take notes to help me later.

Any observations you agree to will not include your name or in any way identify you. All comments or anything you say will be anonymous and you will not be identified. If there is any information that is obtained in this study that can identify you, it will remain confidential and will be disclosed only with your permission except as required by law.

The second part of the study is an in-depth interview. These interviews are an opportunity to ask about the care women receive and explore your views and experience on clinical skills and competency of each cadre and your working and supportive environment in which you care for women during labour, childbirth and the early post-partum period.

The interview will take about 45 minutes to one hour and will be held in either your workplace (health centre/hospital/clinic) or TBA's or women's home. It is hoped that you will gain the opportunity to have input into the design of future health programs and training related to safe deliveries in rural areas of Cambodia. It would be helpful to me if I could audio-tape this

interview. Audio recording is helpful in ensuring discussions and issues are accurately reflected in the study. You may request the recording device be switched off and/or for recorded data to be deleted at any time. We will give you a 'pseudonym' so that your name will not be identifiable.

The third part will be a focus-group discussion, or a small group talking together about some of the subjects that were raised after the observations. There would be about 4-5 birth attendants in each group and you will only be in a group with midwives, doctors and nurses with midwifery skills. The researcher will also be present and the groups' comments will be written down and audio recorded if the group agrees to this. The purpose of the focus group is to clarify the observation and the interviews to discuss more depth about the key findings and explore possible solutions and ways forward. Focus group discussions will be expected to last up to 1-2 hours per group and will be held in a quiet room located at the hospitals or health centres.

We cannot and do not guarantee or promise that you will receive any benefits from this study. Your involvement in this project is voluntary, and your decision to be involved will not affect your relationship with the government institutions or its staff or the University of New South Wales. You are in no way obliged to participate and if you do participate, you can withdraw at any time.

Complaints must be directed to the Ethics Secretariat, the Cambodian National Ethics Committee for Health Research (Phone: 855-23-880-345; Fax: 855-23-881-949) who can forward the complaints to the Ethics Secretariat at UNSW. Alternatively, you may be provided with a reply paid return envelope so that you can send a complaint directly to the UNSW Ethics Secretariat: University of New South Wales, Sydney 2052 Australia, phone: 612 9385 4234, fax: 612 9385 6648, email: ethics.sec@unsw.edu.au. Any complaints you make will be treated in confidence and investigated, and you will be informed the outcome.

If you have any questions, please feel free to ask us. If you have any additional questions later, Dr Ponndara Ith, Phone: +61401296177 or email: ponndara_007@yahoo.com, will be happy to answer them.

You will be given a copy of this form to keep.

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

(continued)

Traditional Birth Attendants, Private Practitioners, Midwives and Doctors and Nurses with midwifery skills in Cambodia

You are making a decision whether or not to participate. Your signature indicates that, having read the information provided above, you have decided to participate.

.....
Signature of Research Participant

.....
Signature of Witness

.....
(Please PRINT name)

.....
(Please PRINT name)

.....
Date

.....
Nature of Witness

.....
Signature(s) of Investigator(s)

.....
Please PRINT Name

REVOCATION OF CONSENT

Traditional Birth Attendants, Private Practitioners, Midwives and Doctors and Nurses with midwifery skills in Cambodia

I hereby wish to **WITHDRAW** my consent to participate in the research proposal described above and understand that such withdrawal **WILL NOT** jeopardise any treatment or my relationship with the Cambodian government health institutions and the University of New South Wales.

.....
Signature

.....
Date

.....
Please PRINT Name

The section for Revocation of Consent should be forwarded to Dr Ponndara Ith, School of Public Health and the Community Medicine, UNSW, Kensington NSW 2052.

Appendix 7b: Participant Information Statement and Consent Form for all Birth Attendants (Khmer version)

THE UNIVERSITY OF
NEW SOUTH WALES



SCHOOL OF PUBLIC HEALTH
AND COMMUNITY MEDICINE

សាកលវិទ្យាល័យញូសោធីវេលស៍

លេខក្តីជូនព័ត៌មាននិងការព្រមព្រៀងរបស់អ្នកចូលរួមសិក្សាស្រាវជ្រាវ: ឆ្មបបូរណ
គ្រូពេទ្យបង្កបង្កើន ឆ្មប និងវេជ្ជបណ្ឌិតនិងគិលានុដ្ឋា-នុដ្ឋាយាកាដែលមានជំនាញឆ្មប

ប្រធានបទ-គុណភាពថែទាំសុខភាពមាតានិងទារកៈ សមត្ថភាពអ្នកថែទាំស្ត្រីមានផ្ទៃពោះក្នុងប្រទេសកម្ពុជា។

យើងខ្ញុំសូមអញ្ជើញលោកលោកស្រីចូលរួមសិក្សាពីគុណភាពនៃការថែទាំសុខភាពមាតានិងទារកក្នុងខេត្តនេះ ។យើងខ្ញុំមានបំណងចង់ដឹងអំពីជំនាញឆ្មបរបស់វេជ្ជបណ្ឌិតនិងគិលានុដ្ឋាយាកាមានជំនាញឆ្មបគ្រូពេទ្យឯកជននិងឆ្មបបូរណកំពុងអនុវត្តជំនាញក្នុងការសំរាលកូន ។យើងចង់ដឹងផងដែរនូវបរិកាសការងារដែលជួយបង្កលក្ខណៈដល់លោក លោកស្រីក្នុងការបំពេញការងាររាល់ថ្ងៃ ដូចជាថ្នាំសង្កូវសំភារៈបរិក្ខារពេទ្យនិងអគារធ្វើការរបស់អ្នក ។យើងខ្ញុំជ្រើសរើសលោកលោកស្រីចូលរួមក្នុងការសិក្សានេះព្រោះយើងដឹងថាលោកលោកស្រីជាអ្នកដែលមានជំនាញឆ្មបហើយជាអ្នកដែលមានសារៈសំខាន់ក្នុងការថែទាំស្ត្រីមានផ្ទៃពោះក្នុងខេត្តនេះ ។បើលោកលោកស្រីយល់ព្រមចូលរួមក្នុងការសិក្សាយើងខ្ញុំនឹងធ្វើការសិក្សាបីផ្នែក ។ផ្នែកទី១គឺការអង្កេតផ្ទាល់ពីយើងចង់មើលអំពីជំនាញដែលលោក លោកស្រីធ្វើការសំរាលកូន និងពិនិត្យនូវស្ថានភាពការងាររបស់លោកអ្នកដូចជា ថ្នាំពេទ្យ សំភារៈបរិក្ខារផ្សេងៗ ។ បើលោកលោកស្រីមិនយល់ទាល់ទេ យើងខ្ញុំនឹងធ្វើការកត់ត្រាដើម្បីជាជំនួយដល់ការចងចាំ របស់អ្នកស្រាវជ្រាវ ។

យើងខ្ញុំនឹងមិនប្រើឈ្មោះផ្ទាល់របស់លោកអ្នកក្នុងការអង្កេតណាមួយរបស់យើងខ្ញុំទេ ។អ្វីៗដែលលោកអ្នកអត្ថាធិប្បាយនឹងមិនបញ្ចេញឈ្មោះអោយអ្នកណាម្នាក់ដឹងឡើយ ។ព័ត៌មានទាំងអស់ដែលទទួលបានពីលោកអ្នកនឹងរក្សាការសំងាត់និងអាចប្រាប់អ្នកផ្សេងទៀតបានលុះត្រាតែមានការអនុញ្ញាតពីលោកអ្នកជាមុនសិនឬលើលែងតែមានតម្រូវការផ្លូវច្បាប់ជាចាំបាច់ ។ផ្នែកទី២នៃការសិក្សាគឺការសំភាសន៍ ។ការសំភាសន៍គឺជាឱកាសមួយដើម្បីសាកសួរលោកអ្នកអំពីការថែទាំដល់ស្ត្រីនិងសាកសួរពីជំនាញគ្រឹះនិងបរិកាសការងារក្នុងពេលស្រីយើងពេលសំរាលនិងក្រោយពេលសំរាល ។ការសំភាសន៍មានរយៈពេល៤៥នាទីទៅមួយម៉ោងនិងធ្វើនៅហ្នឹងកន្លែងធ្វើការរបស់លោកអ្នកឬផ្ទះរបស់ស្ត្រី ។យើងសង្ឃឹមថាអ្នកនឹងមានឱកាសទទួលបាននូវទុនសំរាប់រៀបចំកម្មវិធីសុខភាពនិងការបណ្តុះបណ្តាលសុវត្ថភាពសំរាលនៅតំបន់ជនបទនៅប្រទេសកម្ពុជានាពេលអនាគត ។បើអាចផតសំលេងបានការថតការសំភាសន៍នឹងមានប្រយោជន៍ជួយដល់ការពិភាក្សានិងបញ្ហាផ្សេងៗដែលឆ្លុះបញ្ចាំងពីការសិក្សានេះ ។លោកអ្នកអាចអោយខ្ញុំបិទម៉ាស៊ីនថតពេលណាក៏បាន ។យើងនឹងប្រើឈ្មោះក្លែងក្លាយដល់លោកអ្នកដើម្បីកុំអោយគេស្គាល់ ។ផ្នែកទី៣គឺការពិភាក្សាជាត្រួតពិនិត្យ ។ក្រុមតូចមួយមានគ្នាពី៤ទៅ៥នាក់នឹងពិភាក្សាពីបញ្ហាដែលរកឃើញពីការអង្កេតនិងការសំភាស ។លោកអ្នកស្ថិតនៅជាមួយក្រុមដែលមានឆ្មបវេជ្ជបណ្ឌិតនិងគិលានុដ្ឋាយាកាដែលមានជំនាញឆ្មប ។អ្នកស្រាវជ្រាវនឹងស្ថិតនៅជាមួយក្រុមលោកអ្នកហើយមតិដែលបានមកពីការពិភាក្សានឹងកត់ត្រានិងថតចូលបើសិនក្រុមមានការយល់ព្រម ។គោលបំណងក្រុមពិភាក្សាគឺជួយបំភ្លឺដល់ការខ្វះខាតក្នុងការអង្កេតនិងការសំភាសន៍និងពិភាក្សាស្តីពីអំពើហិង្សាជាតន្ត្រីនិងដំណោះស្រាយដែលអាចធ្វើទៅបាននិងមិនដៅសំរាប់អនាគត ។ក្រុមពិភាក្សាមានរយៈពេលពី១ទៅ២ម៉ោងក្នុងមួយក្រុមរួចធ្វើនៅទីកន្លែងស្ងាត់ក្នុងមន្ទីរពេទ្យឬមណ្ឌលសុខភាព ។យើងមិនធានាឬសន្យាថាលោកអ្នកបានទទួលផលប្រយោជន៍អ្វីពីការសិក្សានេះឡើយ ។ការចូលរួមរបស់លោកអ្នកគឺជាការស្ម័គ្រចិត្តហើយការសំរេចចិត្តចូលរួមរបស់លោកអ្នកនឹងមិនមានការប៉ះពាល់ដល់ទំនាក់ទំនងជាមួយគ្រឹះស្ថានរដ្ឋាភិបាលឬបុគ្គលិកឬសាកលវិទ្យាល័យញូសោធីវេលស៍ ។យើងខ្ញុំមិនបង្ខំឬបង្ខំលោកអ្នកអោយចូលរួមទេហើយបើលោកអ្នកព្រមចូលរួមហើយលោកអ្នកក៏អាចដកពាក្យវិញបានដែរ ។

ពាក្យបណ្តឹងផ្សេងៗអាចទាក់ទងផ្ទាល់មកលេខាធិការដ្ឋានគណៈកម្មការក្រមសីលធម៌ជាតិសំរាប់ការស្រាវជ្រាវសុខាភិបាលជាតិ កម្ពុជាដែលមានលេខទូរស័ព្ទ៨៥៥២៣៨៨០៣៤៥ ។លេខាធិការដ្ឋានគណៈកម្មការក្រមសីលធម៌ជាតិអាចបញ្ជូនពាក្យបណ្តឹងរបស់អ្នកទៅសាកលវិទ្យាល័យញូសោធរេលស៍ ស៊ីដនី ២០៥០ អូស្ត្រាលី លេខទូរស័ព្ទ៖ ៦១៥៣៨៥៤២៣៤

Fax: ៦១២៩៣៨៥៦៦៤៨ Email: ethics.sec@unsw.edu.au រាល់ពាក្យបណ្តឹងរបស់លោកអ្នកនឹងរក្សាការសម្ងាត់ និងធ្វើការស៊ើបអង្កេតរួចនឹងផ្តល់ព័ត៌មានដល់លោកអ្នកវិញ ។បើលោកអ្នកមានសំណួរសូមអញ្ជើញសួរឬបើមានសំណួរបន្ថែមពេលណាក៏បានលោកវេជ្ជបណ្ឌិតអ៊ីតប៊ុណ្ណដារ៉ាដែលមានលេខទូរស័ព្ទ៖ ៦១០៤០១២៥៦១៧៧ឬទាក់ទងតាមរយៈ Email: ponndara_007@yahoo.com,និងវិកាយឆ្លើយនូវរាល់សំណួររបស់លោកអ្នក ។យើងនឹងផ្តល់ឯកសារនេះមួយច្បាប់ដល់អ្នក ។

សេចក្តីជូនព័ត៌មាននិងការព្រមព្រៀងរបស់អ្នកចូលរួមសិក្សាស្រាវជ្រាវ ឆ្មបបុរាណ គ្រូពេទ្យឬឆ្មបឯកជន ឆ្មប និងវេជ្ជបណ្ឌិតនិងគណៈនុដ្ឋាយាការដែលមានជំនាញឆ្មប “ ត”

លោកអ្នកអាចធ្វើការសម្រេចចិត្តចូលរួមឬមិនចូលរួម ។ក្រោយពីបានអាននិងយល់អំពីគោលបំណងនៃការសិក្សានិងយល់ព្រមចូលរួមក្នុងការសិក្សានេះ យើងព្រមចុះហត្ថលេខាដូចខាងក្រោមនេះ៖

ហត្ថលេខាអ្នកចូលរួមស្រាវជ្រាវ

ហត្ថលេខាសាក្សី

ឈ្មោះ

ឈ្មោះ.....

ថ្ងៃ ខែ ឆ្នាំ

ប្រភេទសាក្សី

ហត្ថលេខាអ្នកស្រាវជ្រាវ

ឈ្មោះ

ការបញ្ចប់ការយល់ព្រម

ឆ្មបបុរាណ គ្រូពេទ្យឬឆ្មបឯកជន ឆ្មប និងវេជ្ជបណ្ឌិតនិងគណៈនុដ្ឋាយាការដែលមានជំនាញឆ្មប

ខ្ញុំមានបំណងចង់ដកហូតការយល់ព្រមរបស់ខ្ញុំក្នុងការចូលរួមក្នុងសំណើនៃការស្រាវជ្រាវដែលបានរៀបរាប់ខាងលើព្រោះយល់ឃើញថាការដកហូតនេះនឹងមិនមានការប៉ះពាល់ដល់ការព្យាបាលឬទំនាក់ទំនងជាមួយនឹងគ្រឹះស្ថានសុខាភិបាលរបស់រដ្ឋាភិបាលនិងសាកលវិទ្យាល័យញូសោធរេលស៍ ។

ហត្ថលេខា

ថ្ងៃ ខែ ឆ្នាំ

ឈ្មោះ

ការដកហូតការយល់ព្រមសូមបញ្ជូនទៅលោកវេជ្ជបណ្ឌិតអ៊ីតប៊ុណ្ណដារ៉ាសាលាសុខភាពសាធារណៈនិងវេជ្ជសាស្ត្រសហគមន៍ UNSW, Kensington NSW 2052.

Appendix 8a: Participant Information Statement and Consent Form for Pregnant Women (*English version*)

THE UNIVERSITY OF NEW SOUTH WALES

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Pregnant Women in Cambodia

**Quality of Care in maternal and neonatal health care: Workforce
Competencies in Cambodia**

THE UNIVERSITY OF
NEW SOUTH WALES



SCHOOL OF PUBLIC HEALTH
AND COMMUNITY MEDICINE

My name is Ponndara ITH and I am a PhD student from the University of New South Wales, Australia. Many people have been involved in the birthing process in Cambodia, such as private practitioners, traditional birth attendants, midwives, doctors and nurses. In recent times their role has been changing. This study aims at looking at their practices in birthing in selected homes, private clinics and government health facilities in the province. As the researcher, I will be a non-participant observer during this birthing process.

We would like to ask your permission and consent to participate in this study because I will be present and be part of the birthing period at the maternity ward during labour and childbirth. We will not share any information about you or your health with anyone else and you will not be identified in any way.

Participation in this study or refusal to participate will not affect any treatment or your access to maternity or other health services. We cannot and do not guarantee that you will receive any benefits from this study, but a small gift will be offered for your participation in the research.

Participation in this study is voluntary and you can choose not to let me observe any health provider's practice during labour and childbirth. At this time, is there anything you would like to ask me about the observation?

For additional information about the observation and your participation in it, you can contact me at my email address: ponndara_007@yahoo.com or Phone: [REDACTED]

Complaints must be directed to the Ethics Secretariat, the Cambodian National ethics committee for Complaints must be directed to the Ethics Secretariat, the Cambodian National Ethics Committee for Health Research: contact secretary of the Cambodian National ethics Committee (Phone: 855-23-880-345; Fax: 855-23-881-949) who can forward the complaints to the Ethics Secretariat at UNSW. Alternatively, you may be provided with a reply paid return envelop so that you can send a complaint directly to the UNSW Ethics Secretariat: University of New South Wales, Sydney 2052 Australia phone: 612 9385 4234, fax: 612 9385 6648, email: ethics.sec@unsw.edu.au . Any complaints you make will be treated in confidence and investigated, and you will be informed the outcome.

You will be given a copy of this form to keep.

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM (continued)
Pregnant Women in Cambodia

You are making a decision whether or not to participate. Your signature indicates that, having read the information provided above, you have decided to participate.

Before Labour

.....
Signature/ thumb printing of woman	Signature of Witness
.....
(Please PRINT name)	(Please PRINT name)
Date
Signature(s) of Investigator(s)
.....
Please PRINT Name	Date

Nature of Witness

During labour

.....
Signature/ thumb printing of woman	Signature of Witness
.....
(Please PRINT name)	(Please PRINT name)
Date.....	(Please PRINT name)
Signature(s) of Investigator(s)
.....
Please PRINT Name	Date

REVOCATION OF CONSENT

Pregnant Women

I hereby wish to **WITHDRAW** my consent to participate in the research proposal described above and understand that such withdrawal **WILL NOT** jeopardise any treatment or my relationship with the Cambodian government health institutions and the University of New South Wales.

.....
Signature	Date
.....	
Please PRINT Name	

The section for Revocation of Consent should be forwarded to Dr Ponndara Ith, School of Public Health and Community Medicine, UNSW, Kensington NSW 2052.

Appendix 8b: Participant Information Statement and Consent Form for Pregnant Women (Khmer version)

THE UNIVERSITY OF
NEW SOUTH WALES



SCHOOL OF PUBLIC HEALTH
AND COMMUNITY MEDICINE

សាកលវិទ្យាល័យញូសោធើវេលស៍

លេខក្តីជូនព័ត៌មានដល់អ្នកចូលរួមសិក្សានិងការព្រមព្រៀងរបស់ស្ត្រីមានផ្ទៃពោះ

ប្រធានបទ-គុណភាពថែទាំសុខភាពមាតានិងទារកៈ សមត្ថភាពអ្នកថែទាំស្ត្រីមានផ្ទៃពោះក្នុងខេត្តក្រចេះនៅ ប្រទេសកម្ពុជា

ខ្ញុំបាទឈ្មោះអ៊ិតប៊ុណ្ណដារ៉ាជាជនសិរ្សបណ្ឌិតពីសាកលវិទ្យាល័យញូសោធើវេលស៍ប្រទេសអូស្ត្រាលី ។ សព្វថ្ងៃមានមនុស្សជាច្រើនដែលមានការពាក់ព័ន្ធនឹងដំណើរការបង្កើតកូនដល់ស្ត្រីខ្មែរក្នុងប្រទេសកម្ពុជាមានដូចជាគ្រូពេទ្យឯកជនឆ្លបច្បាប់រាជរដ្ឋាភិបាលរដ្ឋបាលឃុំឃ្លាតនិងគណៈកម្មាធិការដែលមានជំនាញឆ្លបហើយតួនាទីរបស់ពួកគេមានការផ្លាស់ប្តូរ ។ ការសិក្សានេះមានបំណងចង់ពិនិត្យមើលការបង្កើតកូនរបស់ពួកគេនៅផ្ទះនៅគ្លីនិកនិងនៅមូលដ្ឋានសុខាភិបាលក្នុងខេត្តក្រចេះក្នុងនាមជាអ្នកស្រាវជ្រាវខ្ញុំនឹងធ្វើការអង្កេតតែមិនចូលរួមចំណែកក្នុងការសំរាលកូនផ្ទាល់នោះទេ ។ យើងមានបំណងសុំការអនុញ្ញាតនិងការយល់ព្រមរបស់អ្នកដើម្បីចូលរួមក្នុងការសិក្សានេះពីព្រោះខ្ញុំនឹងមានវត្តមាននិងជាផ្នែកមួយក្នុងរយៈពេលសំរាលកូននៅផ្នែកសម្ភពក្នុងរយៈពេលពីរពាន់សំរាលនិងការសំរាល ។ យើងខ្ញុំសូមថ្លែងអំណរគុណយ៉ាងជ្រាលជ្រៅចំពោះការចូលរួមរបស់អ្នក ។ យើងនឹងមិនចែកចាយព័ត៌មានណាមួយឬបញ្ចេញសុខភាពរបស់អ្នកដល់អ្នកផ្សេងឡើយហើយក៏មិនអោយនរណាម្នាក់ដឹងពីអ្នកដែរ ។ ការចូលរួមឬបដិសេធដែក្នុងការសិក្សានេះនឹងមិនប៉ះពាល់ដល់ការព្យាបាលឬការចូលមកព្យាបាលនៅសម្ភពសេវាសុខាភិបាលផ្សេងៗឡើយ ។ យើងខ្ញុំមិនអាចធានាជាអ្នកនឹងទទួលបាននូវផលប្រយោជន៍ពីការសិក្សានេះឡើយតែយើងខ្ញុំនឹងជូនអំណោយបន្តិចបន្តួចដល់លោកអ្នកដែលចូលរួមក្នុងការស្រាវជ្រាវនេះ ។ ការចូលរួមក្នុងការសិក្សានេះគឺជាការស្ម័គ្រចិត្តអ្នកអាចជ្រើសរើសមិនអនុញ្ញាតអោយខ្ញុំអង្កេតការអនុវត្តការសំរាលកូនរបស់អ្នកផ្តល់សេវាសុខាភិបាលណាម្នាក់ក៏បាន ។

យើងខ្ញុំសង្ឃឹមថាអ្នកនឹងអនុញ្ញាតអោយយើងខ្ញុំចូលរួមជាអ្នកអង្កេតនៃការសំរាលកូននេះព្រោះការអនុញ្ញាតរបស់អ្នកគឺមានសារៈសំខាន់ណាស់ ។ នៅពេលនេះតើអ្នកមានសំណួរប្រចំពោះអ្វីពីការសិក្សាអង្កេតនេះដែរឬទេ? បើមានព័ត៌មានបន្ថែមពីការអង្កេតនិងការចូលរួមរបស់អ្នក អ្នកអាចទាក់ទងខ្ញុំ តាមរយៈអ៊ីម៉ែល: ponndara_007@yahoo.com ឬទូរស័ព្ទមកខ្ញុំលេខ: ៦១០៤០១២៩៦១៧៧ ។ ពាក្យបណ្តឹងផ្សេងៗអាចទាក់ទងផ្ទាល់មកលេខាធិការដ្ឋានគណៈកម្មការក្រមសីលធម៌ជាតិសំរាប់ការស្រាវជ្រាវសុខាភិបាលជាតិកម្ពុជាដែលមានលេខទូរស័ព្ទ៨៥៥២៣៨៨០៣៤៥ ។ លេខាធិការដ្ឋានគណៈកម្មការក្រមសីលធម៌ជាតិអាចបញ្ជូនពាក្យបណ្តឹងរបស់អ្នកទៅសាកលវិទ្យាល័យញូសោធើវេលស៍ ស៊ីដនី ២០៥០ អូស្ត្រាលី លេខទូរស័ព្ទ: ៦១៩៣៨៥៤២៣៤ , Fax: ៦១២៩៣៨៥៤២៤៨ email: ethics.sec@unsw.edu.au ។ រាល់ពាក្យបណ្តឹងរបស់លោកអ្នកនឹងរក្សាការសំងាត់និងធ្វើការស៊ើបអង្កេតរួចនឹងផ្តល់ព័ត៌មានដល់លោកអ្នកវិញ ។

បើលោកអ្នកមានសំណួរសូមអញ្ជើញសួរឬបើមានសំណួរបន្ថែមពេលណាក៏បានលោកវេជ្ជបណ្ឌិតអ៊ិតប៊ុណ្ណដារ៉ាដែលមានលេខទូរស័ព្ទ: ៦១០៤០១២៩៦១៧៧ឬទាក់ទងតាមរយៈEmail: ponndara_007@yahoo.com, នឹងរីករាយឆ្លើយនូវរាល់សំណួររបស់លោកអ្នក ។ យើងនឹងផ្តល់ឯកសារនេះមួយច្បាប់ដល់អ្នក ។

សេចក្តីថ្លែងការណ៍ជូនព័ត៌មានដល់អ្នកចូលរួមសិក្សានិងការព្រមព្រៀងរបស់ស្ត្រីមានផ្ទៃពោះ ៩

លោកអ្នកអាចធ្វើការសម្រេចចិត្តចូលរួមឬមិនចូលរួម ក្រោយពីបានអាននិងយល់អំពីគោលបំណងនៃការសិក្សា និងយល់ព្រមចូលរួមក្នុងការសិក្សានេះ យើងព្រមចុះហត្ថលេខាដូចខាងក្រោមនេះ៖

មុនពេលសំរាល៖

ហត្ថលេខាស្ត្រីមានផ្ទៃពោះ

ឈ្មោះ

ថ្ងៃ ខែ ឆ្នាំ

ហត្ថលេខាអ្នកស្រាវជ្រាវ

ឈ្មោះ

កំពុងឈឺពោះ៖

ហត្ថលេខាស្ត្រីមានផ្ទៃពោះ

ឈ្មោះ

ថ្ងៃ ខែ ឆ្នាំ

ហត្ថលេខាអ្នកស្រាវជ្រាវ

ឈ្មោះ

ហត្ថលេខាសាក្សី

ឈ្មោះ.....

ប្រភេទសាក្សី

ហត្ថលេខាសាក្សី

ឈ្មោះ.....

ប្រភេទសាក្សី

ការបញ្ចប់ការយល់ព្រម

សេចក្តីថ្លែងការណ៍ជូនព័ត៌មានដល់អ្នកចូលរួមសិក្សានិងការព្រមព្រៀងរបស់ស្ត្រីមានផ្ទៃពោះ

ដោយយល់ឃើញថាខ្ញុំមានបំណងចង់ដកហូតការយល់ព្រមរបស់ខ្ញុំក្នុងការចូលរួមក្នុងសំណើនៃការស្រាវជ្រាវដែលបានរៀបរាប់ខាងលើនិងយល់ឃើញថាការដកហូតនេះនឹងមិនមានការប៉ះពាល់ដល់ការព្យាបាលឬទំនាក់ទំនងជាមួយនឹងគ្រឹះស្ថានសុខាភិបាលរបស់រដ្ឋាភិបាលនិងសាកលវិទ្យាល័យញូសាយែតវេលស៍ ។

ស្ត្រីមានផ្ទៃពោះ

ហត្ថលេខា

ថ្ងៃ ខែ ឆ្នាំ

ឈ្មោះ

ផ្នែកនៃការដកហូតការយល់ព្រមសូមបញ្ជូនទៅលោកវេជ្ជបណ្ឌិតអ៊ិតប៊ុណ្ណដារ៉ាសាលាសុខភាពសាធារណៈនិងវេជ្ជសាស្ត្រសហគមន៍
UNSW, Kensington NSW 2052.

Appendix 9a: Participant Information Statement and Consent Form for Women after birth (*English version*)

THE UNIVERSITY OF NEW SOUTH WALES PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Women after birth in Cambodia

Quality of Care in Maternal and Neonatal Health Care: Workforce Competencies in one Province in Cambodia

THE UNIVERSITY OF
NEW SOUTH WALES



SCHOOL OF PUBLIC HEALTH
AND COMMUNITY MEDICINE

My name is Ponndara ITH and I am a PhD student from the University of New South Wales, Australia. You are invited to participate in a study of quality of maternal and neonatal health care in this Province. I would like to ask you about your health related to pregnancy and childbirth and the care you receive at this facility. Your participation will be very much appreciated. We will not share any information about you or your health with anyone else and you will not be identified in any way.

Participation in this study or refusal to participate will not affect any treatment or your access to maternity or other health services. We cannot and do not guarantee that you will receive any benefits from this study.

Participation in this study is voluntary and you can choose not to answer any individual question or all the questions. However, we hope that you will participate fully in this survey since your views are important. At this time, is there anything you would like to ask me about the survey?

If you decide to participate, I will conduct an interview for approximately 30-45 minutes about as well as audio-tape our discussion subject to your consent. Recording of the interview is helpful in ensuring the issues you raise are accurately reflected in this study. You may request the recording device to be switched off and/or for recorded data to be deleted at any time.

For additional information about the survey and your participation in it, you can contact me at my email address: ponndara_007@unsw.edu.au or Phone: [REDACTED]

Complaints must be directed to the Ethics Secretariat, the Cambodian National Ethics Committee for Health Research (Phone: 855-23-880-345; Fax: 855-23-881-949) who can forward the complaints to the Ethics Secretariat at UNSW. Alternatively, you may be provided with a reply paid return envelope so that you can send a complaint directly to the UNSW Ethics Secretariat: University of New South Wales, Sydney 2052 Australia phone: 612 9385 4234, fax: 612 9385 6648, email: ethics.sec@unsw.edu.au. Any complaints you make will be treated in confidence and investigated, and you will be informed the outcome.

You will be given a copy of this form to keep.

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM (continued)

Women after the Birth

You are making a decision whether or not to participate. Your signature indicates that, having read the information provided above, you have decided to participate.

.....
Signature of Research Participant

.....
Signature of Witness

.....
(Please PRINT name)

.....
(Please PRINT name)

.....
Date

.....
Nature of Witness

.....
Signature(s) of Investigator(s)

.....
Please PRINT Name

REVOCATION OF CONSENT

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORM

Women after the birth

I hereby wish to **WITHDRAW** my consent to participate in the research proposal described above and understand that such withdrawal **WILL NOT** jeopardise any treatment or my relationship with the Cambodian government health institutions and the University of New South Wales.

.....
Signature

.....
Date

.....
Please PRINT Name

The section for Revocation of Consent should be forwarded to Dr Ponndara Ith, School of Public Health and Community Medicine, UNSW, Kensington NSW 2052.

Appendix 9b: Participant Information Statement and Consent Form for Women after birth (*Khmer version*)

សាកលវិទ្យាល័យញូសាយធើលស៍
លេខក្តីជូនព័ត៌មានដល់អ្នកចូលរួមសិក្សានិងការព្រមព្រៀងរបស់ស្ត្រីក្រោយសំរាលកូនរួច
ប្រធានបទ-គុណភាពថែទាំសុខភាពមាតានិងទារកៈ សមត្ថភាពអ្នកថែទាំស្ត្រីមានផ្ទៃពោះក្នុងខេត្តមួយនៅ
ប្រទេសកម្ពុជា

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ខ្ញុំបាទឈ្មោះអ៊ុតប័ណ្ណដាវ៉ាជានិស្សិតបណ្ឌិតសាកលវិទ្យាល័យញូសាយធើលស៍ប្រទេសអូស្ត្រាលី ។ យើងខ្ញុំសូមអញ្ជើញលោកអ្នកចូលរួមក្នុងការសិក្សាគុណភាពថែទាំសុខភាពមាតានិងទារកក្នុងខេត្ត ។ យើងខ្ញុំមានបំណងសួរអំពីសុខភាពរបស់អ្នកទាក់ទងនឹងការមានផ្ទៃពោះនិងការសំរាលកូននិងការថែទាំសុខភាពដែលលោកអ្នកបានទទួលនៅគ្រឹះស្ថាននេះ ។ ការចូលរួមរបស់អ្នកមានសារៈប្រយោជន៍ខ្លាំងណាស់ចំពោះយើងខ្ញុំ ។ យើងខ្ញុំនឹងមិនចែកចាយព័ត៌មានប្រព្រឹត្តិសុខភាពរបស់លោកអ្នកជាមួយអ្នកផ្សេងទៀតឡើយហើយគ្មាននរណាម្នាក់ដឹងពីអ្នកឡើយ ។ ការចូលរួមមិនចូលរួមនឹងមិនប៉ះពាល់ដល់ការព្យាបាលឬការចូលមកព្យាបាលនៅសម្ព័ន្ធប្រសាសុខាភិបាលផ្សេងៗឡើយ ។ យើងខ្ញុំមិនអាចធានាថាអ្នកនឹងទទួលបាននូវផលប្រយោជន៍ពីការសិក្សានេះទេតែយើងខ្ញុំនឹងផ្តល់អំណោយបន្ថែមដល់អ្នក ។ ការចូលរួមក្នុងការសិក្សានេះគឺជាការស្ម័គ្រចិត្តអ្នកអាចជ្រើសរើសមិនឆ្លើយនូវសំណួរណាមួយឬសំណួរទាំងអស់ក៏បាន ។ តែទោះជាយ៉ាងណាក៏ដោយយើងខ្ញុំសង្ឃឹមថាអ្នកនឹងចូលរួមយ៉ាងផុសផុលក្នុងការអង្កេតនេះព្រោះយោបល់របស់អ្នកគឺមានសារៈសំខាន់ណាស់ ។ នៅពេលនេះតើអ្នកមានសំណួរអ្វីមិនយល់អំពីការសិក្សានេះដែរឬទេ? បើអ្នកសំរេចចិត្តចូលរួមក្នុងការសាវ្រជ្ជាវយើងនឹងសំរាស់នឹងអ្នករយៈពេល៣០ទៅ៤៥នាទីហើយបើអ្នកយល់ព្រមយើងនឹងថតសំលេងពីការពិភាក្សាយើង ។ ការថតសំលេងមានប្រយោជន៍សំរាប់ជំនួយដល់បញ្ហាដែលលើកឡើងឆ្លុះបញ្ចាំងពីការស្រាវជ្រាវនេះ ។ អ្នកអាចសូមអោយយើងបិទម៉ាស៊ីនថតសំឡេងឬលប់ទីផ្ទាល់ដែលថតបាននៅពេលណាក៏បាន ។ ព័ត៌មានបន្ថែមពីការអង្កេតនិងការចូលរួមរបស់អ្នកអាចទាក់ទងខ្ញុំតាមអ៊ីម៉ែល: ponndara_007@yahoo.com ឬទូរស័ព្ទមកលេខ: ៦១០៤០១២៩៦១៧៧ ។ ពាក្យបណ្តឹងផ្សេងអាចទាក់ទងផ្ទាល់មកលេខាធិការដ្ឋានគណៈកម្មការក្រមសីលធម៌ជាតិសំរាប់ការស្រាវជ្រាវសុខាភិបាលជាតិកម្ពុជាដែលមានលេខទូរស័ព្ទ៩៥២៣៨៨០៣៤៥លេខាធិការដ្ឋានគណៈកម្មការក្រមសីលធម៌ជាតិអាចបញ្ជូនពាក្យបណ្តឹងរបស់អ្នកទៅសាកលវិទ្យាល័យញូសាយធើលស៍ ស៊ីដនី ២០៥០ អូស្ត្រាលី លេខទូរស័ព្ទ: ៦១៩៣៨៥៤២៣៤, Fax: ៦១២ ៩៣៨៥៦៦៤៨ email: ethics.sec@unsw.edu.au ។ រាល់ពាក្យបណ្តឹងរបស់លោកអ្នកនឹងរក្សាការសំងាត់និងធ្វើការអង្កេតរួចនឹងផ្តល់ព័ត៌មានដល់លោកអ្នកវិញ ។ បើលោកអ្នកមានសំណួរសូមអញ្ជើញសួរឬបើមានសំណួរបន្ថែមពេលក្រោយលោកអ្នកវេជ្ជបណ្ឌិតអ៊ុតប័ណ្ណដាវ៉ាដែលមានលេខទូរស័ព្ទ: ៦១០៤០១២៩៦១៧៧ ឬ Email: ponndara_007@yahoo.com និមិត្តរាយឆ្លើយនូវរាល់សំណួររបស់លោកអ្នក ។ យើងនឹងផ្តល់ឯកសារនេះមួយច្បាប់ដល់អ្នក ។

សេចក្តីថ្លែងការណ៍ជូនព័ត៌មានដល់អ្នកចូលរួមសិក្សានិងការព្រមព្រៀងរបស់ស្ត្រីក្រោយសំរាលពូជរួច
“ ត ”

លោកអ្នកអាចធ្វើការសម្រេចចិត្តចូលរួមឬមិនចូលរួម ។ ក្រោយពីបានអាននិងយល់អំពីគោលបំណងនៃការសិក្សា និងយល់ព្រមចូលរួមក្នុងការសិក្សានេះ យើងព្រមចុះហត្ថលេខាដូចខាងក្រោមនេះ៖

ហត្ថលេខាអ្នកចូលរួមស្រាវជ្រាវ	ហត្ថលេខាសាក្សី
ឈ្មោះ	ឈ្មោះ.....
ថ្ងៃ ខែ ឆ្នាំ	ប្រភេទសាក្សី
ហត្ថលេខាអ្នកស្រាវជ្រាវ	
ឈ្មោះ	

ការបញ្ចប់ការយល់ព្រម

សេចក្តីថ្លែងការណ៍ព័ត៌មានរបស់អ្នកចូលរួមសិក្សានិងការព្រមព្រៀងរបស់ស្ត្រីក្រោយសំរាលពូជរួច

ដោយយល់ឃើញថាមានបំណងចង់ដកហូតការយល់ព្រមរបស់ខ្ញុំក្នុងការចូលរួមក្នុងសំណើនៃការស្រាវជ្រាវដែលបាន រៀបរាប់ខាងលើនិងយល់ឃើញថាការដកហូតនេះនឹងមានការប៉ះពាល់ដល់ការព្យាបាលឬទំនាក់ទំនងជាមួយនឹងគ្រឹះស្ថាន សុខាភិបាលរបស់រដ្ឋាភិបាលនិងសាកលវិទ្យាល័យញូសោធើវេលស៍ ។

ហត្ថលេខា ស្ត្រីក្រោយសំរាល	ថ្ងៃ ខែ ឆ្នាំ
ឈ្មោះ	

ផ្នែកនៃការដកហូតការយល់ព្រមសូមបញ្ជូនទៅលោកវេជ្ជបណ្ឌិតអ៊ុតប៊ុណ្ណដារ៉ាសាលាសុខភាពសាធារណៈនិងវេជ្ជសាស្ត្រសហគមន៍
UNSW, Kensington NSW 2052.

Appendix 10: A Guide for Participant Observation

OBSERVATION SKILLS CHECKLIST

NORMAL LABOR, CHILDBIRTH, and THE IMMEDIATE POST-PARTUM CARE

(To be used by the Researcher conducting observation)

Pseudo-name of birth attendant or team work _____

Name of institution _____

Type of institution

- ☐ Private clinic/Hospital (1)
- ☐ Health Centre (2) ☐ Home Delivery (3)
- ☐ District Referral Hospital (4) ☐ Other (5) (specify) _____
- ☐ Provincial Referral Hospital (6)

Date(s) of Observation _____

Demographic characteristics of the women who were observed

Variable

Marital status

- Married

Employment status

- Farmer/housewife
- Paid job

Education level

- Illiterate
- Primary school
- Secondary school
- Bachelor

Parity

- Primiparous
- Multiparous

Had antenatal care this pregnancy

- Yes
- No

Problems during pregnancy

- Bleeding
- Eclampsia

Activities performed by SBAs

Labour and birth practices

- Ask the history of the woman
- Use of partograph to monitor progress of labour
- Hand-washing/hands rubbing (with soap and plain water or antiseptic)
- Vaginal examination less than every 4hours
- Monitoring of fetal heart rate

Care during labour and childbirth

- Birth companion was permitted to attend labour
- Clean delivery surface
- Episiotomy
- Vacuum extraction
- Correct use of AMTSL
- Examine the placenta and membranes for completeness and abnormalities
- Manual exploration/evacuation of uterine cavity

Post-partum practices

- Follow-up and care of mother after birth
- Keep women 2 hours in the delivery room for follow-up
- Monitoring of vital signs and amount of external blood loss within the first 2 hours after birth

Newborn practices

- Immediate care of newborn (within 1 hours
- Assess Apgar Score
- Clean cord care (including cord ties and cutting surface)
- Apply antimicrobial eye drops or ointment
- Administration of vitamin K
- Place the baby in skin-to- skin contact
- Baby given to mother within half an hour
- Early breastfeeding

Maternal problems in the first 24h after birth

- Post-partum haemorrhage
 - Referral to other level of care
-

Appendix 11: A Guide for In-depth Interviews with Public and Private SBAs

Individual In-Depth Interview Guide Skilled Birth Attendant/Private Health Providers

Date _____

District _____ Province _____

Venue _____

Time: from _____ to _____

Respondent Code:	PSEUDONAME:
Location:	
Age: (<20) (21-30) (31-40) (41-50) (>51)	Gender: (Male) <input type="checkbox"/> (Female) <input type="checkbox"/>
Skilled Birth Attendant Status: Qualification? _____ Who? _____ When _____ Where? _____ Duration: _____ Duration of Birthing Practice _____	What is the last training did you receive? _____ How long was the duration of the last training? _____ What did you remember about the training contents? _____
Other profession: _____	Number of births assisted per month: _____
Date of last assisted delivery: (1) (2) (3) (4) (5) (6) month(s) ago	Total births assisted: _____

i. Labour and birth practices

Tell me about your practice during labour, during the birth.

Prompts:

1. What do you do when women were admitted to maternity ward?
2. What do you do to help women during delivery?
3. How do women have support in labour?
4. Do you do internal vaginal examinations to check on how the labour is progressing?
5. How do you assist with the birth, or delivering the baby- *can you describe a typical, normal birth and what you actually do? if active management of the third stage of labour (AMTSL) – ie controlled cord traction, administration of oxytocin and uterine massage – find out what and EXACTLY when they might give it...IM? Where?*
6. What do you do if the woman is not healthy at birth?
7. What do you do after the baby is born? Do you wait for the placenta to fall out? Or do you do other things?

ii. Post-partum practices

Tell me about your practice after the birth:

Prompts:

1. Do you follow up with women whom you have assisted this childbirth? If you monitor postnatal care, how do you do? Why do you do it?
2. What do you do if a woman developed complications, such as post-partum haemorrhage? Or would you refer to other level of care? Why? And how?

iii. Newborn practices

Tell me about your practice after the baby was born.

Prompts:

1. What do you do for the baby in the immediate newborn period?
2. What do you do if the baby is not healthy at birth? Such cyanosis or asphyxia after birth? How do you resuscitate the baby?

iv. Skilled care for obstetric emergencies

Tell me about birth-related complications

Prompts:

1. What happens when a woman with complications arrives at a health facility? What type of complications can women have? Out of all these problems, which any of these are the most serious?
2. For each problem ask:
 - a. Do you know what causes that problem?
 - b. What can happen to the women who have this problem?
 - c. How do SBAs or private health providers usually manage problems like that occur?
3. Have you ever seen a woman with any of these problems?
4. Do you ever refer women to referral hospital? If yes why? If not why not?
5. If yes: Under what circumstances do you decide to refer a woman? *To which facilities do you make referrals? Why? Do you accompany women to (this facility/ these facilities)? Do you help families make arrangements to get there? How so? Have you ever experienced a situation where you referred a woman to a facility because she had a complication, but she did not manage to reach the facility in time? What happened? If no: Why not? Do you ever refer women to other places or providers? Where? Why?*
6. What are the main skills of technical competencies that you feel less competent or confident in managing normal birth and basic emergency obstetric and neonatal care?
7. Would you like to get more knowledge and skills on safe delivery? Why?
8. Do you have any suggestions for improving your skills and competencies in maternal and neonatal care during childbirth?

Thank you for answering all our questions about giving birth. Your answers have been helpful. Maybe you have thought of something that we have left out. Is there anything else that you'd like to tell me about your experience? Do you have any suggestions for improving your skills in maternal and neonatal care during childbirth and your collaboration with the TBAs, Private Practitioners?

Thank you very much for taking the time to talk to me.

Interviewer's comments:

Appendix 12: A Guide for Focus Group Discussion with Public SBAs

MIDWIVES, DOCTORS AND NURSES WITH MIDWIFERY SKILLS

We are interested in your views on the role of SBAs in looking after women in your community. We realize that you have different experiences and ideas and we really welcome your honest views...

1. Have you ever seen a woman with complications? What sort? What did you do? – this is a major focus of the FGD
2. How do you refer women to obstetric emergency services? Do you ever go along with women? If yes, what happens when you accompany pregnant women to this service? – Do you get support, help or paid or blame?
3. What are the main skills of technical competencies that you feel less confident about managing normal birth and or basic emergency obstetric and neonatal care?
4. What are the main barriers that affect your practice and performance in providing timely and appropriate maternal care? What sort of problems do you have with supplies?
5. Recently, the government has provided the incentives to all government skilled birth attendants who provide live birth at health facility, what are these initiatives like?
6. We know that women in other countries have said they value privacy, confidentiality, following woman's choice, listening to their feelings. Do you think this is the same for the women you have looked after in your health facility? How do you try to meet their needs? Do you think that midwives and doctors provide for those values when they go to health facilities?
7. I have heard that many women prefer traditional birth attendants and/or private practitioners to SBAs, can you tell me a little bit why pregnant women/community usually choose these providers (TBA/ PP) rather than go to public health services? What type of birth do women choose TBA/PP? What are the consequences of choosing TBA/PP? What are the more common things that women/community do, like delay in contacting the health service or not contacting the service at all?
8. With regard to training, are there any training programs available for skilled birth attendants at your facility? If it is available, have you attended this training? If not why not? If yes, is it any good? Do you think that pre-service training needs to change? How do you learn your skills? Did pre-service education training help or did you have to obtain it later?

Appendix 13: A Guide for In-depth interviews with Women after Birth

POST-PARTUM WOMEN INTERVIEW

Facility name: Facility Code: District code:

Type of facility (enter H=Hospital; C=Health Centre; N=Maternity Home Clinic; P=Private Maternity Clinics)

Date today:

Respondent Code:	Pseudo-Name:
Location:	Household Composition:
Age: (<20) (21-30) (31-40) (41-50) (>51) years	Education:
Distance to facility / maternity: (less than 5km) (more than 5km)	Closest facility to health facility with EmOCN (Blood supply & C-section
Women status: How many birth have you had? _____ Primigravidae _____ Number of children who survive _____ Number of dead children: _____	Numbers of normal births: _____ Numbers of complicated births: _____ C-section delivery: _____
Profession: _____	Religion: _____
Date of last birth: (1) (2) (3) (4) (5) (6) week(s) ago	How many times do you use this facility? _____

The Main Themes

1. Have you ever given birth at this facility before?
If not, why not? Now you delivered your baby at this facility, can you tell me the reason you chose this facility? To the best of your knowledge, how would you think about other women's perception of this facility?
2. Can you tell me a bit about how staff (nurse, midwife or doctor) at this facility has treated you during labour and birth and which staff has looked after you since you have been here:
 - *Did staff introduce themselves when you came for delivery?*
 - *Did staff ask you if you had any questions or concerns?*
 - *Did staff ask you if you wanted a family member or other person with you for support during labour and birth? When staff examined you, did they provide privacy or confidentiality?*
 - *Did staff explain what they were doing before examining you or conducting any procedure?*
 - *Did staff inform you of your progress during labour and of your medical conditions?*
 - *When you were in pain, did staff advise you on what you could do to make yourself more comfortable?*
 - *Did staff help make you more comfortable during labour?*
If YES: What type of comfort measure(s) did they provide?
 - *Did you have to pay for this birth? If yes, how much did you pay, including all fees, drugs and supplies? Enter amount (or value of in kind payments) in local currency.*
 - *Did you have to pay for extra cost besides the actual cost of delivery? Why?*
3. Were you advised to come back for medical check-up after the birth?
4. What advice did staff tell you to do?
5. How would you satisfy with the care you received during childbirth?
6. Did you feel that staff (nurse, midwife or doctor paid close attention to you throughout your labour, birth and after the birth?
7. What was the best thing about your experience during childbirth?
8. What was the worst thing about your experience during childbirth?
9. Would you return to this facility for maternal health services in the future?
10. What specific ways would you suggest to improve this maternity service?
11. Is there anything else you would like to tell us?

Appendix 14: Guide for In-depth Interviews with Key Stakeholders

Healthcare systems strengthening and the provision of quality maternity care are key aspects of improved maternal and newborn health outcomes. Recently, RACHA as well as other key health partners, which are involved in the provision of maternal healthcare, have worked closely with the Cambodian Ministry of Health and the Provincial Health Department to improve health service delivery in many hospitals and health centres through the implementation of a quality improvement system. The province the research has been undertaken is one of the Ministry of Health and the RACHA's targets. Therefore, I would like to interview with you about your views and experiences regarding implementing a quality improvement system in this province.

1. What do you think about the use of a QI tool and its implementation in public facilities in Cambodia?
2. Are QI initiatives appropriate and adequate for the Cambodian context? If it is appropriate, why? If not why not?
3. What are the barriers or facilitators in implementing these tools?
4. How does the adoption of QI approach be achieved to improve maternal health in Cambodia?
5. How could the implementation of QI be sustained for the long haul?
6. What are your suggestions or the way forward for improving quality maternity care in this province?

Appendix 15: Materials for Member Checking (Focus Group Discussions)

Note: this is the general format of the interview/discussion guide. Specific data were inserted for each research site where the group interviews and focus group discussions were conducted.

Preliminary Findings

Good morning everyone. I am really happy to return to Cambodia. I would like to share some of my preliminary findings and like to open a collaborative dialogue on the data and their meanings. This is what I'm seeing and hearing and my conclusion from what I observed and interviewed with you.

i. Labour and birth practice

1. Low use or not use of partograph for monitoring the progress of labour
2. Hand-washing was not performed by health care providers in the hospitals/HCs/Clinics before gloving and or conducting birth
3. cleanliness at birth is lacking
4. Support in labour by a companion of a woman's choice is limited or not permitted, especially during pushing or birthing period although the room was large enough to accommodate 3 or 4 people.
5. Routine episiotomy and the use of vacuum extraction has seen commonly practised
6. There is inconsistent knowledge in AMTSL (timing of injecting oxytocin within one minute, of delivery of the placenta, lack of fundal massage after the placenta was delivered)
7. After birth, almost all birth attendants conduct exploration of uterine cavity by hands or tampon.

ii. Post-partum practices

1. No close monitoring and early intervention of mothers within the first two hours (healthcare providers refer to women's family report, keep women in the labour room alone or give family to carry women to post-delivery room immediately)
2. Two women had died of post-partum haemorrhage.

iii. Newborn practices

1. Hygiene is poor. Baby did not put in a clean surface.
2. Do not implement skin-to-skin contact after the immediate birth nor assist mother with early breastfeeding (especially in a baby friendly hospital)
3. Do not perform rapid evaluation and response of newborn using Apgar Score

4. SBAs delay in making decision or planning to refer the newborn timely to higher level of care although they realize that the baby had some degree of cyanosis and their limited skills to resuscitate the babies.
5. Inconsistent knowledge in administration of eye drops prophylaxis or vitamin k injection
6. Limited knowledge in neonatal resuscitation techniques
7. Unclean cord care (use unsterile thread, hands touched unclean things, use bandage)

iv. Supportive Working Environment

1. Workplace organisation:

- Lack of policy and authority
- A fear of litigation
- Heavy workloads and a lack of health personnel
- Inadequate pay and benefits

2. Referral and communication:

- Poor service linkages: Poor collaboration and coordination within services as well as among health facilities, when complication occurred or referral was needed (consultation, discussion and action)
- Challenges: no clear job descriptions and responsibility. SBAs did not know where to refer women to when complications occurred. When getting to public facilities, SBAs often spend much time to look for a midwife or doctor for help; sometimes, some of you even get blamed or asked to refer the women with complications back and forth by other members of SBAs. As a result, SBAs who work in the health centres did not trust SBAs working in hospitals that provide CPA 2 and 3 and in general, prefer referring women with complications to another private clinic that can provide life-saving interventions in the province

3. Drugs, equipment and supplies:

- Limited drugs (Magnesium sulphate, Oxytocin, Misoprostol, Hydralazine, Eye drops, and Vitamin K)
- Lack of blood for transfusion in the hospitals being considered providing EmONC

v. Management issues

1. Poor leadership and management: staff are not aware that the national guidelines are available for aid
2. No clear job descriptions nor standard operating procedures
3. No supervisory support/supervision/motivation (verbal or financial incentives) from Provincial managers
4. Lack of transparency and accountability in incentives distribution: self-maximisation/

5. Use of hierarchical differences to dominate care and lack of task delegation
6. No disciplinary action/measures for those who have done something wrong or ask extra-charge from women, or those who are not on guard or duties. This can cause the interruption of service functioning for 24 hours for women who need them.

vi. Professional Ethics

1. Most SBAs only thought of private financial gain before performing particular tasks.
2. SBAs performed inappropriate practice (routine exploration of uterine cavity after delivery of the placenta; routine episiotomy/vacuum extraction) although they realised that these practices were harmful to women or beyond the scope of their practices and boundaries
3. Referred women to private clinics for commissions (not to public health facilities)
4. Forced women to pay additional cost on top of the official charge before and after each birth/C-section
5. Do not provide appropriate care or delay timely treatment to the poor; use demeaning languages/bad attitudes/disrespect and even abuse birthing women during childbirth
6. Some of SBAs had professional values/morality in providing care to women (polite and good attitudes and provide evidence-based practice

vii. Training and Education

1. Secondary midwives had more opportunities to receive short or refresh training than those of primary midwives
2. No hands-on practice for primary midwives
3. National program stops upgrading primary midwives (PMW) to secondary midwives. Although PMWs wish to upgrade to be a SMW, they did not have such opportunity leading to their dissatisfaction.

Questions for discussion:

1. What do you think of the above findings?
2. Does it make sense to you? Why or why not?
3. What other factors may have contributed to the current situations?
4. What feasible improvements can be done with available resources?