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REDUCING MATERNAL MORTALITY IN CAMBODIA:
FAITH DIMENSIONS
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FORWARD

This is the fourth in a series of World Faiths Development Dialogue (WFDD) thematic reviews of the many intersections of faith and development in Cambodia. It is part of larger country-level mapping exercise examining the work of faith-inspired actors in Cambodian development context begun in August 2009.

The report was authored by Nathaniel Adams and Noora AlSindi. It is based on field work carried out by Jenny Cimaglia (WFDD) in Cambodia between October 2011 and May 2012. Claudia Zambra and I provided critical oversight during the research and writing stages. The report draws on primary interviews and qualitative research with key maternal health experts and faith-inspired actors. These interviews have been supplemented by secondary sources from a thorough literature review. Primary research was conducted with the support of the University of Cambodia. A draft report was sent to a range of colleagues in Cambodia. Their constructive feedback is gratefully acknowledged.

This report, the first to focus on the public health sector, explores the complex linkages between faith and efforts (national and international) to reduce Cambodia's high maternal mortality rates. It explores the main causes of maternal mortality and highlights the deep historical roots of Cambodia's maternal health challenges. It outlines the government's policy response and analyzes major barriers that remain. Finally, it maps the work of faith-inspired actors that work on maternal health, exploring some distinctive initiatives more deeply through case studies.

We chose to highlight the issue of maternal health both because Cambodia falls so strikingly behind neighboring countries, with persistently high mortality, and because we were aware of inspiring cases of faith-inspired work. It was our hope and expectation that such experiences could contribute ideas as well as partners to the renewed national effort to address maternal health. We were somewhat surprised to find less direct engagement on the topic than we had expected. This is in part because of taboos associated with women's reproductive health, especially where Buddhist monks are concerned. It also reflects a worrying lack of urgency about women's health, possibly a result of limited understanding of the severity of problems and our collective knowledge of what can and thus should be done to address them.

The report's primary conclusions thus speak to some inspirational and exemplary cases of innovation and commitment but, still more, to the potential for greater understanding leading to bolder action.

It is our hope that the report will highlight lesser known work on maternal health in Cambodia and thus enrich analysis and policy dialogue on this crucial topic. We also hope to highlight opportunities for productive engagement between faith-inspired actors, the Cambodian government, and the secular development community. We welcome feedback and ideas for further research and action.

Katherine Marshall
Executive Director. World Faiths Development Dialogue

ACRONYMS AND ABBREVIATIONS

ADP:	Area Development Program
ADRA:	Adventist Relief and Development Agency
AIDS:	Acquired Immunodeficiency Syndrome
AMTSL:	Active Management of the Third Stage of Labor
ANC:	Antenatal Care
BfH:	Buddhism for Health
BSDA:	Buddhism for Social Development Action
CDHS:	Cambodian Demographic and Health Survey
CMNH:	Community-based Maternal and Newborn Health
CPR:	Contraceptive Prevalence Rate
CRS:	Catholic Relief Services
CRY-UK:	Child Rights and You United Kingdom
EmONC:	Emergency Obstetric and Newborn Care
FIO:	Faith-Inspired Organization
HIV:	Human Immunodeficiency Virus
HEF:	Health Equity Fund
HCMC:	Health Center Management Committees
HSP:	Health Sector Plan
ICC:	International Cooperation Cambodia
IMCI:	Integrated Management of Child Illness
ILDO:	Islamic Local Development Organization
JSI:	Jumpstart Initiative
KHR:	Cambodian Riel
NGO:	Non-Governmental Organization
MWH:	Maternity Waiting Home
MCHP:	Mother and Child Health Program
MDG:	Millennium Development Goal
MGV:	Mothers' Groups Volunteers
MMR:	Maternal Mortality Rate
MoH:	Ministry of Health
NAMSA:	Network of Affiliated Monks for Social Accountability
NIS:	National Institute of Statistics
OECD:	Organization for Economic Cooperation and Development
PMEF:	Pagoda-Managed Equity Fund
PPH:	Postpartum Hemorrhage
RACHA:	Reproductive and Child Health Alliance
RHAC:	Reproductive Health Association of Cambodia
SBA:	Skilled Birth Attendant
SMILE:	Securing Mothers and Infants Lives with Equity
SOA:	Special Operating Agency
TB:	Tuberculosis

TBA:	Traditional Birth Attendant
UN:	United Nations
UNFPA:	United Nations Population Fund
UNTAC:	United Nations Transition Authority for Cambodia
UNICEF:	United Nations Children’s Emergency Fund
USAID:	United States Agency for International Development
USD:	United States Dollar
VHSG:	Villages Health Support Groups
WHO:	World Health Organization
WFDD:	World Faiths Development Dialogue
YWAM:	Youth with a Mission

Glossary of Terms

ang pleung:

Also known as ‘roasting’, a traditional practice in which a woman lays on a cot above hot coals anywhere between three days and one month after giving birth.

arogysala:

“Halls of diseaselessness” constructed by King Jayavarman VII in the late 12th century

bray:

Jealous spirits that are associated with the dangers of childbirths

chhmob:

Traditional Birth Attendant (TBA)

postes médicaux:

Health posts established by the French colonial administration in rural Cambodia around the turn of the 20th century

kru:

Khmer traditional healers

EXECUTIVE SUMMARY

Maternal Health in Cambodia: Why Faith Matters

This report explores actual and potential roles for faith actors in Cambodia's national effort to improve maternal health. Our review suggests that only a few of the many and diverse faith-inspired actors have made reducing maternal mortality a central goal, notwithstanding Cambodia's high maternal mortality rate and the government's priority concern to address this issue. However, there are prominent examples that suggest significant potential for faith-inspired actors to play larger roles. The main relevant assets here are their almost universal reach in the poorest and most remote communities and influence on behaviors that affect maternal health. The challenge is to improve strategic communication among FIOs and other organizations, so that they learn from successful examples, address specific gaps identified by the government's articulated maternal health policy, and explore creative partnerships especially at the community level.

Maternal mortality is a leading global health challenge. Some 800 women die each day, almost all in poor countries, from causes related to childbirth and pregnancy. The 5th Millennium Development Goal, to reduce the global maternal mortality rate (MMR) 75 percent by 2015, reflects the international consensus that this is a priority moral challenge. The health interventions necessary to combat maternal mortality are well known, but progress in many countries is slow. This is largely because of the many barriers to care and the interlinked health and cultural factors involved.

In the seven years before 2000, an estimated one in five Cambodian women died in childbirth, but progress since has been significant, with a 47 percent decrease in MMR between 2000 and 2010. Some question the accuracy these official statistics (sug-

gesting that they are overly optimistic on progress). No matter what figure it taken, however, maternal death rates are comparatively high, second only to Laos in Southeast Asia.

Faith actors are involved in maternal health issues in important and diverse ways in Cambodia, though their actual and potential involvement has never been assessed systematically. Perhaps most visibly, faith-inspired organizations (FIOs) run a range of maternal health projects that focus primarily on key barriers to care. These involve activities such as bolstering community health groups, re-training midwives, and improving health infrastructure. Most FIOs represent diverse Christian traditions and include the well-known transnational organizations: ADRA, World Vision, World Relief, and Caritas. FIOs are, however, comparatively less active in maternal health than on other health issues and in other development sectors. Due to some of the overt reproductive themes, local faith actors, both Buddhist and Muslim, have not made improving maternal health an explicit priority.

FIOs and faith actors are, for various reasons, well positioned to contribute to Cambodia's response to maternal mortality. Transnational FIOs bring a keen awareness of international evidence-based practices and have a capacity to mobilize financial and medical resources, including experienced trainers. Local faith actors are present in even the most remote and underserved communities, where they are trusted figures who can influence change in health seeking behavior. There are significant barriers, however, as maternal health can present thorny issues that may conflict with religious vows or teachings.

Some historical perspectives

Traditional understandings of health in Cambodia, some with roots back even to the Angkorian period, in-

fluence maternal health and approaches to childbirth among significant parts of the population. Traditional birth attendants (TBAs) known as *chhmob* (a subset of traditional healers) attend over half of all deliveries in rural areas. *Chhmob* have important spiritual and cultural roles that are often under-appreciated in current policy discussions.

French missionary sisters established the first maternity ward in Cambodia that grew to form the basis of the colonial public health system. Cambodian women, however, resisted efforts to give birth in medical facilities in part due to strong local traditions of home birth as well as antipathy towards the primarily Vietnamese staff. Colonial training programs for Khmer midwives failed due to the small middle class from which candidates could be drawn. These challenges foreshadowed issues that are still important today.

The Khmer Rouge decimated Cambodia's fledgling national health system. Fewer than 50 of the more than 600 doctors practicing in Cambodia survived this period. With the regime's fall in 1979, a wide variety of faith-linked organizations played pioneering and critical roles in the humanitarian response, beginning the slow process of institutional rebuilding. These efforts were initially uncoordinated; however, as coordination increased and Cambodian ownership grew the influence of FIOs in the health sector diminished. Though they remain a significant presence, their focus has shifted from service provision to improving access.

Cambodia's Current Health System: Reforms and Maternal Health

Complications from maternity are among the leading causes of death for women between the ages of 15 and 49. These are for the most part preventable tragedies; ensuring that women give birth in the presence of a trained skilled birth attendant is thus vital. Direct causes of death include hemorrhage, pre-eclampsia/eclampsia, sepsis, obstructed labor, and uterine rupture, accounting for roughly 88 percent of all maternal deaths. Other significant causes, less well documented, include indirect links to infectious disease, HIV and AIDS, anemia, and malnutrition. Unsafe abortion contributes to roughly four percent of maternal deaths, highlighting the unmet need for family planning services.

Reducing maternal mortality is a strategic focus of Cambodia's Health Sector Strategic Plan (HSP1-2), the policy guiding Cambodia's health reform process. Decentralization and health service coverage in remote, underserved areas are priority goals. The system is focused on the operational district, each theoretically serving a population of 100,000 to 200,000 people and typically including one referral hospital and a network of health centers. The vision is that the health center will be the focal point for maternal health services, providing a place for assisted delivery, ante and post-natal care, family planning services, and referral in the case of complications. This vision has yet to be fully realized. Inadequately trained staff, absenteeism, and poor attitudes are serious concerns when paired with endemic shortages in medical supplies and a lack of hygienic conditions.

Prime Minister Hun Sen recently declared improving maternal health services to be the nation's top health priority. The Fast Track Initiative for Improved Maternal and Child Health (2008) provides a robust policy framework on maternal health and addresses some of the system's deficiencies. Among its action areas are improving recruitment and training of midwives, strategies to ensure 24-hour staff availability, and meeting the unmet need for family planning services. Despite this expression of strong political will, significant barriers remain. There are significant opportunities for FIOs to bolster these efforts, but this will require better coordination with national and local health authorities.

Barriers to Access in Maternal Health: The Three Delays

FIOs work on maternal health in Cambodia primarily involves overcoming barriers to access in local communities. The WHO-developed Three Delays Model highlights the underlying conditions that can delay or altogether prevent women from seeking appropriate maternal care. The first delay is in seeking appropriate care, the second is in reaching a suitable medical facility, and the third is in receiving adequate medical treatment once there.

Various factors combine to discourage expectant mothers from seeking appropriate care in the Cambodian context. The financial shock of a visit to the local

health center excludes many. Cambodia has some of the highest out of pocket healthcare expenses in the region. User fees contribute to these high costs, as do transportation costs and informal payments. Over 90 percent of Cambodia's poorest citizens (those who fall under the US\$0.61 poverty line) live in rural areas where the financial burden of a health center visit is particularly severe.

Significant investments of time and money are needed simply to reach the closest health center, and once there the availability of staff and quality of care pose real concerns. Due to low wages and isolation, rural health centers struggle to retain staff, including midwives. A recent study suggests that Cambodia will need to at least double the number of trained midwives to meet acceptable standards.

The growth of private healthcare has affected health seeking behavior of Cambodians and quality of care at public facilities. As much of the operating costs of health centers are covered by user fees, a decline in patients can reduce revenue. Ironically, low public salaries cause many health professionals to establish supplementary private practices, adding to absenteeism rates.

Traditional practices surrounding childbirth remain very common, especially in rural areas, and can contribute to high mortality among other negative effects. An example is the practice of *ang pleung*, in which a new mother rests on a cot above hot coals for weeks after giving birth. Many women still prefer to give birth in the presence of a *chhmob* (traditional birth attendant) who are trusted, accessible, and affordable. Trust and comfort issues are consistently cited as critical in the decision on where to give birth.

FIOs and Faith Actors: Filling the Gaps in Maternal Care

A limited number of FIOs and faith actors are running programs or modeling faith-rooted approaches that seek to impact the "three delays" in accessing timely and appropriate care during childbirth. World Vision is the largest, but ADRA, World Relief, Caritas, ICC, and YWAM all have had noteworthy programs.

Coordination is particularly critical if MMR reduction is to be sustained. Many major Christian FIOs working on health are members of the umbrella organization MEDiCAM, which has been an important information sharing platform and vehicle for coordination with the Ministry of Health (MoH). However, the association's advocacy on access to safe abortions has created problems for some Catholic members. There is a noticeable lack of involvement of Buddhist and Muslim FIOs on maternal and reproductive health, owing in large part to cultural and doctrinal concerns.

Faith actors have unique characteristics that could have a positive influence on Cambodia's maternal health response. The common "holistic health" focus, which emphasizes physical and emotional healing, could be a model for compassionate care. The demonstrated ability of international FIOs to organize visits from health professionals could contribute to midwife training efforts. Local faith actors are often active in remote areas and are well placed to encourage changes in the behaviors surrounding child birth.

The following projects suggest that the potential of faith actors to improve maternal health outcomes in Cambodia is substantial.

ADRA's Securing Mothers' and Infants' Lives with Equity (SMILE) in remote Preah Vihear Province involves coaching and skills-upgrading sessions for local midwives. Traditional birth attendants are also trained in health center referral and emergency health interventions. Care Groups for local women are linked with local health centers to disseminate accurate and timely health messages. A unique component is the construction of maternity waiting homes (eight planned so far), which house and provide services for expectant mothers.

World Vision's Jump Start Initiative (JSI), which ran from 2008 to 2012, sought to mainstream maternal and child health perspectives in country office programming and develop a contextually grounded core set of interventions in the sector. Key interventions included supporting midwives for refresher training and building capacity among Village Health Support Groups. The JSI contributed to a strong partnership between World Vision and the Ministry of Health, which will be used as a foundation for future health programming.

Caritas's Mother and Child Health Program (MCHP)

is the most targeted maternal health project run by a Catholic charity in Cambodia. The project, based in Siem Reap Province, seeks to bolster community health structures by forming Village Health Support Groups and Mothers' Groups. Volunteers work closely with health center staff to provide training on the management of maternal and childhood illness. Another focus is ensuring 24-hour care at local health centers, and the project involves the construction of housing for staff on health center premises. At Khnang Phnom Health Center a motorcycle was provided to allow for home visits to more inaccessible villages in the Kulen Mountains.

Pagoda-managed Health Equity Funds (PMEFs)

reimburse user fees for poor families in an attempt to lessen the financial barrier to appropriate health care. A pagoda run and financed Health Equity Fund model was piloted by Enfants & Développement and later by the Swiss Red Cross. The strategy allowed for quick and accurate identification of beneficiaries, building on the pagoda's intimate knowledge of their community and eliminating administrative costs. Financing was provided by donations at local pagodas and mosques, covering part of the PMEF's costs. The model demonstrates that faith communities can contribute to greater sustainability by providing locally sourced funding.

Moving Forward:

- *FIO strategic insights and distinctive approaches in health programming can inform and complement the work of government and secular development partners in ensuring responsive and compassionate health services.*
- *Major Christian FIOs are members of health coordinating bodies such as MEDiCAM; however, Buddhist and Muslim organizations are not engaged despite indications of interest.*
- *Traditional birth attendants (who are tied to religious values and Buddhist institutions in various ways) are an influential part of childbirth in Cambodia, particularly in rural areas. A coherent policy is needed to guide future engagement, building on the strengths of these figures.*
- *Promising results of the Pagoda-Managed Health Equity Fund strategy has drawn attention to the*

advantages of engaging with and working through local religious structures.

- *There is a pressing need to recruit and train new midwives. FIOs have been less involved here than they could be given that they are so well-positioned to help.*

INTRODUCTION:

WHY ARE FAITH AND MATERNAL MORTALITY LINKED?

Faith and efforts to reduce Cambodia's high maternal mortality are linked in important ways, but the links have received little attention.

Perhaps most visibly, several Faith-Inspired Organizations (FIOs) are active in maternal health issues, running projects that range from health education to midwife training and including innovative programs like constructing maternity waiting houses at district health centers. Many of these organizations are international and grounded on Catholic, mainline Protestant, or Evangelical Christian traditions. Some secular Non-Governmental Organizations (NGOs) engage local faith actors as key partners in health programs.

A notable project is an NGO-sponsored Health Equity Fund (HEF), which provides user fee compensation to public health facilities on behalf of families in need (poverty is one of the main barriers to maternal care). With intimate knowledge of their communities, local pagodas and mosques provide a ready means of identifying beneficiaries. Local faith networks also reach some of the most remote and underserved communities in the country and can often provide decentralized management potential. In this scheme, donations at local pagodas and mosques actually provide sustainable financing for HEF.

All maternal health interventions take place in a cultural context, and many traditional beliefs and practices surrounding pregnancy and childbirth in Cambodia have deep spiritual roots. These traditional practices, such as *ang pleung* or "roasting," in which a mother rests on a cot above hot coals for days after giving birth, are deeply ingrained and remain particularly influential in rural areas. Such practices, however, can cause significant delays in postnatal care and may be dangerous. These practices often reflect specific local and cultural understandings of pregnancy and child-

birth. There has been little effort, however, to bridge traditional and modern health understandings.

Maternal Mortality Globally

Maternal mortality is a leading global public health challenge. An estimated 800 women die each day from causes related to childbirth and pregnancy, and this burden sits squarely on the developing world, where 99 percent of those deaths occur (WHO, 2012). Maternal mortality is defined by the World Health Organization (WHO) as "the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes." The irony is that the health interventions necessary to manage complications during pregnancy and the postpartum period are well-known, and if instituted, almost all maternal deaths could be prevented. There is a strong international consensus that maternal health deserves high priority, well reflected in Millennium Development Goal (MDG) 5: to reduce maternal mortality globally by 75 percent and achieve universal access to reproductive health by 2015. This goal was thought to be highly achievable. Progress has indeed been made, with a 47 percent decrease in the Maternal Mortality Rate (MMR) between 1990 and 2010. However, many countries, particularly in Sub-Saharan Africa and South Asia, are unlikely to meet the goal by 2015. The fact that the MMR remains stubbornly high in certain regions points to the many complexities involved. Poverty, geography and cultural beliefs can all present substantial access barriers to appropriate maternal care.

As those who work in the sector are quick to point out, the push to improve maternal health is not solely about saving the lives of mothers; maternal mortality has a much broader societal impact. Women have

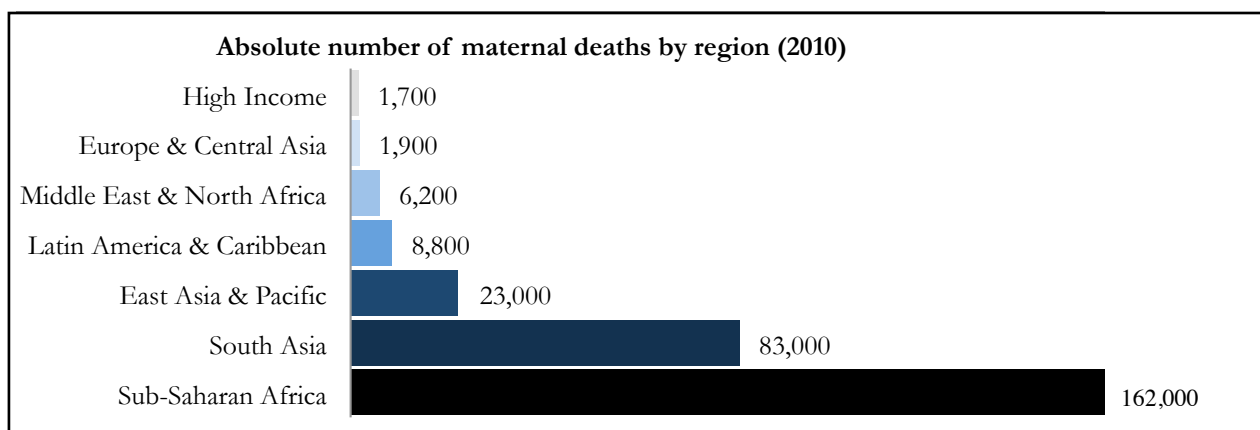


Figure 1. Maternal Mortality Burden by Region (WHO 2011)

important economic and social roles everywhere. The negative economic consequences, which befall the family of a woman who has died in childbirth, impair a household's ability to emerge from chronic poverty. A mother's death is also a powerful predictor of her children's future. Motherless children often have less access to good nutrition and proper hygiene, which can result in serious illness and even death. Many girls who survive the death of their mother are forced to leave school in order to take over household responsibilities, such as cooking, cleaning, and taking care of younger siblings. A child whose mother is alive is less vulnerable to human trafficking and other rights violations. In contrast, saving mothers' lives improves development indicators on a much broader scale than public health alone.

Maternal Mortality in Cambodia

Cambodia has seen considerable progress on maternal mortality, particularly taken in light of the total decimation of its health care infrastructure during the Khmer Rouge regime. Official statistics suggest Cambodia achieved a 47 percent decrease in maternal mortality between 2000 and 2010. The 2000 MMR of 432 maternal deaths per 100,000 stagnated for several years, hovering at 472 in 2005, before dropping rather dramatically to 206 in 2010 (Liljestrand et al., 2012). This has been attributed to a strong political commitment to reducing maternal mortality in Cambodia, which was named the nation's top health priority. Targeted legislation, such as the Safe Motherhood Act (SMA), and other initiatives such as the Fast Track Initiative (FTI), a roadmap for reducing maternal and newborn mortality, have driven increased coordination between

public health system and development partners. Improved access to basic healthcare services, breast-feeding campaigns, and scaled-up immunizations have also been critical (WHO, 2012). However, the rate of decrease has slowed in recent years, and Cambodia's MMR remains among the highest in the region (second only to Laos). There are also concerns about irregularities in death audits, whether they result from cultural factors that can lead to underreporting or the attribution, intentionally or mistakenly, of maternal deaths to other causes. At best roughly 30 percent of deaths in Cambodia are reported. This has led some to question official MMR figures. It follows that opinions are divided over whether Cambodia will reach the goal of 75 percent reduction by 2015. Innovations are needed in public health programs to help mothers overcome some of the more common barriers to care.

HISTORICAL PERSPECTIVES ON MATERNAL MORTALITY IN CAMBODIA

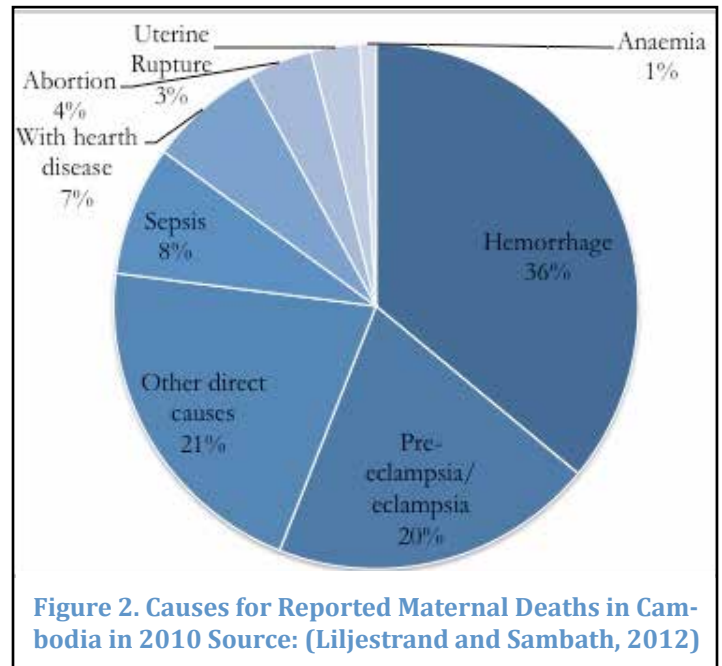
Reducing maternal mortality in Cambodia requires a robust and responsive health system, strategic health policies, and targeted interventions. Cambodia's capacity to achieve these goals has been greatly affected by its unique historical trajectory, which included one of the most disruptive episodes in modern history. This reality helps to contextualize the public response and serves to highlight the deep roots of some of Cambodia's more persistent barriers to maternal health. It also highlights the consistent thread of faith throughout the story. Cambodia's health history can be divided into three broad narratives: the development of traditional medicine during and Angkorian Empire, the introduction of Western medicine by French colonial authorities, and the decimation of health infrastructure under the Khmer Rouge.

Origins of Cambodian Healthcare:

Spiritual links with the past shape health understandings today

Cambodia has important and venerable health traditions that were established long before the French introduced Western medicine into the region. An understanding of these systems and their underlying philosophy has important practical implications for the health-seeking behavior of Cambodian mothers today.

As Cambodian historians are quick to point out, a complex public health system was already in place by the height of the Angkorian Empire. In the late 12th century, under King Jayavarman VII, a network of 102 *arogysala*, or "halls of diseaselessness," were constructed (Ovesen et al., 2010). Jayavarman VII was a devout Buddhist, and a declared aim of these public constructions was to help alleviate the suffering of his people. The famous stone inscriptions known as the "hospital edicts" demonstrate that this was, at least partially, a faith-inspired endeavor: "He suffered from the illnesses of his subjects more than from his own; the pain



that affected men's bodies was for him a spiritual pain, and thus more piercing" (Coed s, 1935). There were likely pragmatic aims as well as moralistic ones. Jayavarman VII was a prolific builder, responsible for some of Cambodia's most well-known temples and monuments. These architectural feats required hundreds of thousands of laborers, mostly living in growing urban settings. Controlling the spread of disease was a critical concern, not just to ensure the success of his building programs, but also for the purpose of social stability.

The health system in this era was remarkably complex. Surviving stone inscriptions describe hospitals built on a standard architectural plan housing no less than 32 staff, including doctors, assistants, religious figures, and storekeepers who prepared and dispensed medicine (primarily spices and other foodstuffs). "The medicines were of 36 different kinds... including sesame, pepper, cumin, nutmeg, camphor, coriander, cardamom, ginger, cinnamon and jujube" (Ovesen et al., 2010). The philosophy behind the prescription of these 'medicines' was greatly influenced by the Ayurvedic

traditions of India. The Khmer health system was holistic, with a fundamental focus on balance in the three elemental substances, or humors. Unlike Ayurveda or Traditional Chinese Medicine, however, Khmer medical traditions experienced a great break in continuity, beginning with the decline of the Angkor Empire, but exacerbated by the country's recent turbulent history. What was certainly one of the great medical traditions of Asia exists today only as "fragmented to some extent into locally reinvented traditions" (*ibid*).

Despite the loss of a standardized Khmer medical tradition, many Cambodians' understanding of health and illness is still rooted in this traditional health philosophy, while often incorporating other Buddhist and traditional spiritual concepts. Traditional medicine remains very influential in Cambodian society; the Ministry of Health (MoH) estimates that 40-50 percent of the population regularly uses traditional medicine to treat health conditions (WHO, 2012). Traditional healers known as *kru* are numerous, particularly in rural areas, and have a variety of specializations including herbalists, bonesetters, and spirit mediums. *Kru* have important sociocultural functions that extend beyond the Western concept of health; as Scholars Oveson et al. (2011) explain, "in the Khmer medical universe, the focus is on healing the social person, rather than only curing the physical body. This implies a personalized relationship between the physically, socially, and morally suffering person and his/her individual 'therapist' (*kru*)."

An understanding that pregnancy has important social aspects helps to at least partially explain why many Khmer women still prefer Traditional Birth Attendants (TBAs) to medically trained midwives and feel discomfort giving birth in a hospital setting (Matsuoka, 2010). TBAs are known in Khmer as *chhmob* and are an important sub-set of traditional health practitioners in Cambodia. They play vital roles in maternal health and still perform a sizable number of deliveries. According to the 2010 Demographic Health Survey, 45 percent of deliveries in Cambodia do not occur in the presence of a trained health professional (NIS et al., 2010). Many of these will be attended by a *chhmob*. Childbirth is often colloquially referred to as 'crossing the river' both because of its inherent danger and its status as a cultural rite of passage (White, 2002). A *chhmob* is a

key cultural figure whose role is in part to facilitate this social transition. While the medical causes of maternal mortality in Cambodia are well understood, maternal illness can be understood quite differently in a traditional context. The dangers associated with childbirth are thought to be due, in part, to jealous spirits known as bray. A *chhmob*, therefore, requires powerful spirits of her own (inherited through a *chhmob* lineage) to ward bray off, typically done by ritually cordoning off the birth area and employing Buddhist mantras. Wayward spirits are believed to have the potential to harm unborn children, a belief that has inspired taboos discouraging pregnant women from attending funerals or even discussing deceased persons. Some have suggested that the reluctance of pregnant women to visit hospitals is also due to associating hospitals with death (Montesanti, 2011).

The preference of many women to give birth in the presence of a *chhmob* is not the only legacy of traditional medicine as it relates to motherhood. Scholar Stephanie Montesanti argues that, on a broader level, "humoral theory guides Cambodia's women's perceptions on the causes of illness and the practices for maintaining and promoting health." This perspective inspires a range of traditional practices surrounding childbirth, including *ang pleung*, or "roasting," in which a new mother will spend at least three days laying on a platform above hot coals after giving birth. Childbirth, Montesanti suggests, "is described using the hot-cold distinction," a new mother is thought to be cold, and the process of *ang pleung* is carried out to replenish the heat lost during childbirth. This practice is accompanied by dietary guidelines, which require a woman to eat hot foods and avoid foods that cool during the period after giving birth (Oveson et al., 2010).

That pervasive traditional health practices surrounding childbirth contribute to Cambodia's high rate of maternal mortality is generally accepted. Traditional practices delay or altogether prevent the timely provision of maternal health services. Some practices may be dangerous in their own right (as has been suggested with *ang pleung*). *Chhmob* also often lack a basic knowledge of hygiene and the ability to diagnose serious complications in pregnancies. However, it is also clear that a better understanding of the social and spiritual aspects of childbirth in Cambodia can help bolster rural health

strategies. A sensitivity to and potential incorporation of certain aspects of traditional practice into public responses to maternal health could help counter some of the reluctance of rural women to give birth in health centers. Some have suggested that *chhmob* may be able to play important roles as “cultural brokers” in this regard (White, 2002). A nuanced response to the unique challenges of maternal health in Cambodia will likely need to incorporate local peoples’ social and cultural realities if it is to be effective.

Maternal Health in Colonial Cambodia:

A mixed legacy

While traditional medicine is critical to understanding local health attitudes, and ultimately, the health seeking behaviors of Cambodian mothers, other parts of Cambodia’s history have important implications for maternal health today. The advent of French colonial medicine in Cambodia laid the foundation for a public response to maternal mortality, but also contributed to health barriers related to ethnicity, class, and geography that still present major challenges.

The earliest Western medicine was officially made available to the local population of Cambodia with the opening of The Mixed Hospital of Phnom Penh (*l’Hôpital mixte de Phnom Penh*) in 1893, comparatively late in the history of French colonial involvement in the region. Owing to Cambodia’s status as a relative backwater within French Indochina, financing for infrastructure, including health facilities, was dwarfed by the more economically important Vietnamese regions of Tonkin, Annam, and Cochinchina. Most of the health facilities that were established were based in Phnom Penh. Around the turn of the 20th century, the colonial administration set up 40 rural *postes médicaux*, although these were often understaffed and under-supplied, with some reports suggesting that only four were actually functional (Ovesen et al., 2010). It was not the colonial authorities, but a missionary association, *Sœurs de la Providence*, that first addressed infant and maternal health in any targeted way. The sisters partnered with the charity *Société de protection de la natalité indigène au Cambodge* to establish the country’s first maternity ward in Phnom Penh’s Cambodian quarter. In the following years, however, with infant mortality rates estimated at 40 percent (dramatically

higher than other French and British controlled regions on Southeast Asia), maternal and infant health became a problem the colonial authorities could not ignore. They chose to co-opt the maternity ward established by the *Sœurs de la Providence*, making it physically and administratively part of the Mixed Hospital. The new entity became known as the Roume Maternity, and this remained the focal point for maternal health throughout the colonial era.

The establishment of the Roume Maternity did little initially to remedy the staggering infant mortality rates. The great challenge that colonial authorities faced was to encourage Khmer women to give birth at the facility. Their reluctance largely stemmed from local birthing traditions, but this was not the only inhibiting factor. Midwives in the era were almost exclusively Vietnamese. This was a result of the structure of colonial society in French Indochina, as the primary colonial institutions and training facilities were located in Vietnam. As a result, the vast majority of civil servants were of Vietnamese or Chinese descent, and this included the midwives and medical staff at Roume. Given the historical antipathy between the Khmer and Vietnamese, this did not contribute to an attractive birthing environment for Khmer mothers.

A need for Khmer midwives became quickly understood, and a midwifery school was established in 1924. However, these same societal inequities that contributed to the need also conspired against the successful recruitment of qualified Khmer candidates. The application process was involved and did not favor the lower classes. It required a primary education, literacy in French, and a variety of other documentation, often costly to prepare (Ovesen et al., 2010). Because most civil servants were Vietnamese, the Cambodian middle class, from whom candidates would need to be drawn, was tiny. They were often teachers or cultural leaders with conservative tendencies who did not favor public education for women. As a result of these social factors, the midwifery school was forced to close within a decade, having trained only a handful of Khmer midwives.

Independence under Norodom Sihanouk in 1953 was a boon for the country’s health infrastructure, notably in the provinces. District clinics increased from 16 to 69, and commune dispensaries from 103 to 587 (*ibid*).

However, most of the premier facilities, where one could expect a high standard of treatment, remained in Phnom Penh. Sihanouk's grand health modernization campaign was in many ways a continuation of the French system and perpetuated many of the exclusionary factors of ethnicity, class, and geography. These stubbornly rooted inequities, and the inability to establish a strong Khmer middle class, played a large role in the disastrous events that followed, but have also left important legacies to Cambodia's current health system. Class divisions and a lack of qualified staff in the provinces remain central challenges today.

Democratic Kampuchea and its Aftermath:

The role of international FIOs in rebuilding the health system

The near total dismantling of the health system by the Khmer Rouge is unparalleled in modern history and sets up the third major historical narrative in Cambodian maternal health. The massive void in the health system left in the wake of Democratic Kampuchea was slowly filled with the assistance of international development partners. While Cambodia has made great strides towards building a domestically financed health sector in recent years, national and international development organizations remain critical to the provision of maternal health services in the country. Over 20 percent of Cambodia's total health expenditure, for example, is provided by international donors (World Bank, 2010). The Khmer Rouge period was deeply traumatic for all aspects of Cambodian society, and the fledgling health infrastructure was not spared. Doctors and other healthcare workers, due to their social status as educated urban elite, were specifically targeted for execution; many who survived this fate died in the fields from overwork. Of the 600+ trained doctors operating in Cambodia prior to 1975, fewer than 50 survived (Chhea et al., 2010). The Khmer Rouge advocated pragmatic self-sufficiency in healthcare, dictated by their isolationist ideology. This approach required a great reliance on locally available materials and the ingenuity and zeal of revolutionary medics. Thus, traditional medicine took on renewed importance in the period. The Khmer Rouge even recruited *kru* for the mass production of herbal medicines in what was an uncomfortable marriage between traditional knowledge and communist industry (Ovesen et al., 2010). The Khmer

Rouge did not necessarily advocate a wholesale rejection of Western medicine. They did continue to operate a handful of hospitals; however, shortages in imported pharmaceuticals and medical supplies were endemic and meant that only a few select party members had access to these facilities.

The confused health ideology of the Khmer Rouge regime is not the main health legacy of this period, but rather the great institutional void it left. Soon after the Vietnamese invasion (1979) and the establishment of the People's Republic of Kampuchea, a few development organizations began to enter the country. International FIOs were among the earliest and most influential members of the humanitarian response. Many FIOs and a multitude of other faith actors that had already been working in the refugee camps along the Thai border began moving operations into the country. World Vision, Catholic Relief Services (CRS), ADRA, and World Relief all committed considerable resources to Cambodia by the early 1990s. One of the first priorities was to reestablish basic health services.

The number of development organizations operating in Cambodia increased markedly with the establishment of United Nations Transition Authority for Cambodia (UNTAC) in 1992. The influence and impact of FIOs was considerable in this era, as much funding from donors, including USAID and AusAID, was channeled through these organizations. However, as public institutions, such as the Ministry of Health, grew in capacity and bilateral aid became a more important component of development assistance, the influence of these organizations in healthcare provision diminished. Though their responsibilities have changed, many FIOs are very active in the health sector. Some, including World Vision, ADRA, and Caritas, have noteworthy maternal health programs. Likewise, a range of grassroots faith-inspired actors, including church groups, provide medical care or training. These efforts have been difficult to quantify as they are often temporary or limited in scope and typically poorly integrated with national efforts. Faith-inspired actors and organizations still represent an important, if under-recognized, component of the complex mosaic of public and private clinics, local and international NGOs, bi- and multilateral donors and UN agencies that provide or finance critical health services as part of the response to maternal mortality in Cambodia.

MEDICAL CAUSES OF MATERNAL MORTALITY IN CAMBODIA

In the seven years prior to 2000, about 1 in 5 deaths among Cambodian women were from causes related to pregnancy (Brown et al., 2006). Despite progress in terms of MMR reduction, maternity related complications remain one of the leading causes of death among Cambodian women aged 15-49. The main medical causes of maternal death in Cambodia are hemorrhage and pre-eclampsia/eclampsia, followed by other direct causes, and sepsis (Liljestrand and Sambath, 2012). Indirect medical causes include communicable diseases, abortion, and poor nutrition. Most acute complications require treatment at a Referral Hospital.

The medical causes of maternal mortality are exacerbated by social forces such as poverty, gender inequality, and low education, all of which affect both the frequency and quality of maternal healthcare received. While the medical interventions are well understood, these exacerbating factors are the major challenges to improving maternal health.

Direct Causes

Postpartum Hemorrhage

Maternal hemorrhage consists of bleeding from the genital tract and can occur during pregnancy (antepartum), during, or after delivery (intra- and postpartum) (Dolea et al., 2003). According to an analysis of all maternal deaths reported by the national surveillance system in 2010, obstetric hemorrhage, and in particular postpartum hemorrhage (PPH), was found to be the biggest single cause of death in Cambodia, accounting for approximately 36 percent of all maternal mortalities (Liljestrand and Sambath, 2012).

PPH is defined as vaginal bleeding of 500 mL or more within 24 hours after birth, while severe PPH is defined as blood loss in excess of 1000 mL (WHO, 2012). PPH is associated with almost one quarter of all global mater-

nal deaths and contributes to severe maternal morbidity and long-term disability. PPH is the leading cause of maternal mortality in many low-income countries (*ibid*). The causes for obstetric hemorrhage vary depending on the type of hemorrhage. In 50 percent of antepartum hemorrhage cases, hemorrhage is caused by placental abruption. In the remaining cases, however, a precise cause often cannot be identified (hemorrhage of uncertain origin) (Dolea et al., 2003). In the case of PPH, hemorrhage is most frequently a result of retained placenta and uterine atony. In rare cases, PPH could be a result of inherited bleeding disorders, such as hemophilia, von Willebrand disease, or factor IX deficiency, with an increased risk of death. The risk of maternal death due to hemorrhage depends on the amount of blood lost, the availability of treatment (uterotonics or blood transfusions), as well as a woman's medical history. For example, pregnant women who are already anemic have increased risk of cardiovascular arrest and death.

In Cambodia, access to services used to treat PPH varies significantly for patients in urban and rural areas, and the capacity to treat PPH at over half of health centers is considered inadequate (USAID, 2005). Because PPH does not necessarily require the care of a doctor, a skilled birth attendant (SBA) or traditional midwife can be trained or retrained to manage PPH. One method that has proved effective in the Cambodian context is the Active Management of the Third Stage of Labor (AMTSL), which involves intramuscular administration of 10 IU of oxytocin, controlled cord traction, and fundal massage after delivery of the placenta.

Pre-eclampsia and Eclampsia

Pre-eclampsia and eclampsia constitute the second largest cause of maternal death in Cambodia. Together, they account for approximately 20 percent of all maternal deaths (Liljestrand and Sambath, 2012). Pre-eclampsia is a condition that occurs in the second half of pregnan-



Image 1. Maternity beds and nutrition information in a rural health center

cy. It can cause high blood pressure, large amounts of protein in the urine, and excessive swelling of the hands, feet, ankles, and sometimes face (Brown et al., 2006). Eclampsia occurs during later stages of pregnancy. Very high blood pressure can lead to convulsions, which can result in coma, threatening the life of the mother and child. Symptoms of eclampsia include nausea, vomiting, headaches, abdominal pain, and liver failure.

Preventative measures for pre-eclampsia include bed rest, relaxation, and intravenous medication (Brown et al., 2006). To reduce the chances of developing eclampsia, high-risk women, such as young women and first-time mothers, should either practice birth spacing or delay their age at the first birth using family planning. Curative measures for eclampsia include prompt treatment of elevated blood pressure, removal of the placenta, or use of an agent, such as magnesium sulfate, to prevent convulsions. In Cambodia today, treatment of pre-eclampsia, eclampsia, and post-partum hemorrhage is being upgraded in line with evidence-based programs based on international guidelines (Liljestrand and Sambath, 2012). In addition, assisted deliveries with vacuum extraction and magnesium sulfate treatment for severe pre-eclampsia and eclampsia are now being delegated to midwives and health centers, which makes access to life-saving interventions more available.

Sepsis

Maternal sepsis accounts for about 8 percent of maternal deaths in Cambodia (Liljestrand and Sambath,

2012). In 1990, it accounted for 18 percent of the total global burden for maternal conditions and 15 percent of all maternal deaths (Dolea et al., 2003). Puerperal infection, or infection of the genital tract after delivery, can be obstetric, non-obstetric, or related to the Human Immunodeficiency Virus (HIV) (WHO, 2012). Severe consequences of sepsis include chronic or acute pelvic inflammatory disease, bilateral tubal occlusion, and infertility (Dolea et al., 2003).

Sepsis requires prompt diagnosis and treatment, and the identification of high-risk individuals and situations is important. The risk of infection increases for women with complicated pregnancies or women requiring specialist care. It is also higher for women delivering in unclean locations or where there is a general lack of knowledge about hygiene among mothers and health workers. In Cambodia, homes often provide a cleaner environment that is less prone to produce infection when compared with some local health centers or hospitals. One of the main reasons that the risk of infection is higher at local centers is due to a lack of running water. Efforts to improve cleanliness and hygiene in the home include the distribution of delivery kits, which include clean razors or cord ties, soap, plastic sheets, and a pictorial instruction sheet. Such kits not only provide the necessary materials for a hygienic home birth, but also help reduce risks of infection at health centers and hospitals.

Obstructed Labor and Uterine Rupture

Uterine rupture and obstructed labor account for only 3 percent of maternal deaths in Cambodia (Liljestrand and Sambath, 2012). Obstructed labor is any abnormal or difficult labor, which leads to failure of the fetus to progress into the birth canal, in spite of strong uterine contractions. Obstructed labor is a major cause for maternal as well as newborn morbidity if neglected. In 1990, obstructed labor ranked 41st in the Global Burden of Disease ranking and represented 22 percent of the burden of all maternal conditions and 0.5 percent of all conditions (Dolea et al., 2003).

The most common cause of obstructed labor is cephalopelvic disproportion, an incompatibility between the size of the fetal head and the mother's pelvic brim (*ibid*). This may be a result of diabetes, which causes

the fetal head to be larger than normal in relation to the pelvis, or malnutrition, which results in a narrowed woman's pelvis. Less common causes for obstructed labor include malpresentation or malposition of the fetus (shoulder, brow or occipito-posterior positions), locked twins, or pelvic tumors (*ibid*). Obstructed labor complications include intrauterine infections due to prolonged rupture of membranes, and hemorrhage, shock, or death due to a ruptured uterus. Another serious complication is trauma to the bladder and/or rectum as a result of pressure from the fetal head, which

may lead to stress incontinence. One of the most severe as well as long-term complications following obstructed labor is obstetric fistula. A hole forming in the vaginal wall can open up on the bladder (vesico-vaginal fistula), the rectum (recto-vaginal fistula), or both (*ibid*). Obstructed labor can be mitigated using an assisted delivery – either via operative delivery (caesarian section) or an instrumental delivery (using forceps, vacuum extraction, or symphysiotomy). In Cambodia, assisted deliveries take place at health facilities with the presence of at least a secondary midwife or doctor.

Box 1: Abortion in Cambodia

A major indirect cause of maternal mortality is unsafe abortion. Worldwide, unsafe abortion is responsible for 13 percent of maternal deaths. In Cambodia, unsafe abortion accounts for about four percent of all maternal deaths (Liljestrand and Sambath, 2012). Approximately, five percent of Cambodian women surveyed in the Cambodia Demographic and Health Survey (CDHS) 2010 report have had an abortion within the last five years (NIS, 2010). Unsafe abortions are typically a result of the unavailability of safer alternatives, lack of knowledge about the legality of abortion, or late decisions to seek abortion (Liljestrand and Sambath, 2012).

Since 1997, abortion in Cambodia has been legal, as long as it is performed before 12 weeks of pregnancy at the request of the pregnant woman (Liljestrand and Sambath, 2012). However, the distinction between miscarriage and abortion in Cambodia is generally not made. A fetus that miscarries and an abortion are neither distinguished in medical reports nor in women's own accounts, which makes it difficult to calculate abortion rates with accuracy. In spite of this, there has been a significant drop in abortion-related deaths. For example, it is estimated that in 2005, deaths due to unsafe abortion took place in 10 percent of Cambodian hospitals and in one percent of health centers providing post-abortion care, while in 2009, deaths due to unsafe abortion occurred only in one percent of hospitals (although the figure for health centers remained constant) (Liljestrand and Sambath, 2012). In addition, there has been a drop in the proportion of women with repeated abortions from eight percent in 2005 to five percent in 2010. The drop is primarily attributed to increased contraceptive usage as well as improved access to safe abortion at public facilities, which is due to increased training of doctors and midwives by the National Reproductive Health Program and other NGOs.

Although it is legal, there is a strong social stigma attached to abortion. Theravada Buddhism considers the behavior immoral. In 2010, approximately 22 percent of abortions were non-medical; doctors, nurses, midwives, and health workers assisted in only two-thirds of abortions (NIS, 2010). In addition, private clinics and referral hospitals both report examining many female patients who unsuccessfully attempted abortions at home, sometimes using drugs, before ultimately seeking professional care.

MEDICAL CAUSES OF MATERNAL MORTALITY

Currently, little work is being done with regards to fistula repair, both from the Cambodian government and the NGO community.

Indirect Causes

It is estimated that nearly two-fifths of global maternal deaths are a result of indirect medical causes. In Cambodia, indirect factors include communicable diseases, such as HIV/AIDS. Other contributing factors include anemia and malnutrition. In some cases, multiple factors may exist simultaneously, thus further increasing the risks (UNFPA et al., 2012).

Anemia and malnutrition account for approximately one percent of all maternal deaths in Cambodia. Generally the result of malnutrition, anemia can also occur as a result of short intervals between pregnancies or other illnesses. It is estimated that anemia alone may contribute to as much as one-fifth of maternal mortality worldwide (Population Reference Bureau). Estimates vary as to the percentage of women in Cambodia who suffer from anemia. According to the 2010 Cambodia Demographic and Health Survey (CDHS), 44 percent of women suffer from anemia, a figure that has decreased by almost 14 percent since 2000 (NIS, 2010). CDHS data also shows that 36.7 percent of women are mildly anemic, 7.3 percent are moderately anemic, and 0.4 percent are severely anemic. The prevalence of anemia among women aged 15-49 years has steadily decreased for all three categories since 2000, although mild anemia has increased slightly from 35.4 percent in 2005 to 36.7 percent in 2010. Pregnant women are considered at greater risk for anemia in comparison with non-pregnant women. This is because pregnant women pass a portion of their iron supplies and other nutrients to their developing fetus (Population Reference Bureau, 2003). Among pregnant Cambodian women, an estimated 66 percent are anemic (55 percent of non-pregnant, non-lactating women are anemic). Currently, anemia only accounts for a small proportion of maternal mortality in Cambodia; however, it poses a high risk for developing other critical complications during pregnancy.

Malnutrition affects women more severely than it does men; even within a single family, women are more likely than men to be malnourished. In 2010, 19 percent of

Cambodian women between age fifteen and forty-nine were considered underweight, increasing the risk of complications during childbirth (NIS, 2010). This figure has only slightly decreased from 21 percent in 2000 to 20 percent in 2005. Malnutrition and anemia usually occur when households are unable to afford adequate food or lack access a nutritionally varied diet.

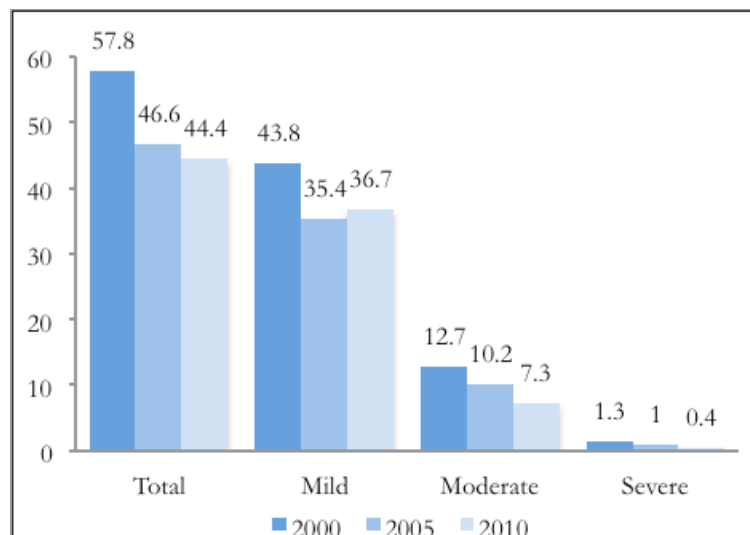


Figure 3. Trends in the Prevalence of Anemia among Women (15-49 years)

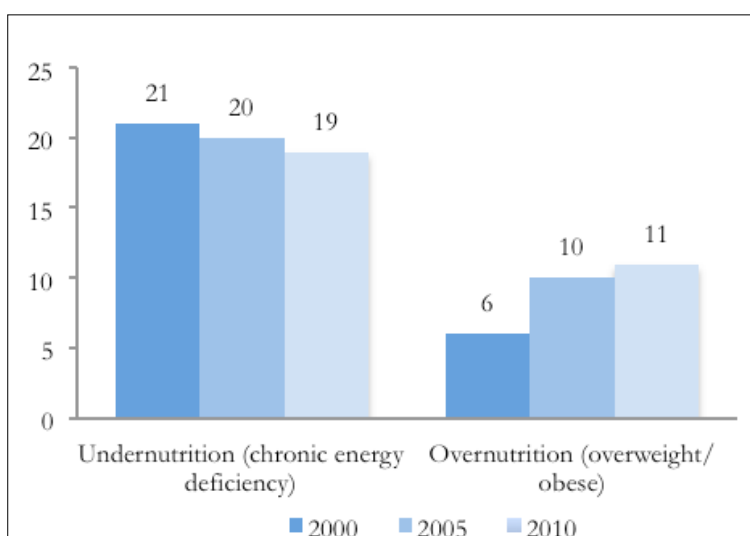


Figure 4. Trends in Nutritional Status among Women (15-49 years)

MATERNAL HEALTH AND THE PUBLIC HEALTHCARE SYSTEM IN CAMBODIA

The Cambodian Health System has undergone significant changes over the past two decades. In 1991, with support from WHO, the country embarked on significant health sector reform aimed at the decentralization and extension of basic health services, including birthing services and pre- and postnatal care. It is hoped that this reform process will improve quality in public health centers, the lack of which has forced many to seek more expensive services from private clinics. The Strengthening Health Systems Project comprised three phases: Phase I (1991-1994), Phase II (1995-1997), and Phase III (1998-2000). The main objective was “to improve and extend primary health care through the implementation of a district based health system”, which emphasizes the role of the operational district, the most peripheral sub-unit within the health system (MoH, 2008). An operational district serves approximately 100,000–200,000 people and consists of at least one referral hospital and a network of health centers. Each health center ideally covers a population of 8,000 to 12,000. The provincial level is comprised of a provincial hospital and a provincial health department and is managed directly by the MoH. The central level consists of the Ministry of Health as well as national hospitals, training institutions, and country-wide programs. The Cambodian health system is currently comprised of eight national hospitals, 24 provincial referral hospitals and 1049 health centers (WHO, 2012). For a variety of reasons including low pay, Cambodia has struggled to retain a robust health workforce and the

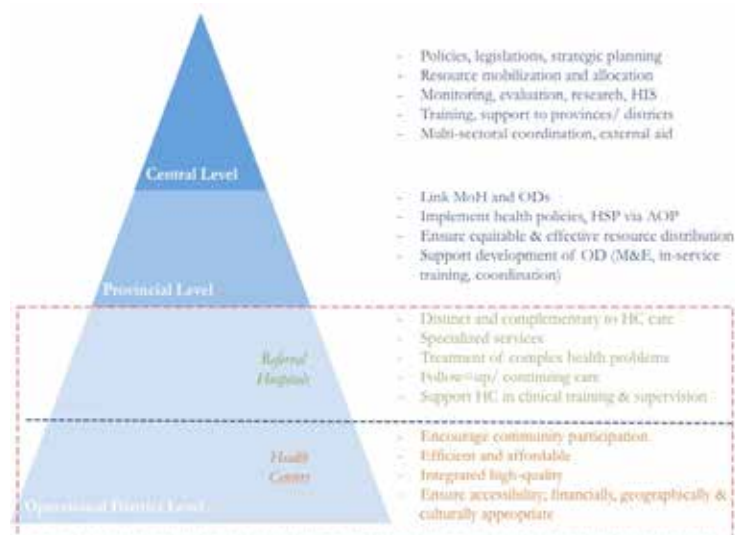


Figure 5. Health System Organization and the Operational District. Source: Health Strategic Plan 2008-2015 (MoH, 2008)

numbers fall well short of global benchmarks deemed necessary to ensure 100 percent of births take place in the presence of a skilled birth attendant.

Health Centers

Health centers offer a basic package of services and treat a wide range of conditions. Services include initial consultations and primary diagnosis, emergency first aid, chronic disease care, maternal and neonatal care, birth spacing consultations, immunization, and health education. In 2005, the three main preventative services provided were contraception, antenatal care,

Physicians		Nurses and Midwives		Total number of health workers with midwife competency needed to meet global benchmark	
No.	Rate per 1000 Pop	No.	Rate per 1000 Pop	No.	Rate per 1000 Pop
2,920	0.20	13,141	0.9	89,160	6.0

Figure 6. Health workforce compared to global benchmark (World Bank, 2011)

and tetanus vaccination. There has been a great push to ensure that all births occur in a health facility, and the health center is the key unit in this push. However, standards can vary dramatically between health centers. In 2010, only 43 percent of health centers provided the full minimum package of services (WHO, 2012). Staff, equipment, and medicine shortages are endemic. In cases where a patient’s condition cannot be treated at the health center, the patient is transferred to a Referral Hospital; this is the case with most acute birth complications.

Referral Hospitals

Referral hospitals receive patients who require treatment beyond the capabilities of local health centers. This is achieved through the emergency referral system, each referral hospital should be equipped with an ambulance to transport patients as far as road conditions allow. Referral hospitals also play a supporting role and have resources, diagnostic and technical expertise available to bolster district health services. Each referral hospital should have a dedicated Gynecological and Obstetric Ward, which can provide Emergency Obstetric and Neonatal Care (EmONC).

Referral hospitals in Cambodia are classified into three levels based on the number of staff, beds, medicines, equipment, and clinical activities:



Image 2. Doctor and nurse in Preah Vihear Province

Health service facilities are unevenly distributed in Cambodia and concentrated in urban areas. As is evident in Figure 8, in 2007, that majority of health infrastructure was concentrated in Phnom Penh and surrounding provinces in the south east. Plans for 2015 are ambitious and include a significant expansion in health centers and referral hospitals in a number of major provinces, with only modest gains seen in some of the more remote provinces.

CPA-1 Hospitals	CPA-2 Hospitals	CPA-3 Hospitals
• Basic EmOC, including MgSO4 for pre-eclampsia and eclampsia • Assisted vaginal delivery • Vacuum extraction for prolonged second stage • Safe and legal abortion • Post abortion care: uterine aspiration for incomplete and/or septic abortion	• EmOC • Safe blood transfusion • Caesarean section • Emergency hysterectomy • High Dependency Care • Basic life support	• Comprehensive EmOC • Advanced life support

Figure 7. Services Available at each of Cambodia’s Three Levels of Referral Hospital

Province		Operational Districts			Referral Hospitals			Health Centers		
Year		1995	2007	2015	1995	2007	2015	1995	2007	2015
1	Banteay Meanchey	3	4	5	3	5	5	45	55	101
2	Battambang	3	5	6	3	4	6	59	75	122
3	Kampong Cham	10	10	11	10	10	11	128	135	218
4	Kampong Chhnang	2	3	3	2	2	3	34	34	66
5	Kampong Speu	3	3	5	3	3	5	50	50	92
6	Kampong Thom	3	3	4	3	3	4	50	50	83
7	Kampot	4	4	4	4	4	4	46	47	70
8	Kandal	8	8	8	5	5	7	88	89	146
9	Koh Kong	2	2	2	2	2	1	6	13	28
10	Kratie	2	2	2	2	2	2	22	23	43
11	Mondulkiri	0	1	1	0	1	0	0	7	6
12	Phnom Penh	4	4	9	1	5	9	37	17	175
13	Preah Vihear	1	1	1	1	1	1	12	14	20
14	Prey Veng	7	7	7	7	7	6	90	90	116
15	Pursat	2	2	3	2	2	3	30	32	52
16	Rattanakiri	1	1	1	1	1	1	15	11	16
17	Siem Reap	4	4	5	4	4	5	57	60	109
18	Sihanouk Ville	1	1	1	1	1	1	11	11	29
19	Stung Treng	1	1	1	1	1	1	10	10	14
20	Svay Rieng	3	3	3	3	3	3	37	37	61
21	Takeo	5	5	5	5	5	5	70	72	104
22	Odor Meanchey	0	1	1	0	1	1	0	15	13
23	Kep Ville	1	1	1	1	1	0	4	4	5
24	Pailin Ville	0	1	1	0	1	0	0	5	5
TOTAL		70	77	90	64	74	84	901	956	1,694

Figure 8. Health Coverage Plan Projection by Province Source: Health Strategic Plan 2008-2015 (MoH, 2008)

- Clean delivery kit, clean place of delivery
- Active management of third stage labour (AMTSL)
- Prenatal visits 4, at least one before 22 weeks and one at 36 weeks gestation
- Iron & Folate supplements
- Skilled attendance during prenatal, intrapartum and post partum period for mother and newborn
- Family planning and support for breastfeeding
- Communication and referral network for complications

Figure 9. Maternal health services provided by local health centers

CAMBODIA'S MATERNAL HEALTH POLICY

The Health Sector Strategic Plan

The guiding policy of Cambodia's current health system reform process has been the Health Strategic Plan 2003-2007 (HSP1). Its purpose was in part to improve progress to achieving the Cambodian health related MDGs including MDG5 (Sakda et al., 2012). A second HSP covering the period from 2008 to 2015 (HSP2) was developed by a taskforce led by the MoH in consultation with the provincial health departments, operational districts, and selected health centers. A major emphasis of HSP2 is decentralization, with a strategy to further devolve control from the national MoH to local and provincial levels. This is an effort to reform elements of centralization in the Cambodian health system that date back to the colonial period.

The HSP2 framework is divided into five "health strategies" (MoH, 2008):

1. **Health service delivery:** consists of public health measures against disease and the organization of health promotion for the reduction of high-risk behaviors.
2. **Healthcare financing:** addresses both increases in investments in health and efforts to remove financial barriers to quality healthcare.
3. **Human resources for health:** covers a comprehensive range of interventions to ensure sufficient staffing levels with adequate professional profiles and competencies, revising the content of medical training, increasing the intake of students into medical schools and universities, and strengthening measures to safeguard the quality of training.
4. **Health information systems:** addresses the need for high-quality, accurate, comprehensive, and timely health data.
5. **Health system governance:** focuses on the decentralization and the regularization of internal and external contracting.

"To enhance sustainable development of the health sector for better health and well-being of all Cambodians, especially of the poor, women and children, thereby contributing to poverty alleviation and socio-economic development."

HSP2 Vision (Health Strategic Plan, 2008)

One of the main strategic priorities for the HSP2 is to reduce maternal, newborn, and child morbidity and mortality and to improve reproductive health (MoH, 2008). There are four objectives under this priority:

1. To improve the nutritional status of women and children
2. To improve access to quality reproductive health information and services
3. To improve access to essential maternal and newborn health services and better family care practices
4. To ensure universal access to essential child health services and better family care practices

The HSP2 has sought to encourage safe motherhood through a comprehensive range of interventions targeting human resources. This includes: 1) ensuring sufficient staffing levels with appropriate professional competencies, 2) revising staff training content, 3) increasing student intake into schools and universities, and 4) strengthening measures to safeguard the quality of staff training and trainers (*ibid*). In particular, the HSP2 is focused on the recruitment and retention of midwives, particularly in rural areas.

Midwives are critically important for healthy deliveries and are the key contributors in any attempt to reduce maternal mortality. Currently, there are two classifications of midwives: primary midwives, who receive one

Reasons why current midwives wanted to become a midwife:

1. Recognition that pregnancy can be dangerous/ desire to help pregnant women/ desire to lower maternal and infant mortality
2. Desire to serve people (their family, their village, poor people, people in remote areas)
3. Lack of professional care in their village
4. Desire to earn a living
5. Family encouragement/advice

The most frequently mentioned factors that would keep qualified midwives in their post:

1. Higher salary
2. Opportunity for upgrading
3. Opportunity for learning new skills
4. Adequate equipment
5. Opportunity to work with more experienced midwives

Source: Report of Comprehensive Midwifery Review (MoH, 2006)

year of training after secondary school, and secondary midwives, who receive three years of training following secondary school. Secondary midwives are the main providers of 24-hour care. As of 2009, all health centers have at least one midwife; however, only 61 percent of hospitals and 7 percent of health centers

have secondary midwives available for 24-hour service (MoH, 2010).

At present, recruitment and retention of midwives and other staff is a pressing concern. Staff shortages at the health center level are a serious constraint to ensuring attendance at deliveries by trained health providers. Improving education for midwives is also vital. According to the HSP2's Midwifery Review, the level of competency of primary midwives is inadequate (MoH, 2006). In addition, there is a reluctance among secondary midwives, most of whom are urban, to relocate to rural areas, which are often seen as more isolated or dangerous. Midwives with families are also disinclined to move their entire family to the provinces, and instead prefer to work closer to home. The MoH's Comprehensive Midwifery Review also suggests that the narrow definition of a skilled attendant as a "midwife" has failed to take into account the opportunity of using the skills of both doctors and nurses with obstetric skills to provide delivery services (MoH, 2006).

The HSP2 provides a number of potential interventions to resolve these problems. In order to improve competency levels of midwives and other health workforce, it proposes the development and implementation of comprehensive and coordinated in-service training, in-

Factors contributing to high maternal and newborn mortality	Strategies and Interventions
• Insufficient facilities providing EmONC (to increase nationwide access to EmONC, 139 facilities need to be upgraded) • Inequitable distribution of EmONC across the country • Critical shortage of EmONC at the first level of care in the health system • Underutilization of emergency services for mothers and newborns • Unmet needs of women with complicated pregnancies • Caesarian sections not performed on women who require them • Poor quality of EmONC services	• Standardization of EmONC facilities and training sites • Facilitating policy change to support implementation of EmONC • Capacity building and investing in clinical training • Delegation of responsibility to local leadership/management • A team approach to 24-hour availability of EmONC

CAMBODIA’S MATERNAL HEALTH POLICY

cluding a regular review of the curriculum and continuing education policies (MoH, 2008). To address shortages of midwives in rural areas, the HSP2 recommends providing scholarships to women from rural areas in order to enable them to train as midwives, on the condition that they return to their home village to practice after completion of the midwifery course. Another intervention is the incentive scheme, which facilitates the recruitment of midwives to rural areas by providing subsidies for travel, housing, and social support to midwives working outside of major urban centers.

The Fast Track Initiative for Improved Maternal and Child Health

In addition to the HSP2, the MoH has other complementary policy tools and planning documents. The most important in the domain of maternal health is the MoH’s *Fast Track Initiative for Improved Maternal and Child Health*, which outlines in detail the necessary steps to be taken towards improved maternal health in Cambodia (MoH, 2010).

Created in 2008, The Fast Track Initiative sets concrete goals for improving reproductive, maternal, newborn, and child health in Cambodia by 2015. It aims to do this through outlining successful evidence-based in-

terventions, identifying resources and funding gaps, and suggesting specific maternal health activities to be included in the annual operational plans of various implementing units at the national and sub-national levels.

Four components are identified as key contributors to the reduction of maternal and newborn mortality (MoH, 2010). They are:

1. Emergency Obstetric and Newborn Care (EmONC):

Approximately three-quarters of maternal and newborn deaths occur around the time of birth. Ensuring universal access to emergency services, including post-abortion care, vacuum delivery, Caesarian section, blood transfusions, and management of hypertensive disorders is critical for reducing maternal deaths.

2. Skilled Birth Attendance (SBA):

Cambodia has a critical shortage of health staff, particularly secondary/graduate midwives. Cambodia has only 0.77 skilled birth attendants per 1000 population (MoH, 2010), which is considerably lower than the WHO’s normative recommendation of 2.5 and far

Factors contributing to high maternal and newborn mortality	Strategies and Interventions
• Lack of qualified midwives • Limited working hours of health centers • High costs of care and transportation • Long distances from health facilities • Unavailability of transport • Traditional beliefs	• Ensuring an adequate number of midwives are employed at all health centers to provide 24h/7 coverage • Rationalizing and improving the in-service training for skilled birth attendants • Reviewing the roles and responsibilities of primary midwives and prioritizing training in order to allow primary midwives to perform safe deliveries and basic EmONC • Providing a bridging training course to allow primary midwives to upgrade to secondary midwives • Training doctors to perform emergency obstetric interventions and caesarean sections at all referral hospitals; training technicians/nurses/medical assistants to provide anesthesia • Collecting Health Information System data to include specifically neonatal (0-28 days), infant (0-11 months), and child (under 5) data for morbidity and mortality

Factors contributing to high maternal and newborn mortality	Strategies and Interventions
• A substantial unmet need for modern contraception, which increases the risk of unintended pregnancies	• Improving access to quality contraceptive services • Counseling for women post-delivery/abortion and for those who are HIV-positive to ensure continuity and increase in uptake of contraceptive use • Increasing knowledge and awareness of the benefits of modern contraceptives • Promoting community based distribution of contraceptives and strengthening linkages with the private sector and social marketing initiatives

short of the ideal 6.0 suggested by UNFPA in their *State of the World's Midwifery* (UNFPA, 2011). Skilled birth attendants include secondary nurses, secondary midwives, and doctors/medical assistants. Approximately 44 percent of Cambodian mothers deliver in a public facility, and 63 percent give birth with a skilled birth attendant present (MoH, 2010). The Cambodian government clearly states that giving birth in a health facility with the assistance of a skilled health professional is the safest delivery option. They aim to enable all women to give birth at a health facility with the assistance of a midwife.

3. Family Planning (FP):

The Contraceptive Prevalence Rate (CPR) for modern methods was 25 percent in 2005 and remains low by international standards, although it is increasing. Fami-

ly planning reduces the risks associated with childbearing and includes birth spacing, delaying the first pregnancy, and reducing unwanted pregnancies.

4. Safe Abortions:

Although abortion has been legal up to 12 weeks of pregnancy since 1997, access to safe abortions in the public health system is limited, and many women who choose to terminate their pregnancy seek unsafe alternatives. In 2002, approximately 20-29 percent of all maternal deaths were related to unsafe abortion, and 51 percent of all abortions were self-induced or used traditional methods or unsafe service providers (*ibid*). The Fast Track Initiative recognizes that even universal access to modern contraceptives does not entirely eliminate the demand for pregnancy termination.

Factors contributing to high maternal and newborn mortality	Strategies and Interventions
• Limited access to safe abortion facilities • Untrained providers in the private sectors	• Improving availability of safe abortions by ensuring services meet minimum operating standards and safe abortion curriculums are fully integrated into all medical education and training • Improving accessibility of safe abortion services by removing financial barriers, expanding in-service training, and maintaining quality assurance where providers train • Improving utilization of safe abortion services by developing an advocacy and community mobilization strategy, designed to increase community access to information about the legality of abortion and the risks of unsafe abortions

NGOS AND FIOS: FILLING THE GAPS IN CAMBODIA'S RESPONSE TO MATERNAL MORTALITY

Development partners, including NGOs, FIOs, and bi- and multilateral donors, have been critical to the rehabilitation of the Cambodian healthcare system since the early 1990s, and donor funding still constitutes a large percentage of the country's overall healthcare financing. On the ground, NGOs have played instrumental roles in healthcare service delivery. Beginning in 1999, Cambodia embarked on an experiment to contract health care provision to international NGOs and FIOs at the Operational District level, which includes health centers and referral hospitals. These NGOs would work with the MoH to provide staff supervision and manage service delivery (Khim et al., 2013). This arrangement has changed dramatically in recent years, to some extent reflecting the broader international efforts to ensure aid harmonization and effectiveness (the Paris Declaration and beyond). The MoH's Health Strategic Plan 2008-2015 outlined a significant shift in the role NGOs would play in health care provision. The new plan would keep the internal contracting model, but the management would be transferred to local authorities, with each operating district becoming a semi-autonomous Special Operating Agency (SOA). The NGO that had previously managed the Operational District would provide each SOA

with 6-12 months of capacity building. One SOA director framed it as part of a necessary move towards self-sufficiency in healthcare, remarking: "during the previous form of external contracting we had NGOs to help; now with the experience we have we need to demonstrate we can do it on our own" (Khim et al., 2013).

While development partners, including NGOs and FIOs, are no longer directly responsible for the management of public health facilities, they continue to play vital roles in the response to health issues including maternal mortality. Some organizations, including Marie Stopes and Reproductive Health Association of Cambodia (RHAC), operate their own clinics, offering family planning and reproductive and sexual health services. The Kantha Bopha Hospital presents a unique case in that it is the only NGO that operates an independent maternity ward. These organizations, however, are the exception. Most development partners and particularly FIOs have shifted from maternal health service provision to developing programs that encourage the use of public health facilities by helping expectant mothers overcome the most common barriers to care.

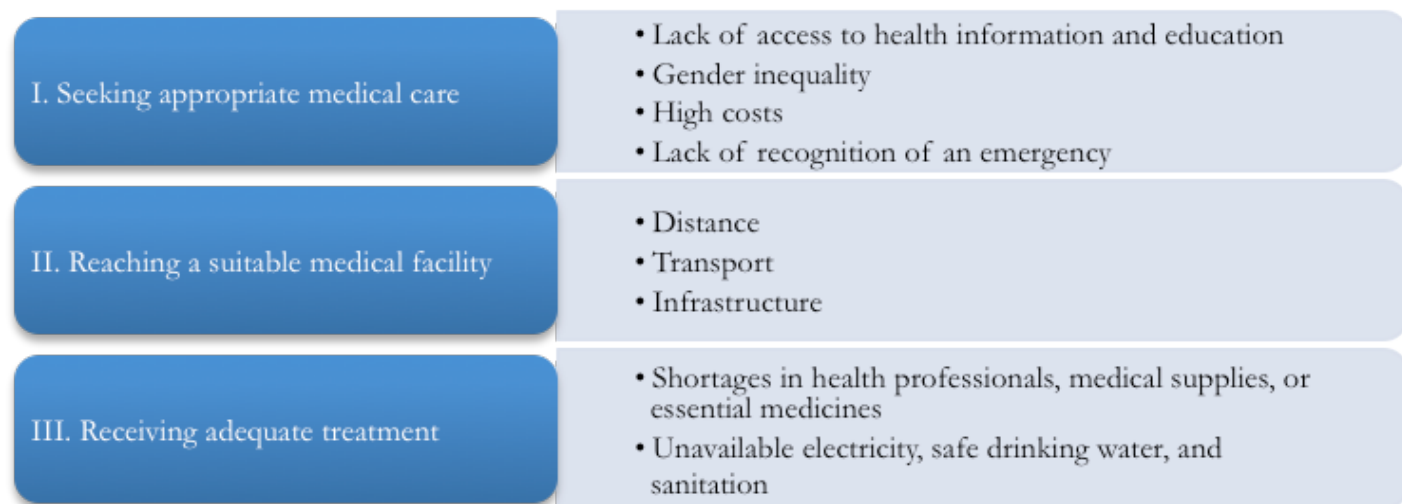


Figure 10. The Three Delays Model (Hunt and Bueno de Mesquita, 2007)

The Three Delays Model

The most widely employed framework for understanding the multiple underlying factors that present barriers to appropriate maternal care is the Three Delays Model developed by WHO. This model identifies and categorizes conditions that delay or altogether prevent pregnant women from accessing appropriate maternal care. The “first delay” is in deciding to seek medical care during pregnancy and delivery. This delay is a result of high costs, lack of access to health information and education, gender inequality, and lack of recognition of an emergency. The “second delay” is in reaching an appropriate medical facility. It is typically determined by logistics, road conditions, and availability of transportation to a health facility, as well as transportation costs. The “third delay” occurs at the medical facility, where a pregnant woman may not receive adequate care due to shortages in medical staff and supplies or in basic public services such as electricity, clean water, and sanitation. Even if a woman overcomes barriers one and two and arrives at the health center because of staff shortages, there may not be health professionals on hand to treat her. Chronic shortages in medications and equipment can further contribute to the third delay.

The approaches of FIOs working on maternal health are quite diverse, with each organization building on their expertise and philosophy to address an aspect of the three delays that best reflects their strengths and competencies. These organizations represent a variety of faith backgrounds. The Adventist Development and Relief Agency (ADRA) recently launched the Securing Mothers' and Infants' Lives with Equity project in Preah Vihear Province. World Vision has for several years been running Community-based Maternal and Newborn Health (CMNH) projects in Preah Vihear, Battambang, and Phnom Penh. Many Evangelical missionary groups have maternal health initiatives, notably Youth with a Mission (YWAM), whose Community Health Development Program provides skill training to TBAs. Several Catholic groups are active in health; Maryknoll Sisters' Community Health Care program is one notable example. Cambodia's Islamic development organizations are less active on maternal health; however, one unique exception is the Islamic Local Development Organization (ILDO). ILDO's Health Education project

“When a woman dies, her child, her family, her community and ultimately the country loses one of its most valuable sources of health, happiness and prosperity... as health professionals we also must continuously and systematically tackle the ‘three critical delays’ that can make a difference between life and death... We will not be able to solve those problems alone. We will need to work with other sectors and local authorities to address wider social and economic barriers to maternal health.”

- Dr. Mam Heng, Minister of Health (Fast Track Initiative Roadmap: MoH, 2010)

engages local imams and Islamic teachers in Battambang to deliver messages on reproductive and maternal health. While there are no Buddhist NGOs working directly on maternal health, local pagodas have been key partners in local Health Equality Fund (insurance) schemes.

What makes a faith response to maternal mortality unique?

In their 2008 review, “Do mission hospitals have a role in achieving MDG 5?”, scholars Zafarullah Gilla and Martha Carlough have suggested several characteristics that distinguish FIOs in their response to maternal mortality globally. These unique strengths are important to bear in mind when assessing the potential contribution of FIOs to issues surrounding maternal health in Cambodia. “Most mission hospitals”, they suggest, “have a ‘corporate culture’, which values and encourages compassionate services, even at the expense of personal comfort and career enhancement.” This contributes to positive staff attitudes and a willingness to work in remote and underserved areas. Further, “faith-based hospitals and clinics often have long-term relationships with their founding boards, resulting in donations of money and medical supplies far beyond what is locally available.” This allows them to avoid the shortages of medicine and supplies often encountered by public facilities. Finally, they are often able to mobilize short-term volunteer medical professionals to “encourage and educate local staff by promoting evidence-based medicine, the initiation of new appropriate technologies, and ongoing support for leadership development” (Gilla et al., 2008).

Box 2: Buddhism and Maternal Health in Cambodia

Despite their position as well respected moral authorities in Cambodia, Buddhist monks are noticeably less active on health issues than on other development topics. This stems, in large part, from real and perceived contradictions with the *Vinaya* monastic code, which prohibits the discussion of or even the allusion to sex. This restriction can be entirely prohibitive for monks who wish to work directly on safe motherhood or reproductive health. However, many aligned with more socially active elements within the *Sangha*, such as the Young Monks Movement, to express a willingness to engage around these critical topics where appropriate. These monks often hold junior roles within the *Sangha* hierarchy and can be doubly restricted by the attitudes of senior leadership at their pagodas and prevailing sentiments within their own communities. Older monks are often in positions of power and wield considerable influence. Many, as a result of their life experiences, still prefer traditional medicine, presenting challenges for monks who wish to work on health topics. Likewise, monks can experience push-back from their communities when they speak out on or attend meetings about certain topics considered taboo. Local communities often have a particular view on the role of a monk, and in many cases, may not be as open minded as the monks themselves. Monks often are reluctant to go against the wishes of their communities.

This is not to say the Buddhist community need necessarily be precluded from working on issues such as maternal health. However, Buddhist actors and monks especially must tread lightly and carefully negotiate how and where they take up such activities with their communities and *Sangha* authorities. One noteworthy initiative is a Buddhism for Social Development Action (BSDA) project, Network of Affiliated Monks for Social Accountability (NAMSA), which seeks to reform local health systems by collecting citizen feedback on services at health centers and facilitating participatory planning sessions with commune council. Director Thorn Vandong drew attention to some challenges monks encountered while facilitating these citizen dialogue sessions on health services; “sometimes they had to address the topic of maternal mortality and sexual reproductive health. That’s when we got complaints about why monks are getting involved in such topics. We think that the healthcare service is one of the main issues that we have to focus on but we don’t want to challenge the people who complain about the rules of the Buddhist monks.” While efforts in the health sector were considered quite successful, NAMSA recently shifted its focus to public education, a topic much more in the natural purview of Buddhist monastics. Recently, Thorn Vandong himself left the monkhood after more than 20 years, allowing him more time and flexibility in his role at BSDA; yet, he remains committed to promoting better engagement of monks in community development, acknowledging that the potential opportunities far outweigh the challenges.

Although it may be some time before monks can deal openly with issues of maternal health, Buddhist pagodas can and do play important roles in hosting education sessions for local community members provided by FIOs. World Vision and ADRA both make use of pagoda space to provide education on a variety of topics, including maternal health. Not only are pagodas an easily accessible public space, but these organizations have found that many women see the pagoda as a comfortable and nonthreatening space, which makes it an attractive venue for such activities.

Many of these features involving resource mobilization, reliance on expatriate volunteers, staff attitude and willingness to work in remote regions can be seen in the Cambodian experience. However, FIOs in Cambodia are not involved in the running of maternity clinics as is often the case in Sub-Saharan Africa, which is the basis for Gilla and Carlough's assessment. It follows that some of the unique characteristics of FIOs forwarded have not been fully taken advantage of in the Cambodian context. Particularly as midwife shortages are so acute, the ability of faith actors to mobilize short term "medical missions" has great potential to support curriculum and training of local midwives in Cambodia, particularly in rural areas where FIOs are active.

On a philosophical level, FIOs may approach health rather distinctively, viewing a spiritual element as essential to the healing process. For example, International Cooperation Cambodia (ICC), a Christian FIO that operates Health Advisory Teams in Ratanakiri, observes: "Through all our development work, our ultimate goal is to move those whom we work with towards 'wholeness' in their lives - the place where both their physical and spiritual needs are being met." Through more interaction with the MoH and local health authorities there is considerable potential to impact the provision of compassionate care at public facilities that takes into account both the physical and mental well-being of mothers.

In Cambodia, the FIO approach to maternal mortality can be generally characterized as grassroots, though international organizations such as World Vision and ADRA are active, with less integration and collaboration with the government and public facilities than some of their secular counterparts. As in many other sectors, misunderstandings between FIOs, the government, and other NGOs can contribute to a lack of integration with other existing initiatives and inhibit information sharing. A feature of the faith engagement on maternal health, similar to many other development activities, is that different FIOs tend to frame their own approach, building on both their pragmatic experience and their history. To a degree, their work and philosophy reflects the relative strength of each institution. This explains, in part, the fragmentation of effort as well as the poor coordination historically seen in faith actors' work in the sector.

Networking and coordination among NGOs and FIOs working in the health sector

With a multitude of non-governmental actors operating in Cambodia's development sector, coordination issues often emerge as a primary challenge. This proves especially true for small to medium-sized FIOs, many of which are less integrated into national strategies than their secular counterparts. The necessity for strategic responses to public health challenges and centrality of public facilities in such responses makes coordination between NGOs and the government (and NGOs among themselves) particularly critical. In 1989, a group of NGOs working in the health sector in Cambodia began meeting informally to share experiences and exchange information; this group would eventually become known as MEDiCAM. By 1991, it was recognized as the official umbrella organization for all NGOs working on health issues in what was then the State of Cambodia. In the years since, MEDiCAM's membership has come to include nearly every major NGO working on health in the country. The goal of the organization is to facilitate information sharing, build capacity (particularly among local NGOs), and strengthen dialogue with the government to advocate on critical health issues. Membership in MEDiCAM provides access to a large online library of technical documents and a navigable database of health projects in the country. It hosts monthly members meetings and holds regular workshops and training programs. MEDiCAM convenes a range of technical working groups which regularly publish position papers, including one dealing exclusively with Reproductive, Maternal, Newborn, and Child Health. Most major FIOs working in the health sector are actively involved in MEDiCAM; however, there is a noteworthy absence of Muslim and Buddhist NGOs. Engagement of such organizations could bring important voices to the discussion with considerable insight into the cultural context of health interventions. The following is a list of FIOs currently listed as members of MEDiCAM:

- Adventist Development Relief Agency
- Asian Outreach Cambodia
- Caritas
- Catholic Relief Services
- Christian Care for Cambodia
- Church World Services

- International Cooperation Cambodia
- Lutheran World Federation
- Mennonite Central Committee
- Malteser International
- Maryknoll
- Medical Teams International
- New Humanity
- New Life Foundation
- World Relief
- World Vision

For some FIOs, however, membership in MEDiCAM has proved controversial. CRS recently faced criticism from conservative Catholics who claimed that the organization's membership dues were being used to fund what they saw as MEDiCAM's pro-abortion agenda (i.e. Kenney 2012). MEDiCAM has produced several position papers on the need to improve access to safe abortion services and to improve knowledge of safe abortion providers in local communities. This episode draws attention to some of the challenges that Christian FIOs can face working on reproductive and maternal health programs, particularly in cases where partnerships may be necessary with organizations that do not share their particular outlook on thorny issues such as abortion and contraception. Despite the challenges coordination is a key concern to ensure FIOs activities in maternal health contribute to the needs elaborated by the MoH in the HSP2.

FAITH-INSPIRED INITIATIVES TO COMBAT MATERNAL MORTALITY IN CAMBODIA: CASE STUDIES

While many faith-linked institutions and actors are engaged on some level to promote the welfare of mothers and children, where maternal mortality is concerned there are neither discernible common strategies nor simple “lessons.” The experience, rather, is highly diverse, offering examples of excellence as well as opportunities for growth. The following section profiles four noteworthy faith-inspired maternal health initiatives in Cambodia. They represent some of the most targeted faith-linked maternal health initiatives taking place in recent years. They are ADRA’s Securing Mothers’ and Infants’ Lives with Equity (SMILE), World Vision’s Jumpstart Initiative, Caritas’ Mother and Child Health Program (MCHP), and the Pagoda-Managed Health Equity Funds. Each is unique in approach and draws attention to specific barriers to maternal care as per the Three Delays Model, which will be highlighted.

ADRA’s Securing Mothers’ and Infants’ Lives with Equity (SMILE)

Active since 1988, well before the Paris Peace Agreements of 1991, the Adventist Development and Relief Association (ADRA) was among the first international NGOs to operate in Cambodia in the post- Khmer Rouge era. In those early years, ADRA was deeply involved with the rehabilitation of Cambodia’s decimated health infrastructure, participating in the physical construction of health centers, ensuring the supply of medicine and equipment, and training staff. Since then, the focus of ADRA’s health work has expanded into advocacy and education focused on key issues such as Mother and Child Health, Sexual and Reproductive Health, HIV/ AIDS, and Anti-Tobacco awareness. The geographic scope has also grown; ADRA is currently implementing health projects in several provinces including Kampong Thom, Pursat, Kampong Cham, Preah Vihear, and Siem Reap. ADRA Cambodia has a specific and distinctive approach to development work, describing it as “implementing integrated and holistic programs through

close principle-based relationships with communities and development partners” (ADRA, 2011). As a result of this integrated strategy, maternal health activities are expanding their scope and commonly becoming part of broader projects. ADRA’s community-focused approach has meant that they have supported the creation of a variety of innovative grassroots groups and community campaigns that serve to disseminate reproductive, maternal, and child health messages.

ADRA’s most targeted maternal health project at present, Securing Mothers’ and Infants’ Lives with Equity (SMILE), has been active in Preah Vihear since January 2012. ADRA began working in the province in 2006, at a time when no other NGOs were specifically targeting maternal health there, despite some of the worst health indicators of any province in the country. As a result of its previous grassroots work, ADRA was able to build upon strong relationships with communities, government, and local NGO partners in the province, thus establishing a solid base of support. The SMILE project sets out to address some of the central barriers to maternal care in the province, which according to Rany Yel, ADRA’s Health Coordinator for Cambodia, are “long distances to health centers,” “unavailability of trained midwives during delivery,” and “traditional beliefs including pressure to deliver at home.”

The project’s interventions are grouped into three main categories that roughly correspond to the three challenges identified:

1. Infrastructure

A key component of the project is the construction of six Maternity Waiting Homes (MWHs), two of which were equipped and operational in 2012. A MWH provides accommodation for high-risk women during the final weeks of their pregnancies near a hospital with Comprehensive Emergency Obstetric and Newborn care. The idea is to “bridge the geographical gap” for women in rural areas where emergency transportation

Health Services	Health Education	Other Services
• Pre- and Post-natal care • 24hr on-call maternity services • Physical examinations where necessary	• On childbirth and post-natal care • Birth spacing and family planning • Newborn care • Kangaroo mother care for preterm or low birth weight babies • Early and exclusive breast feeding • Vaccination • Nutrition • VCCT and PMTCT	• Food and laundry facilities • Income generation (if possible) • Child care • Ambulance service

Figure 11. National Guideline on Maternity Waiting Homes (MoH, 2010)

to maternal health facilities poses a massive challenge. Employed in developing countries since the 1950s, ADRA has championed the model in Cambodia as a resource efficient means of managing complications in pregnancy in a context where decentralization of emergency obstetric services has proved challenging. ADRA's MWH efforts, along with CARE and Child Rights and You United Kingdom (CRY-UK), have helped to inform the Ministry of Health as they developed the National Guideline on Waiting Homes in 2010, outlining the placement and management of new MWHs. These guidelines propose a combination of medical services, counseling and education:

MWHs are still a relatively new tool in Cambodia's effort to reduce maternal mortality, and their impact has yet to be assessed. Six further MWHs constructed through the SMILE project should provide more evidence as to the effectiveness of the strategy and its future utility.

2. Training

The second major maternal health challenge that SMILE seeks to address is the lack of adequately trained midwives, which is particularly acute in rural provinces such as Preah Vihear. Staff attitudes and absenteeism

have previously been significant barriers to access (Chhea, 2010). Through the project, ADRA works closely with midwives in coaching and skills-upgrading sessions to ensure training in the latest evidence-based guidelines. The coaching also seeks to boost pride in the profession and thereby promote compassionate care for new mothers. In line with their holistic approach, a major focus of ADRA's health programs is integration of local community structures into projects. In some cases, this has involved working with religious leaders, including monks, on anti-smoking campaigns; however, concerning maternal health issues, the ubiquity of TBAs and their intimate knowledge of local maternal health behavior make them ideal community partners. They are targeted for training in referral procedures, spreading maternal health messages, and providing critical support during the pre- and postnatal period. ADRA's Senior Health Specialist, Sonya Funna, explains the strategy and how vital it is to involve TBAs in the process:

With TBAs, we generally provide education and material support – be they in the form of TBA kits or something else. Women are trained and encouraged to have birthing teams, which might include the mother-in-law and husband, and when

the woman goes into labor, everyone on the woman's birthing team has a specific role. For example, when the woman goes into labor, the role of the husband might be to go and find transportation to the nearest clinic. The role of the mother-in-law might be to provide water and support. Now, we include TBAs in this process, because we know that at the end of the day, they may be the closest points of help.

ADRA's model envisions TBAs filling an essential role on the front line of maternal health; however, that role would not be analogous to a midwife. Rather, TBAs are to work primarily in a referral capacity, identifying risk factors and referring mothers to health centers for prenatal care. In Cambodia, *chhmob* can be particularly effective in this role, both because of the high levels of trust attributed to them and the cultural clout they carry in their communities. TBA training within the SMILE project utilizes the Home-Based Lifesaving Skills Methodology, which is a community-based training module to reduce maternal and neonatal mortality. It takes into account the social context of childbirth and enhances, rather than replaces, existing maternal health practices. The process focuses on information exchange and behavior change, which can empower TBAs to make critical maternal health interventions. This strategy necessitates better linkages between TBAs and local health centers, and to this end, ADRA has formed TBA-Midwife Alliances which encourage information sharing and knowledge transfer to better integrate TBAs into local health systems.

3. Community Awareness

The SMILE project also works to change the health seeking behavior of new mothers, notably the preference of many women to give birth at home, which can be influenced by traditional beliefs and social pressure. ADRA believes that behavior change is only possible if women have access to accurate information. This includes potential seriousness of pregnancy complications, available health services, and the means to access community insurance schemes. ADRA has employed a unique tool for the dissemination of health messages known as Care Groups. Through this model, a particular health center's catchment area is divided into 15 household groups, each headed by a volun-

teer known as a Women's Health Educator. In turn, each Women's Health Educator is a member of a Care Group, with the leader of each serving as a liaison between the women and their local health center. This model allows important health messages to be easily and rapidly disseminated and community inquiries and concerns to be resolved.

Just over half of Cambodia's population of 13.4 million is under the age of 22, which is an especially critical group to reach with reproductive health messages, particularly if the goal is long term behavior change. Where sensitive or potentially embarrassing information is concerned, younger women may be reluctant to engage with older community members. ADRA has found that peers are better able to reach their friends with health information and risk reduction messages than their parents or other community leaders. The peer education strategy involves the construction of a Youth Resource Room at local health centers, where young people can go for information and discussion with peers on their own terms.

In Cambodia, as elsewhere, ADRA has had a strong health focus, of which SMILE is a representative. This preoccupation with health and wellness grows out of the Adventist's view of the body as a temple for the Holy Spirit. The church promotes vegetarianism, adherence to kosher laws found in Leviticus 11, and avoidance of alcohol, drugs, and tobacco. Church leaders, including John Harvey Kellogg, were even responsible for the integration of breakfast cereals and exercise regimens into the American lifestyle. ADRA's Senior Health Specialist, Sonya Funna, explains what is known as the "health message" and how it makes ADRA's development programming unique:

"The Adventist church has a long history of focusing on what we call the health message. We have a long history of focusing on holistic care and well-being. This plays out in the messages many receive during church services, the vegetarian lifestyle, belonging to social networks, the importance of exercising regularly, etc. As an agency, we do something similar in that we almost always design our programs to be integrated; be they pairing different health interventions or agriculture with health and nutrition. We believe in holistic care."

Box 3: A Holistic Integrated Approach

In Cambodia, as elsewhere, ADRA has had a strong a strong health focus, of which SMILE is a representative. This preoccupation with health and wellness grows out of the Adventist's view of the body as a temple for the Holy Spirit. The church promotes vegetarianism, adherence to kosher laws found in Leviticus 11, and avoidance of alcohol, drugs, and tobacco. Church leaders, including John Harvey Kellogg, were even responsible for the integration of breakfast cereals and exercise regiments into the American lifestyle. ADRA's Senior Health Specialist, Sonya Funna, explains what is known as the "health message" and how it makes ADRA's development programming unique:

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In Focus: TBAs and Cultural Attitudes towards Childbirth

ADRA's engagement of TBAs draws important attention to the importance of cultural traditions surrounding childbirth in Cambodia. For many Cambodian mothers, cultural or social beliefs (and those of their close relatives) strongly influence the decision on whether or not to deliver in a health center. Traditional practices and health understandings surrounding pregnancy can also lead to significant delays in seeking pre- and postnatal care. FIOs have been some of the leaders recognizing the special agency that TBAs have where pregnancy is concerned and their potential role in changing health seeking behavior for expectant mothers in their communities.

Some have suggested that the social context might be the most challenging barrier to maternal mortality reduction in Cambodia (Chandy et al., 2007). Young moth-

ers can often have little agency in childbirth, and older relatives are important in the perpetuation of traditional practices. Some practices surrounding motherhood are deeply ingrained in local culture, including *ang pleung*, or "roasting," a practice still prevalent in rural regions; a survey carried out in 2008 among 115 new mothers in Krong Kep Province found 65 percent practiced *ang pleung* after their latest birth (Montesanti, 2011). While there have been no studies examining the physiological effects of *ang pleung*, mobility restrictions during the process can inhibit a mother's ability to attend postnatal checkups. *Ang pleung* derives from a humoral medical philosophy in which it is believed that a new mother must regain the heat lost during the birthing process. This understanding also inspires food taboos during and after pregnancy. During pregnancy, foods should be "cooling," such as "sour foods, sweets, ice water and durian fruit," while after giving birth women are expect-

ed to eat “hot” foods, which include “beef, pork, fish braised with pepper, salty foods, wine and spicy foods” (Montesanti, 2011). Typically combined with traditional herbal medicine, rice wine is often utilized as a healing remedy during and after pregnancy. There are limited studies concerning the effects of food taboos on anemia or maternal illness in Cambodia; this is an area that requires more exploration.

Many mothers in rural areas have a hesitancy to give birth in local health centers that is a result of various social factors. A survey carried out in 2005 found that the two strongest determinants of skilled birth attendance in Cambodia were a mother’s education and prolonged labor (Yanagisawa et al., 2006). This suggests that those who chose to give birth at a medical facility were either more generally aware of the risks associated with pregnancy or had encountered a problem during delivery. This supports other assertions that many Khmer women associate birth at home attended by TBAs known as *chhmob* with a “normal birth,” while attending a health facility is often associated with an “abnormal birth” or medical complications (Matsuoka et al., 2010). For many, trust and comfort issues are central in deciding where to give birth. Several studies show negative experiences in health centers with midwives, either firsthand or secondhand, to be a major deterrent to women. According to a recent study of 30 new mothers who had recently given birth in public health facilities, “all women reported that they were reluctant to use or avoided public maternal health services due to the attitudes of Skilled Birth Attendants” (Ith et al., 2013). Most felt that they did not receive the reassurance, support, and respect from midwives that they associated with births assisted by a local *chhmob*. Other studies have similarly noted a strong preference for traditional birth attendance in rural areas; “although TBAs are not necessarily highly skilled in midwifery, they are kind and friendly to their clients and women prefer them as birth attendants” (Masuoka et al., 2010). In the highly indigenous provinces of Ratanakiri and Mondulakiri, where maternal mortality rates are far higher than the national average, many women lack fluency in Khmer. Linguistic and cultural differences can present strong barriers to accessing services at public health centers, and thus, TBAs remain heavily relied upon (Brown et al., 2006).



Image 3. Traditional Birth Attendants in Preah Vihear Province

Considering their continued utilization for delivery in rural areas and as well as their deep knowledge of the cultural dimensions of pregnancy and childbirth, *chhmob* are important stakeholders when engaging in efforts to reduce maternal mortality in the Cambodia. However, globally there are diverging views on the extent to which TBAs should be formally integrated into the response. Monir Islam, director of WHO’s Department of Maternal, Newborn, Child, and Adolescent Health, expresses the prevailing view among international development partners by stating: “pouring resources into TBA training would be counterproductive and ensure that a country gets stuck in the ‘transition trap’” (Chatterjee, 2009). He suggests that funds would be better spent increasing the availability of trained SBAs, while encouraging TBAs to refer mothers to health facilities. Indeed, several NGOs in Cambodia attempt to engage TBAs in this capacity, offering KHR 5,000 (USD 1.25) for each referral (*ibid*). Some have suggested, however, that engaging TBAs solely in this capacity underutilizes this critical resource. Health Poverty Action has been training TBAs to advise mothers on hygiene and healthy eating habits during pregnancy in Ratanakiri. Pilot trainings have seen positive potential in training TBAs in emergency intervention and evacuation methods for postpartum trauma (Chandy et al., 2007). This could have significant lifesaving potential considering roughly half of all rural births continue to take place in the home (NIS, 2010).

Despite the pervasive influence of modern medicine in Cambodia today, traditional health beliefs and practices remain resilient, particularly those surrounding pregnancy and childbirth. A recent survey by the Ministry of Health in Cambodia for the National Strategy for Reproductive and Sexual Health noted, “Traditional practices are being adapted to suit modern times, but are not being abandoned” (Montesanti, 2006). With this understanding, some have suggested TBAs can play an important role as “cultural brokers” during pregnancy and childbirth. Local women often use traditional vocabulary and concepts surrounding pregnancy and may choose to seek medical assistance depending on whether they view symptoms as normal or abnormal. TBAs might play a role in efforts to “reload” traditional terminology to ensure that women understand the risks involved with various conditions during pregnancy (White, 2002). A dual care model that partners SBAs and TBAs has led to dramatic increases in births at health centers where it has been attempted (Brown et al., 2006). Judging from past studies, better collaboration between SBAs and TBAs could result in good maternal health outcomes; several modalities of collaboration of this nature warrant exploration. Home visits by SBAs have also been suggested as a useful method to ensure the comfort of the mother and to

work around mobility restrictions that result from traditional practices. Programs that engage TBAs such as ADRA’s SMILE project are instrumental in demonstrating what is possible from such partnerships.

World Vision’s Jump Start Initiative

World Vision was among the first international aid organizations to operate inside Cambodia in the post-Khmer Rouge era. While initially focused solely on humanitarian relief, World Vision has steadily expanded into a wide range of development programming in Cambodia, from education to agriculture. World Vision was established with a strong focus on children and families, and the organization’s health programming has traditionally reflected this focus, although the activities and capacity of National Offices in the sector varied quite widely. It was only in 2007 that World Vision undertook a targeted strategic push on Maternal and Child Health and Nutrition globally. The organization wanted to utilize funds more strategically in the health sector, ensure quality and consistency, and use its position to be a leading voice on global health issues. The goal was also leveraging World Visions’ considerable reach and resources to contribute to MDGs 4 and 5 by achieving three key outcomes (World Vision, 2012):

7 Interventions for the Mother	11 Interventions for the Child
• Adequate Diet • Iron Folate Supplements • Tetnus Toxoid Immunization • Malaria Prevention • Birth Preparedness, Health Timing and Spacing of Pregnancies • De-worming • Access to Maternal Health Services	• Appropriate Breastfeeding • Essential Newborn Care • Hand Washing with Soap • Appropriate Complementary Feeding • Adequate Iron • Vitamin A Supplementation • Oral Rehydration Therapy/Zinc • Prevention and Care Seeking for Malaria • Full Immunization for Age • Prevention and Care Seeking for Acute Respiratory Infection • Deworming

Figure 12: World Vision’s 7-11 Interventions (World Vision, 2012)

Interventions for Mothers	Interventions for Children	Interventions for Households
• Comprehensive antenatal care • Skilled birth assistance • Postnatal visits by a health worker • Postnatal supplements • Birth spacing counseling	• Measles vaccine by age one year • Vitamin A supplementation (6-59 months) • Oral rehydration solution / zinc for diarrhea • De-worming (six monthly for 12-59 months age) • Micronutrient powder / iron supplements (6-23 months)	• Early initiation of breastfeeding • Exclusive breastfeeding • Appropriate complementary feeding • Hand washing • Iodized salt for cooking

Figure 13. World Vision Cambodia 5-5-5 Interventions

1. Mothers and children are well nourished.
2. Mothers and children are protected from infection and disease.
3. Mothers and children access essential health services.

World Vision launched what was known as the Jumpstart Initiative (JSI) to rapidly build institutional capacity in the health sector and create a programmatic base that was scalable and replicable. The JSI was tested in five pilot countries (2008-2012) in the Asia Pacific Region including Cambodia. It used, as a point of departure, World Vision's 7-11 framework for interventions on maternal and child health. The 7-11 framework included seven interventions for the mother and eleven interventions for the child.

A major focus of this pilot initiative was to determine how this set of interventions could be contextualized to best respond to local maternal and child health challenges at the country level. In light of Cambodia's high MMR, the JSI developed a strong maternal health focus, and the 7-11 intervention framework was repackaged into what became known as the 5-5-5 intervention framework. This framework included five interventions for the mother, five interventions for the

child, and five interventions at the household level. The 5-5-5 intervention framework emphasized interventions surrounding skilled birth attendance, ante- and postnatal care, as well as access to family planning services in response to their great importance in the Cambodian context.

The JSI represented the largest targeted maternal health program run by an FIO in Cambodia in terms of reach and resources. World Vision works in nine provinces in Cambodia, plus Phnom Penh, though their focus is on remote and underserved communities within those provinces; these units, created by the organization known as Area Development Programs (ADPs), consists of roughly 20,000-30,000 people. In past health programs, World Vision typically worked only with Health Centers that provided services for residents of the ADPs where they had active projects. However, during JSI implementation, it became clear that in order to achieve the broader and longer-lasting impacts intended, it would be necessary to move away from World Vision's ADP system and work within the operational districts which serve as the fundamental unit within the public healthcare system. While World Vision initially chose to run the JSI in 15 ADPs, the strategy was altered to focus on four

operational districts. This strategic change provided the opportunity to build a strong working relationship between World Vision and the MoH around issues of child and maternal health.

Key aspects of the project related to maternal health include supporting midwives for refresher training as well as sending medical professionals at the health center level for training in certain emerging technical subjects. World Vision also supports the activities of Village Health Support Groups (VHSGs), which act as a critical bridge between local health centers and local communities. VHSG members often include TBAs and are trained to counsel women during pregnancy and the postnatal period. VHSGs are considered key to effect lasting behavior change and birth preparedness. While the JSI ended in 2012, World Vision has witnessed some important impacts at both the global and national levels. They identify 10 key successes in a 2012 report on the initiative. Perhaps most important-

ly, the JSI solidified an international MCHN strategy for the organization and tested intervention packages for future replication. The JSI also contributed to the development of National Office health strategies and expanded and built capacity among health-focused technical staff. It substantially widened the footprint of World Vision's health programming and contributed to important partnerships on the national level. In Cambodia, through the JSI, World Vision developed successful and enduring partnerships with the MoH and UNICEF.

There were also considerable challenges largely due to the diversity and contextualized nature of JSI implementation. In Cambodia, for example, while the redesign of the 7-11 framework and alteration of the ADP model undoubtedly contributed to a more responsive and catered intervention, it also made broader monitoring and evaluation attempts challenging. While the intent was to mainstream maternal and child health

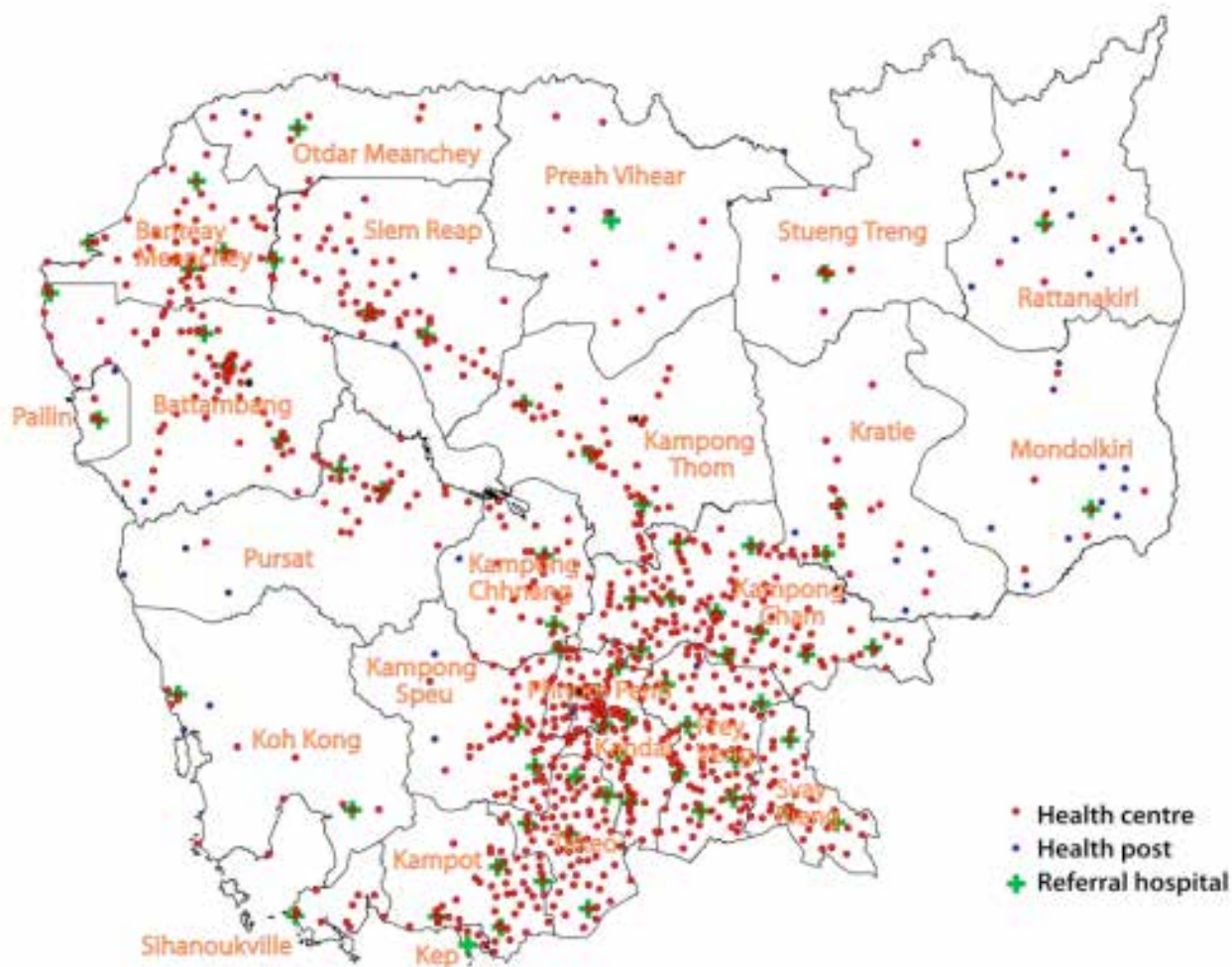


Figure 14. Locations of Health centers, health posts and referral hospitals (Connell. 2011)

perspectives into World Vision programming, in many countries there was a “projectization” of the JSI. After the initiative had run its course, many could not locate funds in their core budgets for the retention of health-focused technical staff. World Vision concluded that “the notion of ‘capacity building’ funding at national level was incompatible with national office and ADP programme management paradigms, which cater to individual ADPs versus taking a coherent national approach.” World Vision Cambodia’s move into operational district centered programming, on the other hand, worked towards a more coherent national approach in accordance with MoH priorities. World Vision Cambodia continues to use the relationships and capacity from the JSI experience for a follow up initiative on child survival that will run through 2014.



Image 3. A rural health post in Ratanakiri Province

Key Successes	Key Constraints
- Created partnership creation that solidified a global strategy for health and nutrition - Created project models that have potential for replication - Creation of regional health and nutrition teams - Increase indedicated health and nutrition staffing - Empowered existing health and nutrition staff - Developed national level health and nutrition development - Traning and capacity building - Increases number of ADPs with health and nutrition programming - Contributed to national level partnerships - Increased funding for health and nutrition programming	- Challenges in design, monitoring and evaluation in ADPs - Inefficient influence and authority of Health and nutrition staff because of technical operational divide - Not all health and nutrition positions we able to be retained - Variable by in by national leadership - Resouces "projectized" rather than run as an initiative - High transactional costs of JSI investment

Figure 15. Successes and Constraints of World Vision’s Jump Start Initiative in Cambodia

World Vision’s dedication to serving the most remote and underserved operational districts has drawn attention to the great geographic disparity in health outcomes in Cambodia. As can be seen in Figure 14, there is a skewed geographic distribution of health staff and infrastructure in Cambodia, which has a major effect on the availability and quality of maternal health services for mothers in rural areas. Perhaps the most

telling statistic in this regard is that approximately 54 percent of practicing physicians in Cambodia are located in Phnom Penh, where only 9.3 percent of the country’s population lives (Chhea et al., 2010). Partially due to low wages and isolation, rural health centers and referral hospitals struggle with recruiting and retaining qualified staff. The retention of mid-level health workers, including nurses and secondary midwives, is particularly critical to the provision of appropriate maternal health services in these regions. Health centers, the primary public health facilities accessed by the rural poor, often have significant staff shortages. In 2009, out of a total of 960 health centers active at that time, 146 lacked a primary midwife, while 532 were without a secondary midwife (Grundy et al., 2009). As illustrated in Figure 16, the ratios of medical staff to population can vary quite dramatically, particularly where midwives are concerned.

UNFPA’s 2011 State of the World’s Midwifery found that, in order to achieve the 2015 target of 95 percent birth attendance, Cambodia would need to at least double their total number of trained midwives. While the country is unlikely to meet this goal before 2015, progress has been made, particularly in educational infrastructure. In 2008, a three-year midwife training program was established by the newly formed national Midwifery Council. The program is direct-entry, meaning that the midwife is guaranteed a paid placement after graduating; however, these placements are almost exclusively in underserved rural regions where the need for midwives is particularly acute (Hunt and

Personnel Ratio at the Provincial Level	Best Ratio	Worst Ratio
Physician-to-population	1 – 2,385	1 – 15,460
Secondary nurse-to-population	1 – 1,010	1 – 8,740
Secondary midwife-to-population	1 – 1,040	1 – 12,700

Figure 16. Health Personnel Ratio at Provincial Level (Chhea, 2010)

Bueno de Mesquita, 2011). It has been suggested that these geographical restrictions could discourage recruitment unless additional incentives are developed.

Ideally, services offered at rural health centers are quite broad and include “initial consultations and primary diagnosis, emergency first aid, chronic disease care, maternal and child care (including normal delivery), birth spacing advice, immunization, health education and referral” (WHO, 2011). Despite the range of services available at district health centers, there has historically been a large disparity in quality of service between urban and rural facilities. This is due to staff concerns, as mentioned above, as well as restrictive operating budgets and endemic shortages of medication and supplies. Some of the sharpest geographic disparities are seen in maternal health services. The Maternal and

Neonatal Program Effort Index was an assessment of maternal and neonatal health services in 49 developing countries (Ross et al., 2002). It rated 81 aspects of maternal health services in Cambodia and found very large divergence in the quality of services between urban and rural facilities, three of the most severe being obstructed labor, postpartum hemorrhage, and 24-hour hospitalization (see Figure 17).

Even where facilities exist, access remains a major challenge; many rural households are 5 to 10 km from the nearest health center over unpaved roads that prove challenging to navigate, particularly during the rainy season. For acute pregnancy complications or during delivery when the mother must be transported lying down, transportation is further complicated. Ambulances, where available, are utilized for transportation

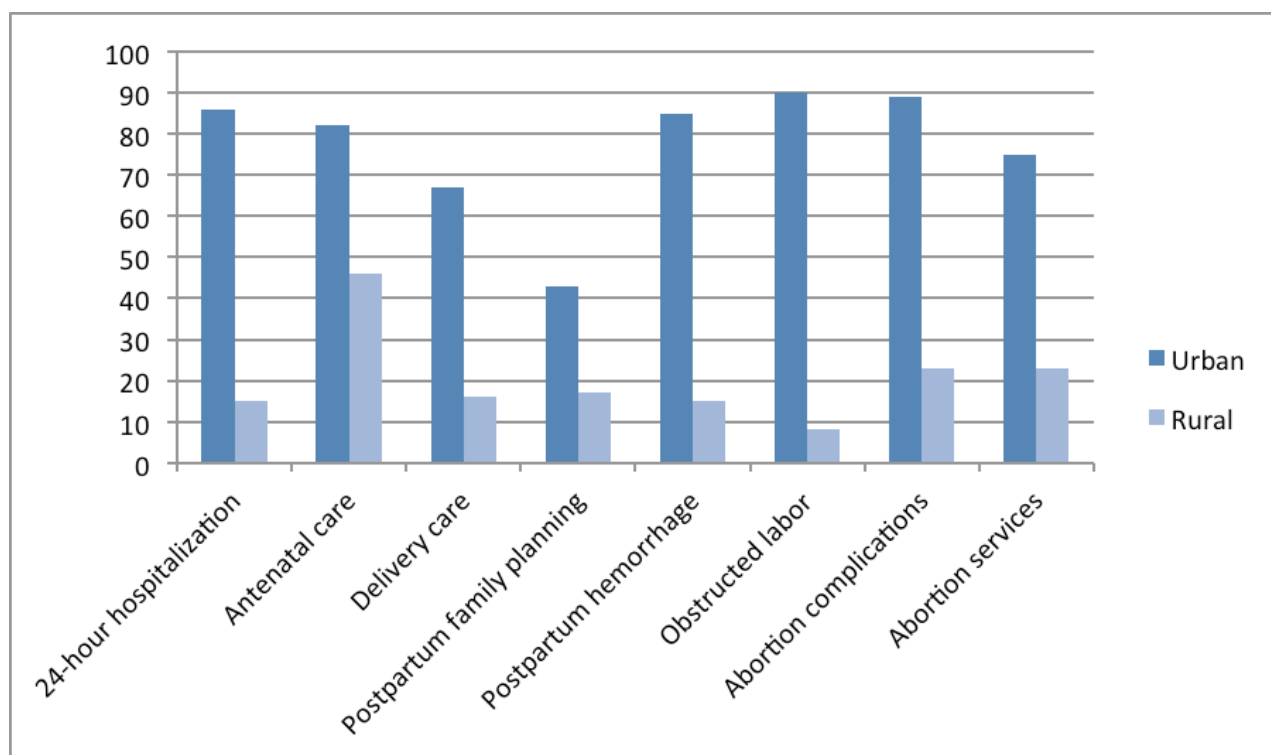


Figure 17. MNPI Rating (out of 100) for maternal health services at rural and urban health facilities (Ross et al., 2002)

between health centers and referral hospitals though the referral process can be complex. The ambulance fee can cost over US\$7.50 in some cases (Brown et al., 2006). Improvements to health and transportation infrastructure are vital concerns in reducing maternal mortality in rural areas of the country. A key development in this regard is the construction of “waiting homes” (ADRA being a notable advocate for these) where families from remote areas can stay and receive prenatal care as they wait to give birth. In 2010, the government of Cambodia released official guidelines for the establishment, monitoring, and evaluation of waiting homes (MoH, 2010).

The willingness of FIOs to work in some of the most remote and isolated regions in Cambodia can be of critical importance particularly if, as is the case with the JSI, they develop partnerships with the MoH and local health authorities to ensure interventions can contribute to strengthened local capacity.

Caritas’s Mother and Child Health Program (MCHP)

Caritas, a Roman Catholic relief and development organization, has been active in Cambodia since 1990, with the founding of Caritas Cambodia. Caritas Cambodia’s work covers a wide range of areas, including sustainable development, welfare, and youth and gender programs. Caritas’s sustainability projects include building roads and irrigation canals, improving dams, and checking water gates. Caritas aims to provide services that meet the most basic needs in education, health, and sanitation. In the area of health, Caritas focuses on providing home-based care for HIV and AIDS patients, as well as supporting clinics and community-based child and family mental health programs.

Caritas’s most targeted maternal health project is the Mother and Child Health Program (MCHP), which is part of their Community Health Program (Caritas Española, 2013). With a total budget of US\$235,616, the program focuses on safe delivery, child survival, and improved nutrition. The project began in 2007 and provides services related to vaccinations, reproductive health, safe motherhood, and schoolchildren’s health. In 2012, the program expanded to cover additional components, such as the “Food Security Activities” and a “Baby Friendly Community Initiative.” The newly expanded project runs for 18 months (July 1, 2012 to December 31, 2013) and covers: 45 villages of Sothnikum Operational District in Siem Reap Province, 36 villages of five communes in Svay Leu District, and nine villages of Kvav Commune in Chikreng District.

The MCHP addresses several maternal health challenges. A top priority is to improve access to health facilities and services, especially for those in remote areas. Through targeted preventative measures, it focuses particularly on indirect causes to maternal health issues, such as chronic illness and nutrition. MCHP’s approach is distinctive in that it also directs a significant portion of its work to schoolchildren and children under the age of two. Specifically, the intervention focuses on the following six areas:

1. *Community health structures*

The first objective is to strengthen community health structures and improve the capacity to implement community-based health activities at three Health Centers. This is achieved through a strong network of qualified Villages Health Support Groups (VHSGs), Mothers’ Groups Volunteers, monks, and schoolteachers, all of which work closely with health center staff.

Results reported in the first interim progress report for the intervention revealed that approximately 50 percent of VHSGs trained on Integrated Management of Child Illness and on reproductive health over two sessions were able to educate mothers during various Mother-Child health activities (nutrition, immunization, child growth monitoring). In addition, 50 percent of VHSGs were able to refill their drug kits on a quarterly basis, refer patients to the hospital when needed, and provide basic health care to children and women

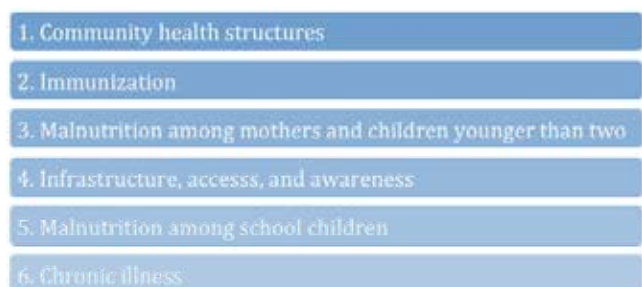


Figure 18. Intervention Areas of the Mother and Child Health Program (Caritas Española, 2013)

during visits and outreach activities.

Mothers, VHSGs, local leaders, and volunteers at 20 villages implemented the Baby Friendly Community Initiative. The training package included advice to lactating mothers and follow-up for sick children. Similarly, VHSGs provided training on “Food Security Activities,” which included improving nutrition options and sources for underweight children. Health activities were also extended to eleven schools, initiating the development of vegetable gardens and creating monthly nutrition education sessions.

2. *Immunization*

The second objective is to increase immunization coverage for children under one year and for pregnant women in Svay Leu, Kvav, and Khnang Phnom villages. The role Caritas played was to support and coach the health center staff, who were provided by the Ministry of Health.

The interim progress report, completed in March 2013, showed that 86 percent of children were fully vaccinated (one percent below target). The enhanced coverage is due to increased fuel coverage and car availability for bi-monthly vaccinations in remote areas. In addition, 85 percent of pregnant women were vaccinated at least twice against tetanus (five percent higher than target). This is attributed mainly to outreach activities in remote areas. Finally, awareness about the importance of child vaccinations has been achieved in all 45 villages.

3. *Malnutrition among mothers and children younger than two*

The third objective is to reduce malnutrition among pregnant/ lactating mothers and children younger than two years of age through education, food distribution, and food production in 43 remote villages.

The intervention succeeded in reducing severe malnutrition from 0.9 to 0.66 percent in the five communes with 38 villages. However, for the five new villages just starting nutrition intervention, severe malnutrition was as high as 4.58 percent. In addition, moderate malnutrition was reduced from 9.25 to 7.71 percent in the five communes with 38 villages; this figure is higher for the five new villages (10.63 percent). The five new vil-

lages in Kvav are expected to be targeted more closely during the final nine months of the project (March-December 2013).

Each intervention included at least one cooking demonstration, where mothers learned how to prepare nutritious meals using inexpensive and local food. It also included a Child Growth Monitoring session on a quarterly basis; less than three percent of beneficiaries failed to attend due to farm work and other responsibilities. Moreover, 240 families of underweight children were targeted for healthy food production activities.

4. *Infrastructure, access, and awareness*

The fourth objective is to reduce maternal mortality and morbidity due to childbirth complications through infrastructure improvement of maternities, access to health services, and awareness about antenatal care and safe delivery.

To facilitate health activities in villages located in the inaccessible Koolen Mountains, Caritas provided one motorcycle to the Khnang Phnom Health Center. Caritas also constructed housing for health staff (and midwives) on the health center premises in order to improve their availability.

Results indicate that this intervention showed an increase in deliveries by qualified midwives. At certain health centers, the figure for assisted births was as high as 54.9 percent, although it remained lower in Khnang Phnom (35.9 percent).

5. *Malnutrition among school children*

The fifth objective is to reduce malnutrition and severe iron deficiency among school children at 11 schools through iron supplementation, health camps, nutrition education, and healthy habits promotion.

This intervention included providing 11 schoolteachers and one district education supervisor with courses to help them better educate their students about nutrition. Health topics soon became incorporated into the school curriculum.

Results indicate that 580 students (22 percent) received weekly iron supplements. An estimated 1,118 students

attended medical checkups and received deworming drugs. In addition, 1,620 students (62 percent) received hygiene materials. And finally, the incidence of anemia was reduced in three out of six schools: from 20 to three percent at Sakada, from 53 to 43 percent at Chlong Spean, and from 33 to 10 percent at Tapenh.

6. *Chronic illness*

The sixth and last objective comprises two components: improving the management of chronic illnesses through infrastructure improvement, regular supplies provision, and referral systems at three health centers; and, increasing chronic illness prevention through health education campaigns.

Results of this intervention demonstrate that the health services utilization rate increased to 85 percent on average at three health centers. This is higher than the national target of 65 percent. In addition, TB was being diagnosed at the three health centers; however, the rate of diagnosis is under the 60 percent target. Similarly, 746 pregnant women (78.77 percent) were tested for HIV, which is slightly less than the national target of 80 percent.

Prevention efforts consisted of awareness campaigns for TB, malaria, dengue fever, and AIDS. With the support of the Ministry of Health, which distributed mosquito nets, 88.5 percent of pregnant women now sleep under mosquito nets.

In Focus: The Public-Private Divide

Caritas places considerable emphasis on working with local networks such as VHSGs, mothers' groups and monks. They work to facilitate communication between these groups and local health centers to improve the quality of maternal and child health services, but also to increase community buy-in. Outside of the public health infrastructure, Cambodians have access to a complex mosaic of private for-profit and nonprofit health providers, pharmacies, and various traditional practitioners. This broad range of actors contributes to a great deal of pluralism in the loosely regulated health sector. As a result, Cambodians often have complex and idiosyncratic health seeking strategies, often involving a composite of public and private health pro-

viders. Due to the structure of health care financing and competition for qualified staff these choices can have broad impacts.

Increasingly, private practitioners are gaining pride of place; currently two-thirds of the population consults a private practitioner first for primary care issues (Grundy, 2009). This is partially explained by a negative perception of the quality of public health services and an association of public facilities with poverty. There are growing examples of public-private collaboration, and many see benefits in the choice and flexibility provided under the current system (Chhea et al., 2010). However, there are several concerns that emerge about the effect that competition from private providers has on public facilities and ultimately those who rely on them primarily for health services, primarily the poor.

One concern involves the importance of user fees as a tool for healthcare financing. As a significant portion of operating costs and staff salaries in health centers are derived from user fees under the current system, competition for clients from private clinics can have an adverse effect on budgets and ultimately contribute to deterioration in public health services. The common phenomenon of shared staff between public and private clinics presents another concern. Doctors and nurses, particularly in rural regions, often supplement their meager public salaries by operating private clinics. In some cases, this can cause a conflict of interest with staff referring patients to private clinics or being absent from their public clinic to attend work in their more lucrative private practice (Levine et al., 2008). It has also been suggested that there is a preference of many patients to receive tangible treatments such as IV drips, injections, or medications, and as private clinics are often more likely to cater to customer requests, this has in some cases resulted in inappropriate treatment (Levine et al., 2008). Any negative impact on public health services will have a disproportionate effect on the rural poor as they are most likely to access services in a public health center (Ith et al., 2013).

While Cambodians are more likely to consult a private facility first for primary care, this is not the case where maternal health services are concerned. A recent study found that "pregnant women prefer the government system, the NGOs and Kantha Bopha hospital for pregnancy care as well as family planning" (Lijstrand

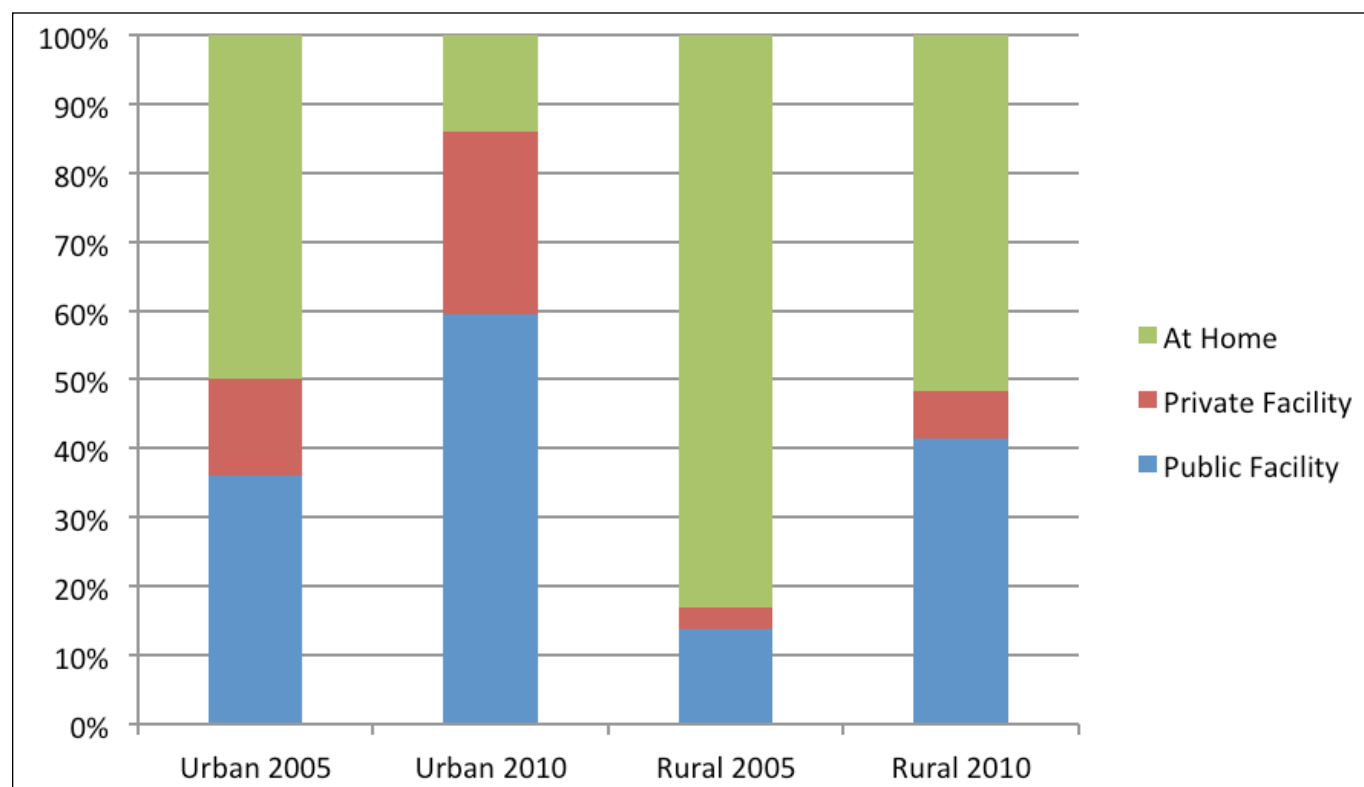


Figure 19. Percentage of births by facility (Source NIS 2005, 2010)

et al., 2012). According to the 2010 Demographic and Health Survey, 59.2 percent of urban births and 41.1 percent of rural births took place in a public facility. There has been a noteworthy increase in private facility births, but these continue to account for a relatively small percentage overall (9.9 percent) (NIS, 2005; 2010). Impacts on public facilities from competition will therefore also have a disproportionate effect on maternal health services as compared to other health services more commonly sought from private providers.

The strength of FIOs in grassroots organizing, demonstrated through programs such as Caritas's Mother and Child Health Program, can be helpful in facilitating citizen input on services provided at local health centers. This will be critical to ensuring quality as Cambodia's health system evolves and establishing sustainable funding streams that can support maternal health services vital to continued progress in reducing maternal mortality.

Pagoda-Managed Health Equity Funds

As part of a push for greater sustainability in the health-care system, Cambodia has relied increasingly on user

fees as a critical source for healthcare financing. WHO reports that in 2011, public funding accounted for just 22.4 percent of total health expenditures; the remainder was paid directly by citizens, primarily through user fees. User fees, coupled with informal payments and transportation costs, can place a major burden on poor households and ultimately negatively affect health-seeking behavior. This is especially true for maternal health services where there are affordable and trusted traditional services available. Developed in the early 2000s, Health Equity Funds (HEFs) are schemes that seek to eliminate this barrier by reimbursing user fees for the poorest households. HEFs are operated by NGOs (local and international) at the district level and are typically financed by external funds from international development partners.

A health equity fund that worked through local pagodas and mosques was pioneered in Kirivong District, Takeo Province, by Bart Jacobs, supported initially by French NGO Enfants & Développement, and later came under the Swiss Red Cross. Known as Pagoda-Managed Equity Funds (PMEFs), the strategy empowered pagoda-based volunteers to identify potential beneficiaries, collect donations, and coordinate with local health centers to man-

Criteria for eligibility as HEF beneficiary:

Comply with all three of the following:

- Poor composition of house (roof and wall from thatch/palm/bark/aluminum sheets)
- Own less than 0.5 ha of land
- Have a daily household income of KHR 4,000 or less

Comply with at least one of the following:

- No “luxury goods” (TV, motorcycle)
- No farm animals
- Have at least seven economically inactive household members

Figure 20. Locally Developed HEF Criteria (Jacobs et al., 2007)

age the funds. The goal was to reduce reliance on external funding and to minimize administrative costs, ultimately bolstering the long-term sustainability of the funds.

A formal partnership between the health sector and local religious structures in Kirivong was first established in 2001 with the creation of Health Center Management Committees (HCMC), composed of two volunteers from each pagoda or mosque in the health center catchment area as well as one representative from each commune

council. HCMCs co-managed health centers alongside health center staff and were involved in the dissemination of important health messages in their communities.

In 2003, the first PMEF was officially organized. In its initial iteration, one pagoda committee was in charge of the fund for each health center, while the remaining pagodas and mosques had roles in identifying beneficiaries according to locally developed criteria and collecting funds which would then be sent to the “in-charge” pagoda committee. It was decided, in the wake of an evaluation after an initial 20 month pilot, that a local NGO, Buddhism for Health (BfH) should be created to assume management responsibilities for the fund while pagodas and mosques retained their role in identifying beneficiaries and community fundraising in the new scheme. BfH’s Board of Directors was comprised of religious, administrative, and health authorities.

Significant strides have been made in increasing health service utilization rates in the Kirivong District since the PMEF was established, especially where maternal health is concerned. The rate of assisted births nearly doubled from the first to the second project phase. The increase from 2.3 births per 1000 to 4.4 births per 1000

Pagoda-Based HEF Fundraising Strategies:

- The pagoda committee agrees that a proportion of money collected during ceremonies like *Pchum Ben*, Khmer New Year, and *Kathen*, will be allocated to the HEF.
- The pagoda committee agrees that a proportion of money collected during any village function or ceremony will be allocated to the equity fund.
- District chief monks and administrative authorities will request money from national politicians.
- Administrative authorities and pagodas will arrange a special flowering ceremony (*Bun Pkea*) to fundraise for the equity fund.
- The commune chief will ask KHR 1,000 (USD 0.25) of all people requiring official documents, such as birth certificates.
- The commune chief will ask KHR 1,000 (USD 0.25) from village chiefs during monthly meetings.
- Pagoda volunteers will collect money weekly using an Equity Fund Collection Box at the pagoda.
- Monks, *achaar*, and village chiefs will arrange monthly collections in the villages.
- Monks and *achaar* will bring the Equity Fund Collection Box to each ceremony in the villages.
- The village chief is to collect KHR 200 (0.05 USD) monthly from all families for the equity fund.

Box 4: Skilled Birth Attendant Vouchers

First piloted in 2007 by the Ministry of Health in partnership with Belgian Technical Cooperation, Skilled Birth Attendant Vouchers were designed to complement HEFs and specifically targeted towards greater utilization of maternal health services, including skilled birth attendance. This effort builds off of a government incentive scheme in which midwives and other health professionals receive US\$12.50 for each live birth attended to in a referral hospital and US\$15.00 for those in a health center. Through the SBA Voucher scheme, poor women receive a voucher with five detachable coupons to be used at their local health center, three for antenatal visits, one for delivery, and one for a postnatal visit. The packet also includes vouchers that cover transportation for at least five trips between their home and the health center as well as to the referral hospital in case of complications. User fees for the visits are paid for through the HEF. Management of the voucher programs is subcontracted to the NGO operating the HEF as Voucher Management Agencies, which is in charge of the identification of potential beneficiaries.

Such voucher programs have expanded recently through other HEFs. Marie Stopes International launched a voucher program in 2010, and in 2011, German Development Bank Kreditanstalt für Wiederaufbau partnered with the Ministry of Health for another large scale program. Early indications have shown these voucher schemes to be relatively successful. A study of the BTC program found that out of the 2,725 vouchers distributed in 2007, 2,062 were utilized. However, utilization rates varied quite dramatically for visits at different stages of pregnancy; 78.2 percent of the vouchers were used for ANC1, 60.8 percent for ANC2, 45.8 percent for ANC 3, and only 44.6 percent for delivery (Ir et al., 2010). A study concluded in 2013 convened focus groups to delve deeper into the reasons behind the reluctance of some women to utilize their vouchers. It found that unexpected informal payments, including “tea money” paid to midwives, were a major deterrent. It identified other factors that hampered usage, including a preference for TBAs related to cost, ease of use and attitude, as well as confusion among the many concurrent social protection voucher programs in their area. Overall, however, the scheme has shown considerable promise and its expansion into other HEFs will only increase the opportunity for studies that might highlight ways to increase effectiveness.

was far greater than the increase in the national average over the same period, which rose from 8.8/1000 to 9.8/1000 (Jacobs et al., 2007). However, the success of the PMEF model in terms of utilization rates outpaced the rather modest pagoda-based fundraising strategies. The pagodas demonstrated considerable ability to raise funds, collecting US\$5,691 in the initial 20 month period and US\$4,231 in the second phase. With the inclusion of the seed-funding grant, the initial phase ended with a net positive balance. However, higher utilization rates and an increase in user fees (particularly for outpatient services) saw expenditures during the second phase jump from US\$3,511 to

US\$10,598 (Jacobs et al., 2007). Jacobs suggests that fundraising could be bolstered by more active fundraising methods. Some traditional strategies, such as painting donors’ names in a prominent location within the pagoda, typically done for donations towards pagoda construction projects, could be employed for the PMEF. A fund matching approach, though, could be the most realistic means, considering the significant funding gap that currently exists.

Fundraising challenges aside, this experiment points to several noteworthy advantages of operating HEFs through local religious structures. First, pagoda-based actors have proved a ready means of identifying po-

tential HEF beneficiaries. A recent comparison of four HEFs found that pre-identification of beneficiaries using pagodas was more accurate, far less expensive, and considerably faster than proxy testing. The identification process for the PMEF in Kirivong took a matter of days, while the same process in other HEFs in the country took as long as two years (Noirhomme et al., 2007). Other advantages can be seen in the potential for community buy-in. Deep community trust in the pagoda management of funds and transparent accounting practices can encourage community members to contribute financially and, likewise, involving pagodas can greatly increase participatory planning to make HEFs more responsive to public needs. Experiences from around the world have demonstrated the utility of partnerships between health authorities and religious communities where there is a need to spread critical health messages. Due to the cultural salience of Buddhist (and Islamic) leaders in Cambodian communities, particularly in rural areas, the potential to affect behavior change surrounding child birth is high and has been pointed to in several studies (i.e. Jacobs, 2003).

The PMEF model has shown some promise but has yet

to be expanded beyond its initial test site. The strategy is well documented and could be easily replicated. The potential adaptability of the strategy is deserving of closer attention.

In Focus: Healthcare Affordability

Cambodia has seen relatively strong economic growth over the past decade. Poverty rates have fallen overall, though 30 percent of the population remains under the country's official poverty line of KHR 2,473 (USD 0.61) a day (OECD, 2013). Despite falling poverty rates, income inequality remains persistent with the bottom 20 percent accounting for 7.5 percent of the total share of income, while the top 20 percent accounts for 45.9 percent. Overall, income distribution has remained roughly the same since 1994 (World Bank, 2013).

Poverty in Cambodia is largely a rural phenomenon, with 90 percent of those living under the poverty line located in rural areas (ADB, 2011). Despite the high rates of poverty, particularly in rural areas, out-of-pocket healthcare expenditures in Cambodia are the highest in the region and among the highest of all low-in-

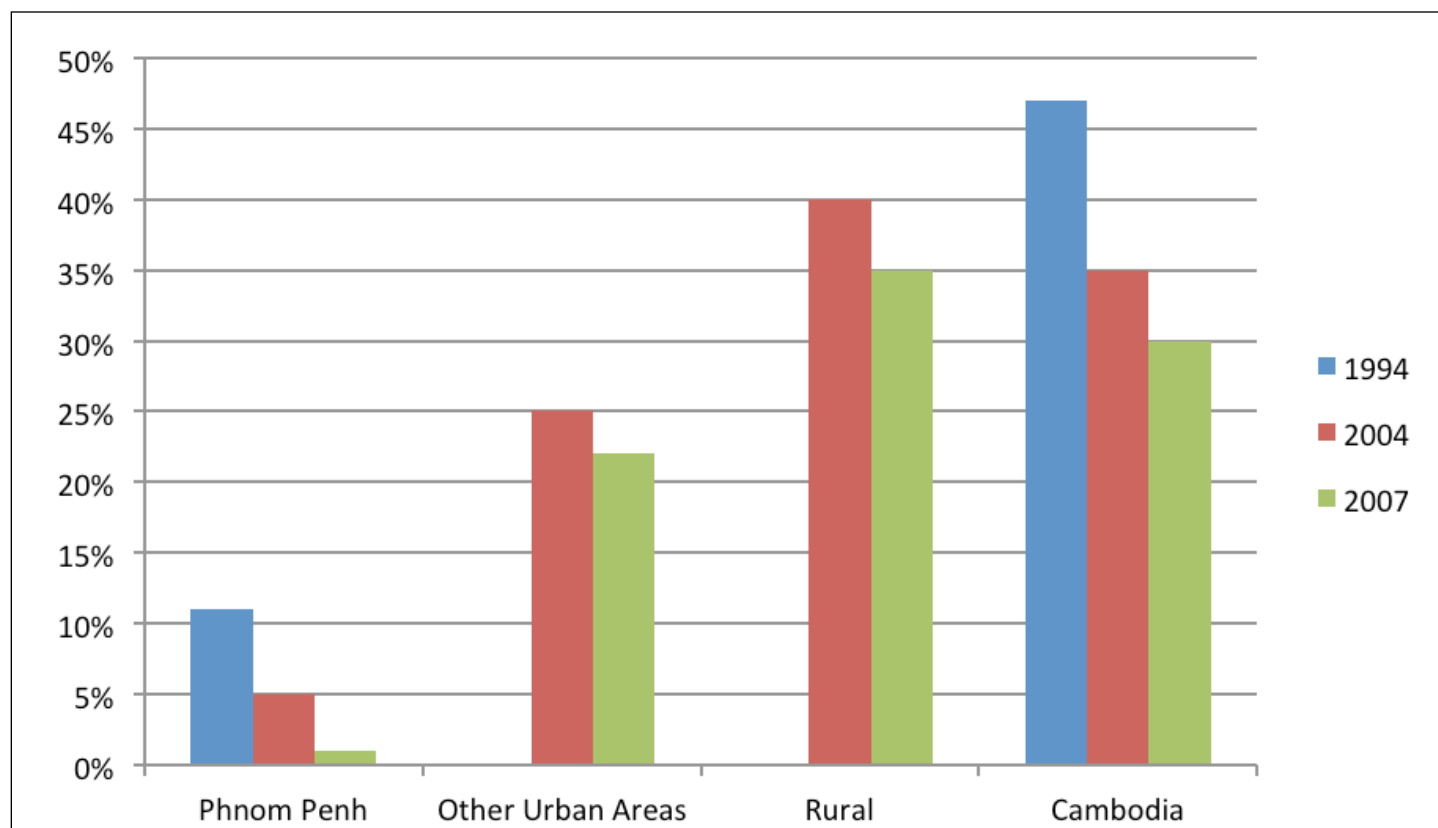


Figure 21. Historical Poverty Rates in Cambodia (ADB, 2011)

come countries (Meesen et al., 2007). A recent study found that “including transportation, food, medication, and administrative, pathology and other fees [...], the average cost of a single illness episode was US\$15.52 for public facilities, US\$18.62 for private services, and US\$6.25 for non-medical services (e.g. purchasing local drugs and/or visiting shamans, fortune tellers, Buddhist monks and traditional healers)” (Khun et al., 2008). User fees account for the largest single source of out-of-pocket healthcare expenditures in public facilities.

The user fee system was a component of broader healthcare reforms that Cambodia introduced in 1997 and was intended to address some of the more serious issues plaguing the country’s health system. The income generated through these fees was to be used to supplement the meager salaries of healthcare workers and discourage them from taking unofficial payments for services or seeking out supplementary work during or after shifts. A portion of the funds would also be used for operational costs, thereby improving services and making the system as a whole more sustainable. It has been clear from the outset, however, that user fees would present major financial barriers to the use of health facilities by the poorest citizens. In order to counter this effect, the government gave health workers the discretion to grant full or partial user fee exemption to those in need. In 2006, 18 percent, 16 percent, and 9 percent of patients were granted some form of exemption from health centers, provincial referral hospitals and national hospitals respectively (Khun et al., 2008). The user fee exemption is considered to be ineffective considering the difficulties involved in determining relative financial need and the lack of an appropriate financing mechanism, meaning that health centers and hospitals are not compensated for income lost to exemptions (Flores et al., 2011). Foregone income from exemptions could affect operations or salaries, providing a strong disincentive for staff to apply this rule in any consistent way.

High out-of-pocket expense can be a strong deterrent to poor mothers seeking maternal health services for ante- and postnatal care or for delivery itself. A 2010 study found that “lack of money was the most commonly cited barrier to the utilization of SBAs services” (Matsuo-ka et al., 2010). Likewise, a 2008 survey found that only 17.8 percent of mothers in the poorest quintile attend-

ed at least one postpartum check as compared to 83.5 percent in the wealthiest quintile (Chhay, 2008). This is significant considering 36.2 percent of maternal deaths in Cambodia occur in the postpartum period. The cost of a health center visit for birth can be a major financial shock, often more than even an average Cambodian can afford through savings alone, providing a strong exclusionary force for those without access to loans. A study in Kampong Cham province found that, on average, 20 percent of annual health expenditures are covered through loans either formal or informal (Khun et al., 2008). Birth services provided by a *chhmob* or TBA, which are considerably more affordable, accessible, and culturally ingrained, often fill the void for the rural poor.

A range of new schemes run by NGOs and other development partners has sought to help the poor overcome the financial barrier to healthcare that user fees present, particularly as they relate to childbirth. As explored above, Health Equity Funds, community-based insurance programs, and SBA vouchers have all emerged over the past decade and have shown potential to extend health access to Cambodia’s poorest citizens. The PMEF model in particular has demonstrated that there is significant potential for the engagement of local faith communities to provide sustainable healthcare financing for the poor members of their communities.

MOVING FORWARD

Cambodia has seen a significant reduction in maternal mortality rate over the past two decades. Despite the success, however, Cambodia's MMR remains high, the second highest in the South East Asian region, and it remains unclear whether it will reach the 75 percent MMR reduction, stipulated in Millennium Development Goal 5, by 2015. Even if Cambodia misses the target, progress is likely to continue. The Cambodian government has demonstrated a strong commitment to reducing maternal mortality, labeling it the top national health priority and developing targeted legislation that has played a key role in coordinating initiatives between the public health system and other development partners to tackle the problem.

In Cambodia's national efforts to improve maternal health, faith-inspired organizations play various roles, but these are fragmented, and their full potential has yet to be realized. They are active on a range of projects that focus particularly on the critical barriers that Cambodian women face. Current efforts include midwife re-training, nutrition education for women and children, and construction of Maternity Waiting Houses at district health centers. Engagement of local religious structures, particularly Buddhist pagodas, to spread health messages and even manage Health Equity Funds, has also shown considerable potential, with dense networks throughout the country, but the model remains little utilized. Health practices in Cambodia are deeply interwoven with local spiritual traditions. This is particularly true with childbirth where traditional practices such as *ang pleung*, or "roasting," are still pervasive. Traditional birth attendants (TBAs) in Cambodia, known as *chhmob*, remain important social figures. Their potential role in Cambodia's national efforts to reduce maternal mortality reduction has been poorly defined. There is a need to better understand the relative strengths of *chhmob* and develop the best practices around their engagement.

This review suggests several areas where further exploration would be productive:

Traditional birth attendants are an influential part of childbirth in Cambodia, particularly in rural areas. A coherent policy is needed to guide future engagement, building on the strengths of these figures.

(TBAs), known in Khmer as *chhmob*, still play an important role in motherhood for many Cambodians. TBAs lack formal medical training, but they are often preferred to skilled birth attendants (SBAs) and other medical professionals because they are more affordable, accessible, and are trusted social figures. In many regions, TBAs still attend the majority of births. Despite their social salience, their place within the maternal mortality response is disputed, with many organizations viewing them as peripheral figures or as part of the problem.

FIOs have been some of the leaders engaging TBAs in maternal mortality programs. Perhaps most notably, ADRA is working to better integrate TBAs into the local health system by defining key roles in information gathering and health center referral. ADRA has provided TBAs with training to identify signs of serious complications and to make critical emergency health interventions. ICC and YWAM have also actively engaged TBAs in their health education programming with considerable success.

There is clearly room to explore new roles for TBAs beyond referral or in disseminating health messages; examples include making regular home visits to expecting mothers and accompanying women to the health center for birth to help them overcome some of the commonly reported feelings of unease and anxiety. TBAs, because of their cultural position, could also potentially play an important role in addressing and changing the harmful aspects of some

of the rituals and traditions surrounding birth in Cambodia, such as *ang pleung*.

FIOs often have distinctive approaches in health programming, notably their commitment to a “holistic” approach towards health, which takes into account physical and emotional needs. Such approaches might help inform and complement the work of government and secular development partners. A better integration of FIOs and other faith actors into the maternal mortality response could capitalize on the comparative advantages of FIOs and contribute to better maternal health outcomes.

A feature of FIOs working on maternal mortality in Cambodia is their distinctive “corporate culture” which tends to place the provision of compassionate services above career advancement and personal comfort. Many pursue a “holistic” health approach, and while the meaning of the term can vary among organizations, such approaches typically place a strong emphasis on the social and emotional health of communities. FIOs could leverage this characteristic to assist public health facilities, often criticized for rude attitudes or unavailability of staff, improve service provision. Moreover, because FIOs have demonstrated success at mobilizing short-term visits by international medical professionals, they can be effective in educating local staff to ensure adherence to the latest evidence-based guidelines and improve workplace pride overall. FIOs are also often committed to working in remote or underserved areas. With strong networks at the grassroots-level, they have considerable reach in regions with some of the highest MMRs in the country.

MEDiCAM has been an important vehicle for coordination between NGOs and the Cambodian government on health issues, and major FIOs are well represented as members. However, despite their expertise, many Buddhist, Muslim, and some smaller Christian FIOs are not well integrated into such broader national networks. Increased communication and coordination among government health authorities, secular development actors, and faith-inspired development actors will be critical to continued progress and the replication of successful maternal health interventions.

Partially because of their grassroots approaches, many smaller FIOs and local faith actors are less integrated

with government and public health entities than some of their larger counterparts. A responsive and comprehensive approach to reducing maternal mortality will necessitate improved communication and coordination between FIOs, the Cambodian government, and secular development partners. A benefit of increased coordination would be to learn from and build off of innovations and replicate successful strategies, many of which are innovated at the grassroots level. The experience of local FIOs could also be very useful in the continued development of maternal health policies. Further, activity coordination, resource pooling, information sharing, expertise allocation, and the development of best practice could all be positive outcomes of increased networking. Successful models have demonstrated that active coordination reduces financial waste, improves service-delivery, and speeds up the development process.

Maternal health involves a complex set of services and behaviors. The kinds of integrated approaches that are needed could benefit greatly from the involvement of a wider range of stakeholders, particularly those intimately familiar with the local cultural context. The involvement of faith leaders on maternal health may require significant outreach, but several interviewees noted interest among Buddhist and Muslim leaders. There are a variety of potential modalities through which increased networking and engagement of key faith-inspired actors can be achieved; however, ME-DiCAM could serve as an initial touchstone.

Promising results of the Pagoda-Managed Health Equity Fund strategy has drawn attention to the advantages of working through local religious structures on community insurance schemes. Though the pilot has not been widely replicated, it shows significant potential.

Through schemes known as Health Equity Funds (HEF), some secular development organizations have succeeded in engaging local faith actors to help their communities overcome financial barriers to maternal care. The Pagoda-Managed Equity Fund (PMEF), as the strategy was termed, relied on pagoda-based volunteers to manage funds that would reimburse user fees (the single largest out of pocket healthcare expense) for the poorest members of their communities. The PMEF was financed in large part by community donations

at pagodas and mosques. The strategy sought to reduce reliance on external funds, reduce administrative costs, and bolster community participation in the HEF scheme. By working with religious figures who have intimate community knowledge, PMEfs were quickly and easily able to identify the poorest members of each community. The PMEf presents a successful and sustainable model that could be readily replicated in other parts of the country. Through strong and influential faith networks, the initiative could effectively reach the most remote and underserved communities in the country. Integrating Skilled Birth Attendant Vouchers into PMEfs could also serve to better target the efforts towards maternal health.

While the PMEf did engage Islamic community leaders in Kirivong District through local mosques, the number of imams involved was not large enough to draw formal conclusions about its broader success (Kirivong has 91 pagodas, but only five mosques). HEFs could have great potential Muslim communities, particularly if they are able to incorporate zakat (alms giving) financing on some level. Zakat is one of the Five Pillars of Islam and core aspects of religious practice for Muslims globally. Cambodia's Imams are largely under-engaged on the topic of maternal health and there remains significant potential to partner with mosques to disseminate important maternal health messages.

Among the most critical concerns related to maternal health in Cambodia is a shortage of trained midwives; however, few NGOs are working directly in the recruitment or training of new midwives. FIOs have often harnessed relationships with international physicians and midwives for short-term "medical missions;" this could be effective to support training and capacity building among Cambodian midwives. The resilient funding streams of FIOs could also be well-utilized to support scholarships for rural women who pursue midwife training and intend to work in their own communities.

To reach international standards Cambodia will need to double its current number of trained midwives. Compounding the shortage, many midwives do not conform to basic competency requirements. The problem is particularly acute in rural areas where the retention of midwives and other health professionals, typically from urban areas, has proven to be a major chal-

lenge. Some FIOs, including World Vision, are actively involved in refresher training for current midwives, but they have yet to expand their focus to include recruitment and training of new midwives.

FIOs would seem well positioned to make an impact on Cambodia's midwife shortage. They have proven adept at capitalizing on international connections and organizing short term visits by medical professionals, often called "medical missions". These visits could contribute to midwife training programs to ensure they are in accordance to the latest evidence-based guidelines. Many FIOs work in remote communities and could mobilize international donations to sponsor the education of local women in midwifery. If FIOs were to become more engaged in midwife training, this would likely require closer collaboration with the MoH, emphasizing the importance of coordination and networking structures. An exploration of potential roles FIOs could play in this aspect of maternal health could be an important next step.

WORKS CITED:

- Asian Development Bank. *Rural Development for Cambodia: Key Issues and Constraints*. Manila: ADB Publishing, 2012.
- Adventist Development Relief Association. *Cambodia Country Profile 2011*. Phnom Penh: ADRA, 2011.
- Brown, Eleanor and Cindy Godden and Noun Sopheak. "Uniting Indigenous Communities in Cambodia to Claim the Right to Maternal Healthcare." *Gender and Development* 14(2) (2006): 211-222.
- Caritas Española, "Community Health Program, Mother and Child Health Program Interim Progress Report" (2013).
- Chandy, Houy and Margit Steinholt and Hans Husum. "Delivery life support: A preliminary report on the chain of survival for complicated deliveries in rural Cambodia." *Nursing and Health Sciences* 9 (2007): 263-269.
- Chatterjee, Patralekha. "Cambodia Tackles High Maternal Mortality." *The Lancet*. 366 (2009): 281-282.
- Chhay, Saomonay. "Factors Influencing Postpartum Check Ups among Mothers in Cambodia." (Paper presented at the second International Conference on Reproductive Health and Social Sciences Research, Bangkok, Thailand, August 8, 2008)
- Chhea, C. N. Warren and L. Manderson. "Health Worker effectiveness and retention in rural Cambodia." *Rural and Remote Health*. 10 (2010).
- Coedès, George. *Jayavarman VII: Un Grande Roi de Cambodge*. Phnom Penh: 1935.
- Connell, Sarah Elizabeth, "Maternal Mortality in Cambodia: Efforts to Meet the Millennium Development Goal for Maternal Health" (2011). *Public Health Theses*. Paper 198
- Dolea, Carmen and AbouZahr, Carla. "Global burden of obstructed labour in the year 2000". Geneva: World Health Organization, 2003.
- Dolea, Carmen. Stein, Claudia. AbouZahr, Carla. "Global burden of maternal haemorrhage in the year 2000" Geneva: World Health Organization, 2003.
- Flores, Gabriela, Por Ir, Chean R. Men, Owen O'Donnell and Eddy van Doorslaer. "Financial Protection of Patients Through Compensation Providers: The Impact of Health Equity Funds in Cambodia." Tinbergen Institute Discussion Paper. Amsterdam, Netherlands, 2011.
- Gill, Zafarullah and Carlough, Martha , "Do mission hospitals have a role in achieving Millennium Development Goal 5?" *International Journal of Gynecology and Obstetrics* (2008) 102, 198—202.
- Grundy, John, Qui Yi Khut, Sophal Oum, Peter Annear and Veng Ky. "Health system strengthening in Cambodia – A case study of health policy response to social transition." *Health Policy* 92 (2009): 107-115.
- Hunt, Paul and Judith Bueno de Mesquita. *Reducing Maternal Mortality: The contribution of the right to the highest attainable standard of health*. Essex, United Kingdom: UNFPA, 2007.
- Ith, Ponndara, Angela Dawson and Caroline Homer. "Women's perspective on maternity care in Cambodia." *Women and Birth*. 26 (2013):71-75.
- Jacobs, Bart and Neil Price. "Community participation in externally funded health projects: lessons from Cambodia." *Health Policy and Planning*. 18(4) (2003): 399-410.

Jacobs, Bart, Neil Price and Sam Oeun Sam. "A sustainability assessment of a health equity fund initiative in Cambodia". *International Journal of Health Planning and Management*. 22 (2007): 183-203.

Kennedy, Shaun, "Catholic Relief Services Doubles Down for Pro-Abortion Groups." Red State, August 14, 2012, accessed September 4, 2013, <http://www.redstate.com/svkenney/2012/08/14/catholic-relief-services-doubles-down-on-support-for-pro-abortion-groups/>

Khim, Keovathanak and Peter Leslie Annear. "Strengthening district health service management and delivery through internal contracting: Lessons from pilot projects in Cambodia." *Social Science and Medicine*. (2013): 1-9.

Khun, Sokrin and Lenore Manderson. "Poverty, user fees and ability to pay for health care for children with suspected dengue in rural Cambodia." *International Journal for Equity in Health*. 7(10) (2008).

Levine, David I. and Rachel Gardner. "Health Care in Cambodia." (Briefing Paper 2008) <http://afd-prod.zeni.fr/webdav/site/afd/shared/RECHERCHE/Evaluation/document/Cambodia%20Health%20Care2008.pdf>

Liljestrand, Jerker and Mean Reatanak Sambath. "Socio-economic improvements and health system strengthening of maternity care are contributing to maternal mortality reduction in Cambodia." *Reproductive Health Matters*. 20(39) (2012): 62-72.

Lozano, Rafael, Haidong Wang, Kyle J Foreman, Julie Knoll Rajaratnam, Moshen Naghavi, Jake R Marcus, Laura Dwyer-Lindgren, Katherine T Lofgren, David Phillips, Charles Atkinson, Alan D Lopez and Christopher J L Murray. "Progress towards Millennium Development Goals 4 and 5 on maternal and child mortality: an updated systematic analysis." *The Lancet*. (2011).

Matsuoka, Sadatoshi, Hirotugu Aiga, Lon Chan Rasmey, Tung Rathavy and Akiko Okitsu. "Perceived barriers to utilization of maternal health services in rural Cambodia." *Health Policy*. 95 (2010): 255-263.

Ministry of Health (Kingdom of Cambodia). *Health Policy and Outcomes of Policy Interventions to Support*

to Children and Women and the Poor. By Sann Chan Soeung and Lo Veasnakiry. Phnom Penh: Ministry of Health, Labour and Welfare, 2006.

Ministry of Health (Kingdom of Cambodia). *Report of Comprehensive Midwifery Review*. By Della R. Sherratt, Patrice White, and Chan K. Chhuong. Phnom Penh: United Nations Population Fund, 2006.

Ministry of Health (Kingdom of Cambodia). *Cambodia Health Information System: Review and Assessment*. Phnom Penh: Cambodia, 2007.

Ministry of Health (Kingdom of Cambodia). *Health Strategic Plan 2008-2015*. Phnom Penh: Cambodia, 2008.

Ministry of Health (Kingdom of Cambodia). *Guidelines for Maternity Waiting Home*. Phnom Penh: Cambodia, 2010.

Ministry of Health (Kingdom of Cambodia). *Fast Track Initiative Road Map for Reducing Maternal and New-born Mortality: 2010-2015*. Phnom Penh: United Nations Population Fund, 2010.

Montesanti, Stephanie. "Cultural Perceptions of maternal illness among Khmer Women in Krong Kep, Cambodia." *Explorations in Anthropology*. 11(1) (2011): 90-106.

National Institute of Statistics. Directorate General for Health and ICF Macro. *Cambodia Demographic and Health Survey 2005*. Phnom Penh: 2005.

National Institute of Statistics. Directorate General for Health and ICF Macro. *Cambodia Demographic and Health Survey 2010*. Phnom Penh: 2010.

Meesen, Bruno, Noirhomme, Mathieu, Fred Griffiths, Por Ir, Bart Jacobs, Rasoka Thor, Bart Criel and Wim Van Damme. "Improving access to hospital care for the poor: comparative analysis of four health equity funds in Cambodia." *Health Policy and Planning*. 22 (2007) 246-262.

Organization for Economic Co-operation and Development. *Southeast Asian Economic Outlook 2013*. Paris: OECD Publishing, 2013.

Ovesen, Jan and Ing-Britt Trankell. *Cambodians and Their Doctors*. Singapore: NIAS Press, 2010.

Population Reference Bureau. "Maternal Mortality a Leading Cause of Death in Cambodia." Last modified January 2003. <http://www.prb.org/Articles/2003/MaternalMortalityaLeadingCauseofDeathinCambodia.aspx>

Ross, J.A. and O.M.R Campbell, and R. Bulatao. "The Maternal Health and Neonatal Effort Index" *Tropical Medicine and International Health*. 6(10) (2002): 787-798.

Rushdy, Sherif. "Achieving Cambodia's Millennium Development Goals, Gap Analysis" (2009)
Available at: http://www.unicef.org/cambodia/CMDG_Gap_Analysis_FINAL.pdf

Sakda, Seng, Chi Mean Hea, Toch Channy, Moeung Vannarom, Samheng Bora, and Khim Sosamrach. *Cambodia Country Report*. Compiled by Ministry of Health, Ministry of Social Affairs, Veterans and Youth Rehabilitation, and Ministry of Labour and Vocational Training. Phnom Penh: Ministry of Health, Labour and Welfare, 2012.

United Nations. "United Nations Millennium Development Goals: Goal 5: Improve Maternal Health." United Nations. <http://www.un.org/millenniumgoals/maternal.shtml>.

United Nations Development Programme, Cambodia and Ministry of Planning. "Expanding Choices for Rural People" *Cambodia Human Development Report* (2007)

United Nations Population Fund. *Delivering Health, Saving Lives: The State of the World's Midwifery* 2011.

United Nations Population Fund, World Health Organization, United Nations Children's Fund, and The World Bank. *Trends in maternal mortality: 1990 to 2010*. (2012)

United Nations Children's Fund. *Achieving Cambodia's Millennium Development Goals-- Gap Analysis*. N.p.: United Nations Children's Fund, 2009.

United States Agency for International Development. *Maternal and Neonatal Program Effort Index, Cambodia*, Phnom Penh: USAID, 2005.

United States Agency for International Development. *Cambodia Global Health Initiative Strategy*. Phnom Penh, 2011.

White, Patrice. "Crossing the River: Khmer Women's Perceptions of Pregnancy and Postpartum." *Journal of Midwifery and Women's Health*. 47(4) (2002): 239-246.

World Bank. "GINI index" Last modified 2013, <http://data.worldbank.org/indicator/SI.POV.GINI>

World Health Organization. Statistical Annex 2011. Country Health Information Profiles. N.p.: World Health Organization, 2011.

World Health Organization. *Health Service Delivery Profile*. Phnom Penh: Cambodia, 2012.

World Vision. *Jumpstart Report 2008-2012*. Uxbridge, Middlesex: UK, 2012.

Yanagisawa, Satoko, Sphal Oum and Susumu Wakai. "Determinants of skilled birth attendance in rural Cambodia." *Tropical Medicine and International Health*. 11(2) (2006): 238-251.





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