Distribution Agreement

In presenting this thesis as a partial fulfillment of the requirements for a degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis. I retain all ownership rights to the copyright of the thesis. I also retain the right to use in future works (such as articles or books) all or part of this thesis.

Signature:

Jenny Jia	4/22/2010 Date

The Future of *Dais*: Traditional birth attendants and biomedical cultural change in Matlab, Bangladesh

By

Jenny Jia

Adviser: Jennifer Foster, CNM, MPH, PhD

Department of Anthropology

Jennifer Foster, CNM, MPH, PhD
Adviser

George Armelagos, PhD
Committee Member

Peter J. Brown, PhD
Committee Member

Sarah Gouzoules, PhD
Committee Member

Leah Roesch, PhD
Committee Member

4/22/2010
Date

The Future of *Dais*: Traditional birth attendants and biomedical cultural change in Matlab, Bangladesh

By

Jenny Jia

Adviser: Jennifer Foster, CNM, MPH, PhD

An abstract of
A thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelors of Sciences with Honors

Department of Anthropology

2010

Abstract

The Future of *Dais*: Traditional birth attendants and biomedical cultural change in Matlab, Bangladesh

By Jenny Jia

In developing countries, the traditional birth attendant (TBA) plays an important role in maternal and infant health as the most accessible resource for women. International agencies recommend investing limited resources in training skilled birth attendants (SBAs) rather than TBAs, although this recommendation is contested. The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) has been involved with maternal health in the rural community of Matlab since 1977, and their approach supports SBAs, facility birth, and biomedical practices while excluding TBAs. In two years, facility deliveries have increased rapidly from 48 percent to 68 percent, and childbirth has moved from the traditional home to the modern hospital. Yet, TBAs, locally called *dais*, are still active in Matlab. The objectives of this study were to determine the current practice of Matlab *dais*, explore potential future roles of *dais* in formal healthcare, and reveal local perceptions of home and facility birth. We conducted interviews with *dais*, community health research workers, support persons, and ICDDR,B research investigators, all obstetrical healthcare providers. Through interviews, I observed that *dais* valued their practice for the skills they gained and for the respect and good treatment they received from community members rather than for material benefits. Knowledge and trainings seemed empowering to *dais*, and many wished for additional training, which positively influenced their reputations. The current practices of *dais* exhibited biomedical influences, yet ICDDR,B workers continued to view *dais* as problematic and egotistical, unable to change their ways, and utilizing risky practices. Residents' perceptions of home and facility birth showed that multiple considerations were involved in deciding the location of birth, and although facility birth was largely preferred over home birth, interest in each method still existed. *Dais*' wishes for more training, their preoccupation with their reputations—determined greatly by the outcome of deliveries they performed, and evidence that facility birth could not satisfy all the concerns of residents suggests that a medically plural system of childbirth may be appropriate. Both systems could be kept in check through healthy competition and collaboration. Beliefs and practices of *dais* have changed to incorporate biomedical principles. ICDDR,B should explore these changes and consider the possibility of partnerships with *dais* in Matlab.

The Future of *Dais*: Traditional birth attendants and biomedical cultural change in Matlab, Bangladesh

By

Jenny Jia

Adviser: Jennifer Foster, CNM, MPH, PhD

A thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelors of Sciences with Honors

Department of Anthropology

2010

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

GLOSSARY

Acronyms

ANC—*antenatal care*—screening for health and socioeconomic conditions likely to increase the possibility of specific adverse pregnancy outcomes, providing therapeutic interventions known to be effective, educating pregnant women about planning for safe birth, emergencies during pregnancy, and how to deal with them

BEOC—*basic essential obstetric care*—includes parenteral antibiotics, oxytocic drugs, sedatives for eclampsia, manual removal of placenta and/or other retained products

BRAC—*Bangladesh Rural Advancement Committee*—a Bangladeshi NGO working to alleviate poverty using an integrated package of services for rural and urban communities

CEOC—*comprehensive essential obstetric care*—includes surgery, anesthesia, blood transfusion, in addition to basic essential obstetric care

CHRW—*community health research worker*—an individual employed in the MNCH Program who works at the community level reaching out to the local population and delivering and connecting residents to ICDDR,B's services

CRL—*Cholera Research Laboratory*—predecessor of the International Centre for Diarrhoeal Disease Research, Bangladesh

HBLSS—*home-based life saving skills*—family- and community-focused, competency-based program that aims to reduce maternal and newborn mortality by increasing access to basic lifesaving measures within the home and community and by decreasing delays in reaching referral facilities where obstetric complications can be managed; ICDDR,B's training course covers preventing postnatal infant problems, making referrals for prolonged labor, handling birth asphyxia and baby referral, and managing postpartum hemorrhage

HDSS—*Health and Demographic Surveillance System*—maintains the registration of births, deaths, marriages and divorces, and migrations, in addition to carrying out periodical censuses; includes Record Keeping System and Geographical Information System

HRH index—Human resources for health index—a quantitative tool to assess the health workforce density, both formal and informal, in a region

ICDDR,B—*International Centre for Diarrhoeal Disease Research, Bangladesh*—an international health research institution dedicated to saving lives through research and treatment; conducts research, training and extension activities, as well as program-based activities, to develop and share knowledge for global lifesaving solutions

IMCI—*Integrated Management of Childhood Illness*—WHO and UNICEF strategy; an integrated approach to child health that focuses on well-being of the whole child; aims to reduce death, illness and disability, and promote improved growth and development in children under five years old; includes preventive and curative elements implemented by families, communities, and health facilities

MCH—*maternal and child health*—a sub-field of primary health focused on the needs and well-being of mothers and children; acknowledges that interests of mother and child are closely intertwined

MNCH—*maternal, newborn, and child health*—A new term representing the repositioning of MCH goals to include the specific needs of newborns, reaffirmation of the close relationship between mothers' and children's needs, and consensus that a continuum of care is needed to create effective programs
—"*Maternal, Neonatal, and Child Health*"—ICDDR,B's label for its maternal, newborn, and child health projects and programs

ORS—*oral rehydration solution*; beverage made from premade packets or common household ingredients to replenish water and electrolytes to counter the effects of diarrhea

Safe Motherhood IAG—*Safe Motherhood Interagency Group*—partnership of international and national agencies that co-sponsored the first Safe Motherhood Conference in Nairobi, 1987; has worked together since then to realize the goals of the global Safe Motherhood Initiative

SBA—*skilled birth attendant*—an accredited health professional, such as a midwife, doctor or nurse, who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management, and referral of complications in women and newborns

TBA—*traditional birth attendant*—a person who assists the mother during childbirth and initially acquired her skills by delivering babies herself or through apprenticeship to other traditional birth attendants

TTBA—*trained traditional birth attendant*—a TBA who has completed a training program

UN—*United Nations*—international organization to help create partnerships in human rights, international law and security, social and economic development

UNFPA—*United Nations Population Fund*—an international development agency that promotes the human right to enjoy a life of health and equal opportunity; supports countries in using population data for policies and programs to reduce poverty and to ensure safe and wanted pregnancies, gender equality, and HIV/AIDS prevention

WHO—*World Health Organization*—the directing and coordinating authority for health within the United Nations system; responsible for providing leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and monitoring and assessing health trends

Local Bangla Words

Ajan—a summons to prayer whispered into a male infant's right ear to welcome the newborn in Muslim households

Aje baje kota—taboo or nonsensical talk, which could turn a worry into reality or cause more trouble

Apa—sister

Bachcha kacha—baby; "raw child"

Bari—cluster of households within a village; usually 10-12 households

Bhut—evil spirits

Dai/*daima*—term for traditional birth attendant used in Matlab

Dhurphor—increasing labor pain

Haspatal—hospital

Jatakarma—ceremony greeting male and female babies; includes reciting prayers to Hindu gods or chanting names

Kabiraji—herbal treatment

Khalas—birth delivery; to be delivered of; to be released of

Lakh—100,000

Salwar kameez—an outfit consisting of a tunic, scarf, and pants; a popular outfit for younger, unmarried women and for activities requiring freedom of movement that a saree may not offer; s*alwar*—loose, drawstring pants; may be made from a variety of cloths with different colors and prints; *kameez*—tunic, usually knee-length, with slits up to the waist; may be made from a variety of cloths, with different colors, prints, and adornments, and varying sleeve lengths; *orna*—a scarf or shawl worn to cover the head, across the chest, or around the neck; for female modesty

Sari—a long piece of cloth paired with a blouse and wrapped around a female's body to form a dress and veil; an outfit worn regularly by married women in rural areas and occasionally by single women for formal events

Sowab—spiritual benefit in Islam

Thana—a sub-district in Bangladesh

Preface

For a year, the chance for me to visit Bangladesh seemed like a distant dream. The initial idea arose from a conversation I had with my academic advisor, Dr. George Armelagos, in fall of 2007. I can still remember the conversation we had. I was feeling inspired by my Anthropology of Human Reproduction class and raving about it to Dr. Armelagos. The class had opened my eyes to the social, political, and economical dimensions of birth in different environments. I realized through that class that birth was not simply a biomedical construct, which is the predominant component of birth culture in the U.S. In all societies, the process has multiple layers of meaning and symbolism. "There might be an opportunity for an undergraduate student to do research on maternal health in Bangladesh this summer" is approximately what Dr. Armelagos told me as a response to my enthusiasm. "Bangladesh!" I had thought, "What an amazing opportunity!" My exposure to the country at that point primarily came from learning about the Bangladesh Rural Advancement Committee (BRAC) in a global health class. I spent the rest of the semester excitedly waiting for my call to action.

However, that call would not come for at least another year, and by the time Dr. Armelagos mentioned it again in the latter half of the fall 2008 semester, I had given up the idea and was already considering extending my impending spring semester abroad in Cape Town, South Africa into summer break. I had to think long and hard about abandoning the idea since the chances of my acquiring research funding to stay in South Africa to flesh out an independent study were immensely more likely than finding funding for an entirely new project. Going to Bangladesh was a gamble as the project was more costly and elaborate than my work in Cape Town. Even if I had been confident

about receiving funding, the operational feasibility of my completing a research project in Bangladesh was far lower compared to in South Africa because of a range of factors. Yet, ultimately, my old dream to study maternal health in Bangladesh succeeded over practical reasoning.

Having returned from my fieldwork, I still have the same enthusiastic reaction to my project as I did two years before. I am thankful that I had this seemingly limitless source of energy while collecting data; one of the most useful lessons I learned from fieldwork was that when it comes to doing research in a foreign place, you never really know what you are getting yourself into. From my first translator unexpectedly quitting after a rough and muddy day in the field to figuring out transportation in a rural community that at times was a mud pit, I had to work my way through a number of messes. I came to be fairly familiar with the challenges of cross-cultural research through this project, and I am thankful that I learned these lessons earlier rather than later in my career.

However, I am most thankful for the support I received throughout my commitment to this project. This project would not have been possible without the involvement of several individuals and groups. I could not have designed my project without the help of Dr. Katherine Barrett and her critical eye nor without the support of Dr. Lynn Sibley, whose work in Matlab and extensive knowledge of the community allowed me to also work in Matlab. From my in-country supporting NGO's side, both Dr. Allysin Moran and Dr. Md. Anisur Rahman of the International Centre for Diarrhoeal Disease Research (ICDDR,B) were engaged in my project design. The feasibility of my project would have not been possible without each of the mentioned individuals' input.

Concurrently, the help of various ICDDR,B staff, including but not limited to Dr. Md. Harunor Rashid, Dr. Aminur Rahman Shaheen, Mrs. Jill Chowdhury, and Mrs. Nasmeen Ahmed, were invaluable during my stay in Bangladesh. Last but not least, thank you Miss Nilima Ahmed for your guidance and dedication to this study.

I also want to express my gratitude to the two organizations that believed in me enough to financially support my project: the Global Health Institute (GHI) and Scholarly Inquiry and Research at Emory (SIRE). At times, I am still in awe of their confidence in my work, and I cannot fully express in text how honored and proud I am to have garnered their support and to be associated with both groups.

Finally, thank you to the four members of my honors committee who have guided me through the analysis and writing of this study (and more): Dr. Jennifer Foster for her insight into reproductive rights and the plight of midwives globally, Dr. Peter J. Brown for pushing me to think more critically about my study. Dr. George Armelagos, thank you for being my academic advisor and directing me to this project in the first place. Dr. Roesch, thank you for your support throughout and after my SIRE experience.

Both my concern for female populations with higher maternal mortality rates because of compromised access to skilled healthcare and my interest in the dimensions of women's birth experiences have been the primary motivators for my commitment to this project. The fact that maternal mortality is high in resource-limited settings due to poor access to healthcare is unacceptable in my eyes. In addition, I also believe that the wellbeing of the mother in multiple aspects of the birth experience is equally as important to the quality of her medical support throughout pregnancy and during delivery. To you, the reader, I truly hope you learn something new in my writing, but in the very least, I

hope that my work encourages you to follow your passions and explore the wealth of opportunities around you.

Jenny Jia
April 2010

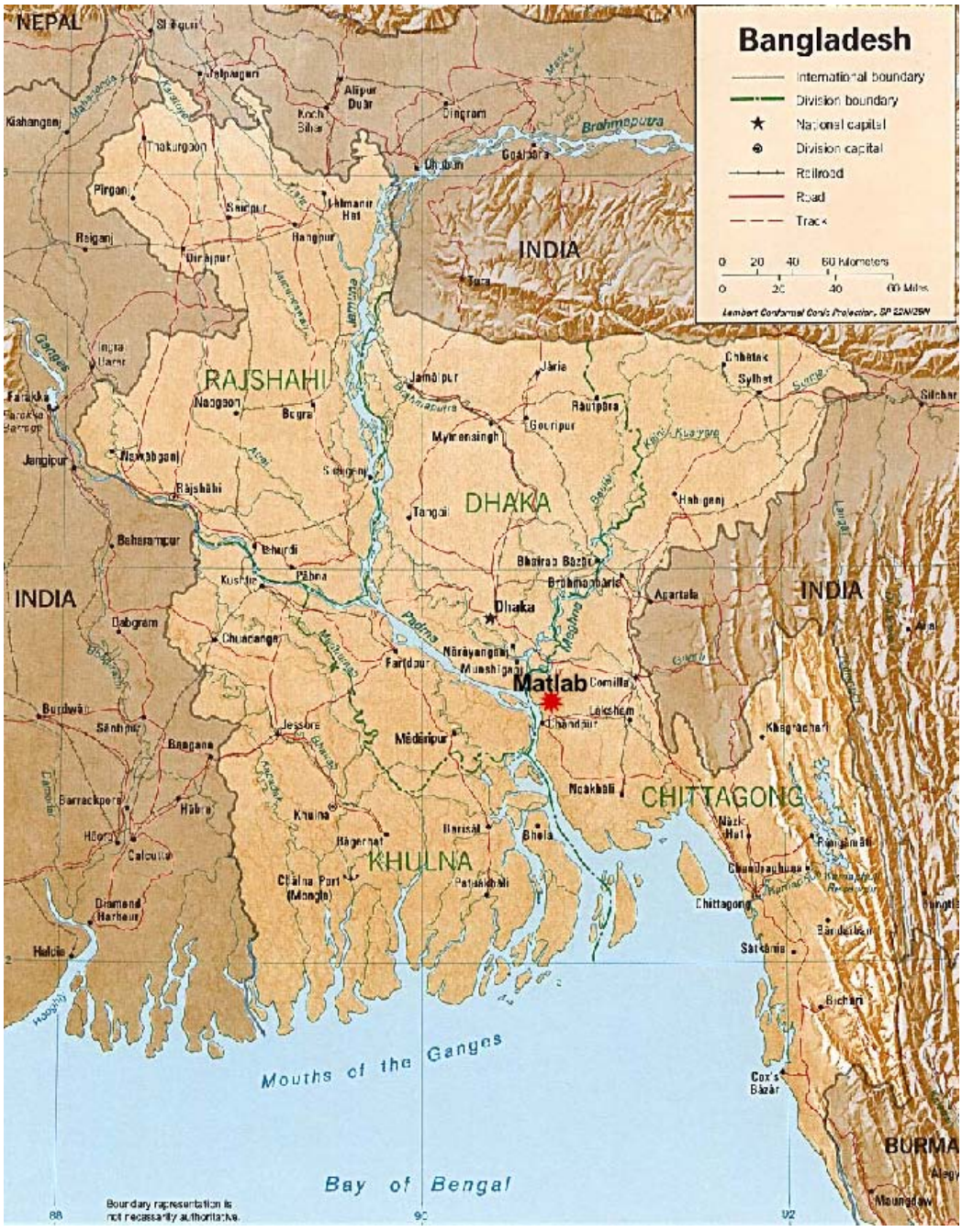

Figure 1. Map of Bangladesh with location of Matlab added

Note: Adapted from "Perry-Castañeda Library Map Collection," University of Texas Libraries

"You know, 15 percent of deliveries are complicated at the populational level. But you never know which 15 percent will be there. So that is the problem. So all mothers are at risk. At risk during delivery."

-Matlab, Bangladesh, 2009

Chapter 1:
Introduction

Problem statement

It is a widely acknowledged fact that 85 percent of births in a population will occur normally without any need of interventions. However, 15 percent of births will have complications that can require special care, and in resource-limited settings, ensuring that these women have access to safe obstetric services is a formidable challenge. With a national maternal mortality ratio of 338 deaths per 100,000[1], trends are moving in the right direction (Hogan et al., 2010), but Bangladesh still has many discrepancies in the availability of maternal health services that need to be resolved. In rural Bangladesh, families must decide between delivering babies at the hospital or at home. Only a few decades ago, hospitals were reserved for the "exceptionally rich" (Blanchet, 1984). Nationally, 91 percent of women give birth at home with a female relative or traditional birth attendant (TBA) (Borghi, Sabina, Blum, Hoque, & Ronsmans, 2006). Home birth usually involves TBAs, women who help women with delivery and learned their practice through observation, experience, and apprenticeships to other TBAs (WHO, 1992). In Bangladesh, TBAs are called *dais*[2]. Skilled birth attendants (SBAs), accredited health professionals who can manage uncomplicated births and identify, manage, and refer women and newborns with complications, are present at only 12 to 13 percent of home births (Borghi et al., 2006; M. E. Chowdhury et al., 2006; WHO, ICM,

[1] To compare this figure, maternal mortality ratio in the United States is 17 per 100,000 live births. The global maternal mortality ratio is 320 per 100,000 live births (Hogan et al., 2010).
[2] Also *daima, daini, dhatri*, or *dhoruni*

& FIGO, 2004). Consequently, the needs of those 15 percent destined for complications may not be adequately served.

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) seeks to provide safe birth through a number of initiatives that are grouped under their umbrella project, the Maternal, Neonatal, and Child Health (MNCH) Program. ICDDR,B has implemented this project since 2007 in its intervention area of Matlab, which comprises approximately half of the total area of Matlab *Thana*, a rural sub-district that has been a field site of ICDDR,B since the 1960s. One avenue that the organization believes will contribute to their goal is to increase the rate of facility birth in Matlab, which they strive to accomplish with a package of interventions supplemented by "demand creation activities." Prior to and throughout the implementation of these interventions, the percentage of women delivering in the hospital has increased from 48 percent to 68 percent in only two years (2005-2008). However, a third of births still occur outside of facilities, and on the ground evidence in Matlab suggests that *dais* are still active. Since TBAs are the most accessible and, sometimes, the only source of maternal care in the developing world, whether limited resources should be invested in TBAs is contested in the Safe Motherhood Initiative—a movement initiated in 1987 to increase awareness and actions towards global maternal mortality.

Research on the effectiveness of trained TBAs is largely inconclusive (Sibley et al., 2007). In 1997, findings from the "Safe Motherhood—the Next Ten Years" technical consultation in Colombo, Sri Lanka suggested that TBA training neither decreased maternal mortality nor morbidity and had no effect on referrals. The conference concluded with the formation of ten "action messages" that represented the lessons

learned in Safe Motherhood between 1987 and 1997. One message recommended focusing on skilled attendance:

> The single most critical intervention for safe motherhood is to ensure that a health worker with midwifery skills is present at every birth, and transportation is available in case of an emergency. A sufficient number of health workers must be trained and provided with essential supplies and equipment, especially in poor and rural communities.
>
> (A. Starrs, 1997, p. 77)

Both ICDDR,B and the Bangladeshi government used these recommendations to reshape their maternal health policies. ICDDR,B had been running a TBA training program since 1982, but two years after the conference, they stopped offering trainings. Since then, ICDDR,B staff have continuously pointed to the findings and international recommendations of the Colombo Conference to explain why they ceased TBA trainings and justify their current strategy of facility birth with certified midwives, although shifts towards facility birth in their policies began occurring before the conference in 1996 (Blum, Sharmin, & Ronsmans, 2006).

Experts continue to disagree on the effectiveness of TBA training and incorporation of TBAs into formal healthcare systems, but those who oppose it must consider the consequences of excluding TBAs. As the proportion of facility-based deliveries increase in Matlab, many questions emerge. At the most basic level, what will become of the local *dais*? They are often the interface between women and the hospital. Furthermore, the works of anthropologists such as Bridgette Jordan (1992) and Cecilia Van Hollen (2003) have demonstrated the richness of indigenous social and cultural constructs around childbirth, and local TBAs hold essential roles in these medical systems. If a program's policy does not support TBAs, what will happen to these local networks of information for mothers? How will this affect local "cultures of birthing"?

The recommendations that arose from the Colombo Conference of 1997 did indeed emphasize ensuring skilled attendance at deliveries. However, while the 10 action messages of the Colombo conference are straightforward and seem universally applicable, within the text of the 107-page Safe Motherhood IAG document, each recommendation is evaluated in depth, and considerations that could alter the appropriateness of a recommendation are proposed. No conclusion suggesting universally exclusion of TBAs was made. In fact, a statement regarding TBAs in the final conference report submitted by the Safe Motherhood IAG recommended:

> Where TBAs account for a significant portion of deliveries, safe motherhood programmes should include activities aimed at providing adequate supervision and integrating them into the health system; these activities could include:
>
> - Appropriate training (skilled trainers, appropriate teaching methodologies and materials)
> - Linkages to the health system that include proper supervision and referral mechanisms for complicated cases
> - Ongoing assessment of the impact of TBA programmes
>
> (A. Starrs, 1997, p. 31)

Researchers have observed that the majority of home births in Bangladesh are performed by *dais* (Gayen & Raeside, 2007; Paul & Rumsey, 2002). Therefore, the above recommendations should be relevant to Bangladeshi decision-makers and experts.

The MNCH Program does not include *dais* specifically in their programs, and interaction between the MNCH research investigators and TBAs in Matlab has been minimal. While facility birth now represents the majority of deliveries in Matlab, *dais* were believed to conduct most deliveries in the past, and they are likely to be responsible for the majority of current home births, which accounts for 20 to 40 percent of all births depending on the location within Matlab.

In the summer of 2009, I traveled to Matlab with the mission of understanding the changes that had occurred in the practice of local *dais* and the experience of childbirth in

this society. Matlab *Thana* is located in the Comilla-Chandpur district, and ICDDR,B's intervention area makes up half of Matlab *Thana*'s total area; the other half is the government-service area. For simplicity's sake, I am using "Matlab" to represent ICDDR,B's intervention area, "Matlab *Thana*" to represent the whole sub-district, and "government service area" to differentiate the half of Matlab *Thana* for which ICDDR,B is not responsible. Matlab is uniquely characterized by an estimated 70-74 percent facility birth incidence. About seven years ago, this percentage was only about 38. Whether facility birth or home birth is preferred in resource-limited environments to improve maternal health is debatable; facility birth is virtually hegemonic in developed countries yet also criticized by its patients (Robbie E. Davis-Floyd, 1994). However, it is undeniable that the attributes of a majority facility birth rate and rapid transition from majority home births to majority facility births has made Matlab unique in rural Bangladesh and resource-limited communities in general. The transition was primarily a result of the efforts of ICDDR,B, a nonprofit organization that first began working on maternal and child health (MCH) initiatives in Matlab in the late 1970s.

By utilizing a comprehensive network of community health workers, educating women about safe delivery, and subsidizing MCH care at ICDDR,B facilities, the organization catalyzed a major shift in local birth practices. Eliminating certain financial barriers[3], increasing residents' awareness toward obstetric complications, and implementing other "demand creation activities" has made the option of facility birth more attractive to residents. This results in not only a tremendous physical shift from

[3] Borghi et al. (2006) found that while direct costs are similar between home-based birth and facility-based births, including companion costs—both financial and time-related—can make facility-based birth more expensive. Companion costs include transportation fares, food costs, and compensation for their time. Companions are necessary because nurses are severely understaffed in most Bangladeshi health facilities.

home birth to facility birth but also in a cultural shift of ideas around birth and maternal health in this community. In Matlab, the services of skilled doctors and midwives are increasingly being chosen over those of relatives and *dais*, figures who have—until recently—monopolized the practice of birth since the beginning of time. A relatively instantaneous shift in the practice of birth that has been largely static over centuries has significant effects on multiple aspects of the community. The aspect I am particularly curious about is the practice of *dais* in Matlab and the changes they have observed in recent years as facility birth becomes increasingly popular. While most deliveries in Matlab occur in a facility, home birth with a *dai* still happens approximately 30 percent of the time. What changes have *dais* observed in recent years with their practice? Is there any future for *dais* with the current trends toward increasing numbers of deliveries with skilled nurses in facilities? Interviews with *dais* indicates that they are interested in working for ICDDR,B, although a preferred role was not specified.

The study of *dais* in rural Bangladesh is important for multiple reasons. Realistically, the formal healthcare sector needs to consider whether informal practitioners can provide manpower towards the common goal of increasing the quality of healthcare in a community, since the numbers of formally-trained practitioners are not able to satisfy the basic needs of communities in developing countries. In Bangladesh, the human resources for health (HRH), a measurement representing all healthcare providers—whether formal or informal—was only 0.47. In the U.S., the HRH is 13.22. In rural Bangladesh, *dais* are often the most accessible maternal health resource. Borghi, Sabina, Blum, Hoque, and Ronsmans (2006) found that a *dai* could be summoned in 15

minutes compared to an average of one hour for a midwife and 20 minutes to reach a health center in Matlab.

Three basic models have been proposed for creating partnerships between biomedicine and local indigenous systems. First, formal and indigenous healthcare systems could have a cooperative relationship where both parties operate independently of each other yet share mutual respect and acknowledgement of each other's health value. This model also finds it acceptable to consult both parties for the same illness and to engage in dual treatment for a single malady, which promotes medical pluralism and personal agency towards one's body in the population. Alternatively, there is incorporation where indigenous practitioners become first-line healthcare workers for the formal healthcare system, which could entail adopting new roles. Similar to the role of the community health worker, they would become responsible for basic treatments and preventive healthcare. The formal healthcare sector would desire integration because of the wide availability and influence of traditional practitioners in their communities. These two qualities of traditional healers attracted the WHO's support during the 1978 Alma Ata conference focused on primary healthcare (Mangay-Maglacas & Pizurki, 1981). Finally, a complete integration of both systems would create an entirely new healthcare system that provides patients with advice and treatments from both systems. This model best represents the idea behind TBA training. Ideally, trained TBAs (TTBAs) would utilize safer practices such as sterilizing materials while maintaining the majority of culturally-specific birth practices such as burying the placenta and umbilical cord after the delivery to protect the newborn from evil spirits. Deciding which model to adopt is a complex decision, and planned strategies sometimes result in unexpected results

(Freeman & Motsei, 1992). Furthermore, segregation of different cadres of healthcare providers by socioeconomic and power structures complicates the situation. However, scholarship about the value of local indigenous medical systems has grown to the extent that these systems can no longer go unacknowledged as biomedicine spreads to the distant communities where they exist (Nichter, 2008).

Secondly, effective primary healthcare should be accessible to all individuals, and this right extends to reproductive health. No mother should die from childbirth simply because she did not have adequate medical support, but the reality is that the majority of the estimated 536,000 annual maternal deaths are preventable with medical resources, supported by the fact that 99% of maternal deaths occur in developing countries (WHO, 2005). From a human rights standpoint, these deaths are a result of the denial of women's human rights. Reproductive rights are not a novel concept; they are simply applying basic human rights to sexuality and reproduction, a facet of life that holds unequal significance between men and women. If a woman contributes to society through reproduction, she should be assured protection throughout her pregnancies (Fathalla, 2006).

The violation of these rights can adversely affect the lives of millions. Maternal mortality is quantitatively low compared to mortality from other public health concerns, such as child mortality. While the initiative to reduce child mortality is popular among Westerners, and its rate—80 deaths per 1,000 live births globally—is certainly much higher than that of maternal mortality, communities in developing countries see maternal death as a tragic occurrence, garnering far more social weight than the death of a child (De Brouwere, Tonglet, & Van Lerberghe, 1998). Women belong in the social networks of community members by the time they reach reproductive age, but children have not

necessarily established a significant presence in their communities, so the effect of maternal death is more widespread than that of child death. Moreover, the risk of maternal death over a lifetime is exacerbated where fertility is high, and where reproductive rights are not ensured, which could lead to the orphaning of children and abandonment of other dependents. In addition, maternal morbidity is even greater than mortality, resulting in many women permanently damaged by pregnancy.

Moreover, the rights of women in rural Bangladeshi society are further compromised by *purdah*, seclusion of females. *Purdah* is the segregation between men and women that results in gender-specific restrictions that do not favor females. In the past, women have been disadvantaged by lack of education, nutrition, possessions, and access to formal healthcare, with most of these resources prioritized for men. Cultural values have shaped Bangladeshi women's healthcare, which consists mostly of a narrow selection of unskilled practitioners (Islam, 1981). I saw this characteristic firsthand when I witnessed a village woman's visit to her community health research worker (CHRW). The CHRW was scolding her for taking her child and herself to a local practitioner instead of to the ICDDR,B sub-center. "Now you and your child are sick!" the CHRW snapped. "What could I do?" the woman asked rhetorically, "My husband insisted that I go elsewhere and forbade me to go to the hospital." Women's status as second class citizens compared to men has extended to their limited agency over reproduction in Bangladesh. Shamima Islam's (1981) work on indigenous abortion practitioners included numerous stories about rural Bangladeshi women seeking abortions, obtaining assistance from untrained practitioners, and dying from the treatments they received.

Ethically, changes in a community's reproductive healthcare system should solely be concerned with improving the quality of care of the affected population. Consequently, the practices of TBAs should be assessed critically with respect to the wellbeing of mothers. If the practices of certain practitioners are generally harmful, the welfare of their patients must be prioritized. At times, minor adjustment of the practices will suffice, but sometimes, practices must come to an end. The end of certain practices does not necessarily entail the ridding of the practitioner. It may, however, result in redefined roles for the practitioner. This idea can be hard for some to digest. Moving birth from the home to the hospital can seem like Western medicine "conquering" the local culture of birth. The practice and roles of TBAs have been integral to their communities since the beginning of time, but it is possible that their practices are also maladaptive. At the same time, completely ignoring their existence and status is disrespectful to them and to the local community. If it is observed that TBAs' practices are not beneficial to their community, other health-related roles should be made available to them if they wish to continue serving their neighbors and kin.

Yet, TBAs also need to be studied for the sake of understanding the value of their practice. Becoming a *dai* is one of the few opportunities women in rural Bangladesh have outside of the obligatory duties of being a housewife. As mentioned previously, gender inequality results in many restrictions for women. While studies do not all agree, becoming a TBA can confer a level of authority in one's community to the woman (Foster, Anderson, Houston, & Doe-Simkins, 2004; Lefèber, 1994). TBAs may be treated with respect and generosity for their role in fulfilling the need for guidance during delivery. In economical terms, becoming a TBA can be a method of increasing one's

social value. According to informants, community members generally respected and treated *dais* well. There was a certain prestige in being recognized as a *dai* in one's local community. In fact, a *dai*'s status in her local community was seen as a major motivator for women to become *dais*. Furthermore, a *dai*'s skills and practice were sources of pride in herself. If the status of being a TBA can empower women, it is important to take this fact into consideration when exploring the future of TBAs.

Finally, institutions in developing countries, such as ICDDR,B, may look to the Western world for guidance on improving maternal, infant, and child health, but those Western countries where birth primarily occurs in the hospital do not seem to have an ideal model either. In the U.S., a growing movement to choose home birth with a certified midwife or delivery at a birth center has spawned from American women's negative experiences with birth in the hospital. For American mothers who confidently enter the hospital with a sense of assurance in the skilled staff and readily available tertiary care, many are surprised by the dehumanized manner in which nurses and doctors treat them. Those who prepare for their deliveries through classes and texts find that at the time of labor, their requests for certain actions, such as walking around early in labor or delivering in a nonconventional position, are denied. Overall, a significant portion of women in the U.S. feel a strong sense of disempowerment during their deliveries (Robbie E Davis-Floyd, 1993). The dehumanizing effects of biomedical birth have already propagated in India (Samuel, 2002). This is compounded by the sense of superiority that skilled healthcare workers develop with higher education (Van Hollen, 2003). Blum, Sharmin, and Ronsmans (2006) found indications that midwives in facilities in Matlab treated pregnant women and their families disrespectfully.

Anthropologists have shown the arbitrary and culture-bound components of Western approaches to childbirth, demonstrating constructions of biomedical childbirth as not wholly scientific (Sargent & Brettell, 1995). Ethnographic works have shown that birth has social constructs universally. As Jordan (1992) famously wrote, "there is no known society where birth is treated, by the people involved in its doing, as a merely physiological function. On the contrary, it is everywhere socially marked and shaped" (p. 3). A society's constructs of birth can seem like hegemony; I was unaware of the social aspects of biomedical birth in the U.S. until I gained a more objective perspective through studying the ideas and practices of childbirth in other societies. In some societies, aspects of biomedical birth have augmented the indigenous understandings of childbirth. Van Hollen (1998) showed how biomedical interventions such as pitocin were integrated into women's local beliefs about labor pain and power in Tamil Nadu, India. Birth in rural Bangladesh also has a rich set of cultural beliefs and rituals (Chapter 3), but the attempt to make facility birth standard could compromise the existence of these indigenous constructs.

Purpose of Study

In a relatively brief period of time, *dais* have transitioned from performing the majority of births to conducting a small fraction of births in Matlab. In reviewing the literature produced on TBAs, I observed both a lack of reliable data to make conclusive inferences about the usefulness of TBAs in the Safe Motherhood Initiative and regional variation in the roles and use of TBAs. I wonder, considering the prevalent use of *dais* in rural Bangladesh, whether ICDDR,B is "throwing the baby out with the bathwater" when they purposely have not included *dais* in the MNCH Program. Although the program has

only been implemented for three years, MNCH research investigators see positive results as causally related to the MNCH Program, and they have already reported results to the Government of Bangladesh with hopes that government-run areas will follow their model. Therefore, in conducting this study, I am not trying to find data to support a personal stance on the TBA argument but rather to illuminate characteristics of *dais* and residents of Matlab that need to be considered in creating regio-specific maternal, neonatal, and child health policies.

Chapter 2:
Literature Review

What is a traditional birth attendant?

The most commonly used definition of a traditional birth attendant (TBA) is "a person who assists the mother during childbirth and initially acquired her skills by delivering babies herself or through apprenticeship to other traditional birth attendants" (WHO, 1992). International agencies further specify that a TBA has no formal training, works independently of the formal healthcare system, and operates at the community level to provide care for pregnancy, childbirth, and the postnatal period (WHO et al., 2004). About 60 percent of births worldwide, or approximately 53 million deliveries every year, are home-based (Kruske & Barclay, 2004; Sibley, Sipe, & Koblinsky, 2004a). TBAs in developing nations are estimated to be responsible for 24 percent of all live births, with a range from less than one percent to 66 percent. Literature on TBAs in Bangladesh suggests that they are responsible for a high majority of home births (Gayen & Raeside, 2007; Paul & Rumsey, 2002). Annually, a single TBA may assist anywhere from a few births to 120 births depending on the surrounding environment (Sibley et al., 2007).

While the World Health Organization (WHO) has an umbrella definition for TBAs, these individuals are a product of their societies and consequently have varying characteristics by region and social group (Kamal, 1998). The majority share some characteristics although these generalizations are used more to conceptualize an idea of TBAs that transcends their distinct social and cultural matrices. Generally, TBAs are older women over 40 years of age who are also mothers. Male TBAs exist in some

societies, but the overwhelming majority of TBAs are female. Since this paper addresses TBAs in Bangladesh, a dominantly Muslim society that generally does not allow men to adopt maternal care roles, all TBAs from this point on are assumed to be female unless otherwise specified. The TBA may be chosen by her community to assume her role. She is not just a member of her community but a well respected figure. TBAs are usually illiterate, a characteristic more associated with their sex as females than their practice. Their roles aside from assisting deliveries may include bathing and massaging, domestic work, and care during the postpartum period. Additionally, TBAs do not often receive financial compensation; it is more common for them to receive gifts or services, such as food, clothes, or assistance with domestic work (Kruske & Barclay, 2004; Sibley & Snipe, 2006).

As a highly regarded member of her community, a TBA may be considered an authority on maternal and child health among her neighbors (Maternal & Neonatal Health Program, 2002). She is often integral to the community's healthcare network, which may include other indigenous practitioners and/or formal healthcare where it is available. TBAs may or may not have ties to the formal healthcare system. This relationship varies by region. TBAs may have no associations with the formal healthcare sector. Examples of this relationship are common in countries where the TBA practice is illegal. Such countries include Syria, Turkey, and Lebanon. On the other hand, TBAs may be fully integrated into the formal healthcare sector, such as in Pakistan where they are both employees of the formal healthcare system and providers to women delivering at home (Kruske & Barclay, 2004). In the middle are TBAs who are not banned from the practice yet not necessarily recognized by the national government as well as TBAs who are

linked to the formal healthcare system to some degree but not fully employed by it. In these relationships, TBAs may work with doctors or nurses at their local healthcare facility. They may also receive some form of healthcare education from the formal sector.

Besides having an important role in the delivery of infants in her community, a TBA may also perpetuate traditional antenatal practices among pregnant women. In the antenatal period, an aspect of the TBA practice common to societies in Africa, Asia, and Latin America was the promotion of local taboos. Bangladeshi *dais* were often responsible for promoting adherence to rules to decrease the chance of adverse birth complications and outcomes. By maintaining and following taboos, a TBA may play an essential role in preserving the culture of childbirth in her society.

TBA training: The great debate

Attempts to improve the skills of TBAs through training can be traced as far back as the late 1800s, although the first formally-recognized TBA training course was run by Miss M.E. Wolfe, a British missionary midwife, in Sudan in 1921 (Sibley & Snipe, 2006). Imperial powers characterized TBA practices as "barbaric," labeled them as the main cause of infant and maternal deaths, and blamed the TBA as an obstruction to the development efforts apparently promised (but not necessarily realized) by these nations. The motive for investing in the health of their colonial populations was to ensure a consistently viable labor force rather than a genuine concern for the population. Training TBAs was one of their interventions chosen to palliate these purely economic anxieties.

While TBA training was offered by various organizations in the nineteenth and twentieth century, it was not universally promoted until the International Conference on Primary Health Care in Alma Ata in 1978. This was the first time that the importance of

primary healthcare was highlighted on the international level. The conference included 3000 delegates from 134 governments and 67 international organizations. One Russian co-organizer stated that "never before [have] so many countries prepared so intensively for an international conference" (Cueto, 2004, p. 11). The conference utilized the strategy of the declaration often utilized in human rights campaigns to form a universal statement on primary healthcare, a bold move for a health agency. The statement generated on traditional practitioners said:

> Traditional medical practitioners and birth attendants are found in most societies. They are often part of the local community, culture and traditions, and continue to have high social standing in many places, exerting considerable influence on local health practices. With the support of the formal health system, these indigenous practitioners can become important allies in organizing efforts to improve the health of the community. Some communities may select them as community health workers. It is therefore well worth while exploring the possibilities of engaging them in primary health care and of training them accordingly.
>
> (Mangay-Maglacas & Pizurki, 1981, p. 7)

Even with many important questions and concerns about the effectiveness of the TBA training strategy, it was explicitly assumed that any possible losses from providing training would be minimal and that potential gains in primary healthcare could be great: "Achieving the goal of health for all by the year 2000 hinges on a fuller and better utilization of *all* available resources *now*; given the number of TBAs and the broad range of health care activities which many of them carry out, their full participation is essential" (Mangay-Maglacas & Pizurki, 1981, p. 211).

Almost a decade later, the Safe Motherhood Conference of 1987 in Nairobi held by three UN organizations—the UNFPA, World Bank, and WHO—launched the Safe Motherhood Initiative with the goals of increasing awareness on maternal mortality in the developing world and mobilizing people to take action to reduce maternal mortality. The motivators for this conference were two important events in 1985: 1.) Allan Rosenfield

and Deborah Maine (1985) pointed out the lack of focus on maternal death in MCH programs in developing nations; 2.) the WHO announced at the UN Decade for Women conference that half a million women were dying each year from obstetric complications (A. M. Starrs, 2006). The Safe Motherhood Conference called for action to address the need to improve the status of females, provide education to whole communities, and support and develop essential elements of maternal health at the community and local formal healthcare facility levels (A. M. Starrs, 2006). During the Safe Motherhood Conference, the Safe Motherhood Inter-Agency Group (IAG) was formed from international and national agencies. A number of regional and national conferences were also planned to the extent that by the time of the International Conference on Population and Development in 1994 in Cairo, a Safe Motherhood conference had occurred in every region of the world. “Safe Motherhood” had become a familiar term in the public health field and an essential component of reproductive health. However, the issues brought up in the Safe Motherhood Conference were not addressed holistically. Because of the enthusiasm for primary healthcare and a focus on community-based interventions, public health decision-makers latched onto two interventions that resonated with these two ideas: 1.) antenatal care (ANC), especially antenatal screening for risk of complications; 2.) TBA training, because if the number of skilled midwives could not satisfy the unmet need, it seemed logical that unskilled midwives should receive some biomedical training and act as intermediates while skilled midwives were being training (A. M. Starrs, 2006). Neither strategy had evidence to support its effectiveness. Hasty support for these two interventions eventually led to swift dismissal: maternal mortality had not decreased globally since the birth of the Safe Motherhood Initiative, and some experts believed this

lack of change indicated the ineffectiveness of the two strategies. Although TBAs were the subject of heated debates in Colombo, decision-makers ultimately recommended that distribution of limited resources be directed from TBA training to skilled birth attendance training after the conference in 1997 (Kamal, 1998). It is important to differentiate between the trained traditional birth attendant (TTBA) and the skilled birth attendant (SBA), both of which have had varying levels of exposure to biomedical practices. A TTBA is a TBA who has completed a training program, which has no international standards for the content or duration of the training. An SBA is an accredited health professional—such as a midwife, doctor or nurse—who has been educated and trained in the skills needed to manage uncomplicated pregnancies, childbirth, and the immediate postnatal period, and to identify, manage and refer complications in women and newborns (WHO et al., 2004). The SBA is also evaluated on her performance during training to ensure proficiency, a component not uniformly present in TBA training programs.

While current international recommendations support increasing access to skilled attendance, the strategy is not void of issues. For one, SBA training is not a radically different approach from TBA training and consequently can be victim to some of the same problems that TBA training had. Harvey et al. (2007) studied SBAs and found some alarming results. Although results varied by region, SBAs' knowledge scores were generally low, and skills scores were even lower than knowledge scores, which indicated that knowing a procedure did not necessarily mean it would be performed correctly. This highlighted a large gap between current standards of practice and SBAs' competence to manage certain complications. In addition, systemic problems affected the ability of

SBAs to perform to standards: poor availability of medical supplies, ineffective supervision, low morale, and other issues (Harvey et al., 2007).

Since their adoption in 1987, antenatal screening and TBA training have come under heavy criticism and have been largely cast aside as failures. Numerous studies around the world have been done to assess the effects of TBA training on maternal and neonatal health (Goodburn, Chowdhury, Gazi, Marshall, & Graham, 2000; Stephens, 1992). Some reviews of studies have suggested evidence of improvements associated with TBA training but are ultimately inconclusive. Sibley, Snipe, and Koblinksy (2004) wrote two reviews focused on TBA training and the effects on rates of referrals for women with complications and the use of antenatal care. Their review of whether TBA training improves referral of women with complications included nine technical reports, three journal articles, three theses, and one book chapter. The literature represented 12 countries from Asia, Africa, and Latin America. A narrative review revealed inconsistent results in improving TBA knowledge of risk factors and situations requiring referral. TBA training seemed to have no effects on detection of birth complications by TBAs, referral behavior of TBAs, or maternal adherence and service use. Even when significant outcomes were detected, authors could not necessarily credit them to TBA training since it was implemented as part of a package of interventions in study sites. Isolating the effects of TBA training from the other interventions was problematic. Meta-analysis showed no significant outcomes that were inconsistent with the narrative review. A medium positive but insignificant association was found between TBA training and TBA knowledge of risk factors and conditions requiring referral. A small, positive and significant association was found between TBA training and TBA referral behavior and

maternal adherence and service use, but these results did not prove a causal relationship between TBA training and these improvements. It was suggested that research on referrals include a broader ecological perspective since TBA knowledge and behavior is only one factor in the complex referral process (Sibley et al., 2004a).

The second review focused on whether TBA training increased the use of antenatal care and utilized the same research methods of narrative review and meta-analysis. Eight published articles and seven technical reports representing eight countries in Africa and Asia matched the criteria for this review. Both the narrative review and meta-analysis looked at three factors following TBA training: TBA knowledge, TBA behavior, and maternal behavior. In the narrative review, TBAs were found to know the need for ANC and its proper timing and frequency of checkups. Results were inconsistent for whether the TBA advised or referred the woman for ANC checkups, whether the TBA accompanied the woman to registration or to ANC checkups, and whether the TBA informed the healthcare professional to register a woman for ANC. When samples of TTBAs and untrained TBAs were compared, two of three studies utilizing statistical analysis found positive, statistically significant associations between TBA training and the percentages of TBAs who gave correct advice on ANC checkups at a healthcare facility, percentages of TBAs who advised women to register for ANC, and percentage of TBAs who advised women to attend regular checkups. The behavior of mothers was assessed by whether the women registered for ANC or attended regular checkups and mothers' understandings of when ANC checkups should begin, and findings were generally positive. In addition, of the three studies using statistical testing, two reported positive, statistically significant results for percentage of women receiving professional

ANC services, percentage of registered pregnant women who were accompanied by the TBA, and percentage of women brought in by a TBA for whom the duration of amenorrhea at the first ANC visit was noted in the record as 12 weeks or less. The meta-analysis supported the results of the narrative review. Subjects in three studies were pooled into one treatment group and one comparison group. A difference of 44 percent in TBA knowledge was found between the two groups, which translated into a 157 percent increase in knowledge in the trained group. The comparison in TBA behavior in advising use of ANC showed a 19 percent difference, resulting in a 47 percent increase in TBAs supporting ANC over the 41 percent baseline in the untrained group. A difference of 16 percent, or 38 percent increase, was found in mothers' use of ANC when advised by TTBAs. TBA training in this review had a large, positive, significant association with TBA knowledge of the necessity and timing of ANC, a medium, positive, significant association with TBA support for ANC, and a small, positive, significant association with mothers' use of ANC services when advised by a TTBA. While the use of ANC services increased from 42 percent to 58 percent in the maternal group advised by TTBAs, no causal relationship was established between TBA training and increased ANC use by mothers because of the variable quality of studies in this review. However, the results suggested that TBA training had the potential to increase ANC coverage, especially in communities where TBAs are well respected, active, and whose services extend beyond childbirth. At the same time, formal healthcare systems must have the capacity to serve the demand for ANC, and other determinants of whether mothers go to ANC checkups need further research (Sibley, Sipe, & Koblinsky, 2004b).

A review of TBA training assessments covering a broader range of maternal and infant health outcomes was published by Sibley et al. in 2008. After screening studies, four studies encompassing a period of 16 years and conducted in Pakistan (Jokhio, Winter, & Cheng, 2005), Bangladesh (Houssain, Ripon, & Chowdury, 2000), Malawi (Bullough, Msuku, & Karonde, 1989), and Guatemala (O'Rourke, 1994) satisfied the selection criteria. All studies were conducted in rural settings, but the variation in the population and existing health services complicated comparisons. Five outcomes were studied in relation to TBA training: breastfeeding counseling, referrals to facilities, maternal morbidity, maternal mortality, and perinatal/neonatal mortality. The only significant differences in breastfeeding advice were in post-test levels for advice for complementary feeding at five months. It was discovered that more than 90 percent of all TBAs in the sample, whether trained or not, had already been taught about breast milk/breastfeeding, so the range of possible improvement was, from the start, narrow. In studies measuring referral rates for complications, referrals to facilities for complications increased, but the change could not causally be credited to TBA training as referrals involve many factors. Availability of improved health services was proposed as an influential factor. Records of postnatal morbidity were not necessarily reliable, and the findings of studies were not causally linked to TBA training. The large trial study (Jokhio et al., 2005) reported a 26 percent difference in maternal mortality between treatment and control groups, but this result was not necessarily reproducible. The same study found evidence linking TBA training to significant decreases in perinatal mortality, stillbirths, and neonatal mortality when an effective healthcare system existed. Sibley et al. (2006) concluded that while improvements in perinatal health may be gained from TBA training,

the existence of a functional formal healthcare sector was also integral, and studies that met the criteria for rigorous evaluation design were too few to make inferences on the effectiveness of TBA training (Sibley et al., 2007).

Both insignificant results and lack of reliable data have led maternal health experts to continually disagree over the potential of TBAs to augment formal healthcare systems. While there is evidence that TBA training combined with a supportive referral system could yield improvements (Goodburn et al., 2000; Kamal, 1998), data that is rigorous enough to establish causal relationships between TBA training and study results is challenging to obtain. One obstacle to establishing causation is the fact that indicators of the effectiveness of TBA training often have confounding factors. In addition, evaluations of TTBAs do not always take into account the qualities of the TBA training program, which can be distinctive and significant (Foster et al., 2004).

TBA policies in Bangladesh

In 1978, the Government of Bangladesh began offering TBA training programs, perhaps as a result of recommendations from the Alma Ata conference. Within two decades, 52,000 TBAs were trained. However, in 1998, the Government decided to discontinue the program after observing no significant decrease in maternal mortality. Problems found with the TBA training program included poor selection of TBAs, inadequate supervision, and insufficient training content. Concurrent with the dissemination of an international recommendation to focus resources on increasing skilled attendance, the Government of Bangladesh adopted an SBA training model designed by the WHO and other United Nations agencies to increase skilled attendance at home births. Candidates for the training were chosen from family welfare assistants and

female health assistants instead of TBAs, and training lasted six months. Pilot studies of the SBA training program with promising findings that SBAs could effectively use basic life saving skills and that a demonstrated need existed for SBAs encouraged the government to scale up the program to more communities (Bhuiyan, Mukherjee, Acharya, Haider, & Begum, 2005); this action also generated criticisms of hasty implementation and insufficient community involvement (Murakami, Egami, Jimba, & Wakai, 2003). Since 2008, an estimated 4,000 SBAs have completed the government SBA training, and approximately 1,000 women are certified each year. However, no studies evaluating the government SBA training program have been published in recent years. Local NGOs have made requests for the government to systematically evaluate their SBA training program (Ahmed & Jakaria, 2009).

Multiple NGOs working in Bangladesh also offered TBA training programs. Between 1982 and 1999, ICDDR,B trained 558 TBAs. Evaluation of their TTBAs against TBAs resulted in these observable comparisons:

***Table 1*. Recorded differences in behavior between TBAs and TTBAs**

TBAs	TTBAs
• Cannot recognize delivery complications at an early stage.	• Recognize delivery complications at an early stage.
• Check the patient's cervix frequently with bare hands	• Do not check cervix frequently as the area becomes swollen.
• Instruct mothers to push at an early stage of labor	• Instruct mothers to push when the cervix is open at late stage of labor
• Conduct delivery in kneeling position	• Conduct delivery in both kneeling and supine positions.
• Prefer to deliver on the floor	• Prefer to deliver on a bed but it depends on the family member.
• To deliver the placenta, place mother's hair in mouth so that mother vomits or coughs. Some apply pressure with feet on abdomen to expel placenta or use hand to remove it.	• Massage abdomen to expel the placenta. If they fail to deliver the placenta, they refer the patient to the sub-center or Matlab hospital.
• Wipe baby with warm water and apply mustard or coconut oil and cover with cloth right after cutting the umbilical cord	• Wait a while and then bathe the baby with warm water.

(MNCH Program, 2006)

The noted differences between TTBAs and TBAs were considered insignificant, according to the ICDDR,B staff member who provided me with the above information, and as the Safe Motherhood Initiative had shifted gears after the 1997 Colombo Conference to emphasize increasing skilled attendance, ICDDR,B abandoned TBA training in favor of SBA training and birth in facilities. Presently, ICDDR,B staff maintains a list of TBAs in Matlab.

A fellow NGO, BRAC, also began and later discontinued a TBA training program. However, the ineffectiveness of TBA training in BRAC's findings were not attributed to the behaviors of TTBAs after training. TTBAs were found to perform clean births more often than untrained TBAs. However, no effect on post-partum infection rates was found with TBA training. Researchers of the study recommended evaluation of TBA training programs as a whole and by specific components of the training (Goodburn et al., 2000). While BRAC discontinued TBA training, the organization has maintained relationships with TBAs in its intervention areas (Afsana & Rashid, 2001).

Another local NGO, Gonoshasthaya Kendra, supports both TBA training and facility birth in its project sites. The organization sees the facility and community-level training program as complementary rather than competitive. After evaluating TBA training in their sites, they view TBA training as a cost-effective intervention to alleviating the shortage of skilled practitioners in Bangladesh (Chaudhury & Chowdhury, 2008a). Chaudhury and Chowdhury (2008), both Gonoshasthaya Kendra staff, published an article on the maternal health interventions they implemented in Gonoshasthaya Kendra communities, which they believed led to a significant decrease in maternal mortality—42 percent less than the national rate—in Gonoshasthaya Kendra program

areas. Their package of interventions was built around training TBAs to perform normal home deliveries and understand the scientific basis of childbirth. Trainings were occasionally repeated and updated. Gonoshasthaya Kendra health workers were also held accountable for every maternal and child death in their designated villages (Chaudhury & Chowdhury, 2008b). Interestingly, this article provoked a response from three Dhaka-based experts, among them one expert from ICDDR,B. However, I only knew of its existence[4] when Chaudhury and Chowdhury (2009) published a reply to it a few issues later. To set the context for their reply, the argument of the Dhaka-based experts was summarized before the response: "according to international standards, TBAs should not be entrusted with delivering babies. Rather, professionally-trained 'skilled birth attendants' (SBAs) should do the job." In their reply, the Gonoshasthaya Kendra workers argued for the continuation of TTBAs from moral and practical standpoints. They also questioned whether the two foreign and one native Dhaka experts even understood the issues from a rural context, suggesting that they had no first-hand experience in rural settings. They also bluntly stated, "Let's not debate commonsense [*sic*]. It is not the TBAs [*sic*] fault that maternal mortality in Third World countries is not declining fast enough" (Chaudhury & Chowdhury, 2009).

The international debate on TBA training has been tempered in recent years. However, the intensity of the debate that occurred over the role of TBAs in rural Bangladesh suggests that the argument about TTBAs and SBAs is still active in the country, at least in the NGO sector. In the developing world, Bangladesh has been identified as a unique case because its maternal mortality ratio decreased gradually from

[4] Perhaps I had encountered a glitch in the journal's online archives, but I was never able to find the actual text of this response.

470 in 1991 to an estimated 310 per 100,000 live births in 2001[5] even though skilled attendance at birth was rare (Barnett et al., 2006). While 310 per 100,000 live births is still considered a high maternal mortality ratio, the fact that maternal mortality decreased independent of access to skilled attendance is significant. One study attributed the gradual decrease to fewer deaths by abortion and improved access to emergency obstetric care (M. E. Chowdhury et al., 2007). Another interpretation of the same study claimed that NGO contributions were not considered, such as involvement with microcredit, which the author believed could empower and motivate women to seek emergency obstetric care when necessary (A. M. R. Chowdhury, 2007). Both interpretations allude to the holistic nature of decreasing maternal mortality and the range of factors that need to be considered in addressing maternal mortality.

[5] Other sources cite higher national maternal mortality ratios but the same downward trend in maternal deaths for Bangladesh (Hogan et al., 2010).

Chapter 3:
Ethnographic Context

History of Bangladesh

Bangladesh became an independent country in 1971, but the recorded history of the region dates back to 700 B.C.E. The regions of Bangladesh (also called "East Bengal") and West Bengal in India make up Bengal, the historic lands of the Bangali (also spelled "Bengali") people. Before the spread of Islam, this region was united under the Buddhist Pala Empire in 750 A.C.E., which existed from the 8th to 12th centuries. The coming of the Muslim Turks in 1202 A.C.E. established Muslim rule in Bengal for 550 years. These centuries saw large numbers of Bangalis convert to Islam, especially among the lower caste Hindus who preferred the principles of brotherhood and equality in Islam. During the same period, the territory became known as Bangalah, and Bangali culture and literature matured.

The current capital of Bangladesh, Dhaka, was established in the sixteenth century as the capital of the empire created by the Mughals. Bengal was in the power of the Nawabs, who had taken over the region from the Mughal Empire, when the British defeated and conquered the land during the Battle of Plassey in 1757. Europeans had been present in the region since the fifteenth century to trade for cotton and prized Dhaka muslin. However, the presence of the British East India Company initiated an economic downturn, which was exacerbated by Britain's newfound ability to manufacture cheap cloth during the Industrial Age and effectively ended the Bengal muslin trade within three decades. It took another ten years for cotton exports to completely halt.

The conquered land was important as a British headquarters for expansion into India. In 1947, the British split the massive Indian colony into India and Pakistan. The purpose of the divide was to create a Hindu nation and a Muslim nation and triggered mass migration of Hindus toward India and Muslims away from it. West Pakistan was created from the northwestern region of the original colony, and East Bengal was renamed "East Pakistan." While the two populations were predominately Muslim, they were separated by India, and consequently the development of their societies diverged. West Pakistanis were more affected by Arab Islam and more focused towards the Middle East, while residents of East Pakistan were influenced by Hinduism, Buddhism, Islam, and the British. Tensions were high between the two sides because although 57 percent of the population lived in East Pakistan, the political system resided in West Pakistan, and revenue spending there was over three-fold the amount granted to East Pakistan. Foreign aid was distributed in the same proportions. The situation became intolerable after a cyclone devastating East Pakistan in November 1970 elicited passive action by the Pakistani government. It was estimated that 500,000 fatalities occurred, and the severity of the damage was reflected in this newspaper headline: "Do Not Send Children's Clothing to Cyclone Affected Area. No Children Remain" (Smillie, 2009, p. 10).

In addition, West Pakistan's perception of Bangalis as weak, inferior, less Islamic, and tainted by the small Hindu population caused a strengthening of the Bangali identity behind the cultural unity of the area. During the period when East and West were united as Pakistan, the Bangali culture would often be threatened by West Pakistan, but these events only solidified the sense of unity among Bangali citizens. Instead of uniting under one religion, both regions were conflicting over their largely distinctive cultures.

In 1970, the Awami League, a majority Bangali party advocating for an autonomous East Pakistan led by Bangabandhu Sheikh Mujibur Rahman, claimed 160 of the 300 seats in the National Assembly. This majority meant the Awami League would be deciding national politics and naming the prime minister. West Pakistani leaders were displeased with the prospect of a nationalist Bangali prime minister and consequently delayed the convening of the National Assembly. Sheikh Mujib and the Awami League led civil unrest as a protest. Strikes, riots, arson, and looting arose, and students actively petitioned for liberation. West Pakistan sent troops to East Pakistan, and on March 25, West Pakistani troops massacred several hundred lives and incarcerated Sheikh Mujib in West Pakistan. Their subsequent actions are described as "one of the most brutal acts of political repression ever unleashed on a civilian population" (Smillie, 2009, p. 10). Claiming to blame Hindu intellectuals for the conflict, West Pakistani leaders sent troops to universities to shoot students, bomb Hindu communities, and systematically kill off Bangladeshi intellectuals, businessmen, and other potential leaders, effectively fracturing their economic backbone. Hundreds of thousands of women were allegedly raped, and captured men who were uncircumcised (assumed to be Hindu) were killed. The increasing brutality of the West Pakistani army caused citizens to join the *Mukhti Bahini*, Bangladeshi freedom fighters. Both sides were in open conflict by April. A 10-month liberation war ensued with guerilla warfare. The Indian army joined the *Mukhti Bahini* in early December. After ten days of fighting, the Pakistani army surrendered on December 16, 1971. The final death toll was estimated between one and three million (Butler, 2008; Lodrick, 1998a, 1998b; Smillie, 2009).

The history of Bangladesh since the Liberation War has not been without troubles; a new nation was being built on a land and economy that had been devastated by government mismanagement and warfare. The following January, Sheikh Mujib was released and became the first prime minister of Bangladesh. The creation of Bangladesh symbolized the victory of the Bangali Muslim culture and language. However, the government quickly became corrupt, and Sheikh Mujib was assassinated with his family on August 15, 1975 by army officers (Harris & Lloyd, 2001). In the following two decades, control of the government jumped among a number of political parties and individuals. Since the 1990s, the Awami League and the Bangladesh Nationalist Party have dominated national politics with the Awami League dominating in the most recent national election in 2008 ("Recent history (Bangladesh)," 2010).

Since its creation, Bangladesh has shifted from unification under the Bangali culture towards Islam, which largely differentiates Bangladeshis from their Indian Bangali counterparts (Butler, 2008). However, due to its tumultuous past and the solidarity of Bangladeshis during the Liberation War, Bangladeshis identify strongly with being both Bangladeshi and Bangali. The Liberation War is so ingrained into each Bangladeshi adult's existence that my translator and I used it frequently as a chronological reference point for informants. In its history, the region that is modern day Bangladesh has been subjected to foreign rule frequently, which left the fledging country in a poor state in 1971; the average annual per capita income was around US$70 before independence, the lowest in the world (Smillie, 2009). However, a homegrown effort to alleviate poverty and social inequalities since independence has been prominent, including the establishment of numerous native nonprofit organizations working to

alleviate poverty and its effects in Bangladesh such as the Bangladesh Rural Advancement Committee (BRAC), Grameen Bank, and the internationalized ICDDR,B. From its beginnings as the "international basket case," Bangladesh has many challenges to address in the future, but the progress it has made since 1971 is commendable.

Birth in Rural Bangladesh

Birth in rural Bangladesh[6] is highly ritualized, including an array of rules and taboos for pregnant women. With the increasing influence of biomedical information and the fact that some ethnographic works on this topic are over two decades old, practices and traditions detailed in this section may apply to varying degrees to different rural communities in Bangladesh. In my interviews with *dais*, support persons, and some CHRWs, the practices of *dais* had incorporated some biomedical practices in their methods. However, it is important to have a sense of the extent to which birth has been ritualized in the past and present in rural communities to properly set the context of the *dai* practice in Matlab.

Birth in rural Bangladesh, which consists of predominantly Muslim communities greatly influenced by Bangali traditions, is strongly correlated with pollution. The component of pollution in childbirth determines many of the practices and traditions of pregnancy. It also influences ideas of childbirth—for example, a local belief that postpartum hemorrhage is a cleansing act for the mother in some groups (Hruschka, Sibley, Kalim, & Edmonds, 2008). Also essential to the traditions of childbirth in Bangladesh is the belief in *bhut*, Hindi malevolent spirits who are attracted to pollution and usually blamed for spontaneous abortions, stillbirths, and other pregnancy-related

complications. While a pregnant woman is not in a state of pollution, rural Bangladeshis make general statements about *bhut* and pregnancy, such as "*Bhut* like to eat women's eggs, they find the child in the womb very tasty" (Blanchet, 1984, p. 74). When *bhut* attack a pregnant woman, she is blamed for failing to observe precautionary rules. The fear of *bhut* along with other pregnancy rules comprises indigenous antenatal care. Preparations for the delivery are rarely made by the mother because of embarrassment, shame, and fear of attracting *bhut*, and any preparations made by family members are minimal. An inauspicious approach to the antenatal period was expressed by *dais* and support persons.

In communities where residents fear *bhut* and other supernatural activities, they believe mothers and fetuses are particularly vulnerable to these powers, so certain behaviors and precautionary measures must be taken to protect the two during pregnancy. Hence, taboos have developed over time for pregnant women to protect their fetuses and themselves. The outcome of an infant can depend on the mother's behavior. Furthermore, the mother's moral character, diseases, and even bad luck are embodied in the baby in the womb. One of the historic roles of *dais* is to encourage pregnant women to follow these rules to help deter adverse birth complications and outcomes. These are some examples of practices for pregnant women:

---

[6] I specified rural Bangladesh because ethnographic information on urban birth practices in Bangladesh is scarce compared to ethnographic research in rural Bangladeshi communities, which is quite extensive.

Table 2. **Taboos for pregnant women in rural Bangladesh**

Foods to avoid[7]***:***	***Reasons:***
Shrimp	Causes malformation of the baby's limbs
Two bananas encased within one peel	Causes birth of twins
Egg with two yolks	Causes birth of twins
"Strong" medicine†	Baby in womb might ingest it, causes abortion †Non-herbal treatment, results in severer effects (ex. medicine for diarrhea)
Practices to avoid:	***Reasons:***
Sitting in the doorway	Causes obstructed labor
Grinding spices with an outward motion	Unknown
Eating, cooking, cutting, tying, or twisting anything during a lunar or solar eclipse	Causes baby's limb or body to be shortened, tied up or twisted
Talking about a pregnancy or making preparations for the baby	Draws the attention of *bhut* who can attack the pregnant woman and cause abortions or stillbirths
Practices to follow:	***Reasons:***
Sleeping with head towards door	Causes straightforward and normal delivery
Feeding the fakir	Causes straightforward and normal delivery
Staying inside and sitting down or walking (but not lying down) during a lunar or solar eclipse	Unknown

(Blanchet, 1984, p. 71-75)

Promotion and maintenance of cultural taboos in pregnant women were common components of TBAs' practices around the world (Lefèber & Voorhoever, 1997).

The social and cultural construct of birth in rural Bangladesh has shaped the characteristics of the practice of *dais*. While ethnographic research on Bangladeshi *dais* is not regularly generated, existing works provide comprehensive ethnographic information. The works of Blanchet (1984) and Rosario (1995; 1998; 2002) generally agree that *dais'* practices are heavily influenced by the concept of birth as polluting. *Dais* were traditionally called in to perform polluting tasks and remove pollution—or the waste materials of childbirth. For example, they were expected to cut the umbilical cord, one of the most polluting acts in delivery because it required close contact with the polluting products of childbirth. Rozario (1995) reported that the cutting of the umbilical cord in her study site had become an area of conflict since TBAs in her field site, Noakhali, were

[7] Blanchet (1984) did not believe the food restrictions on a pregnant woman in rural Bangladesh affected the nature or nutritive value of the woman's diet.

no longer willing to perform the task; often, the pregnant woman would be responsible, and rarely, the TBA would be paid generously to perform the act. TBAs, also refrained from practices that would label them as "*dais*" since *dais* were associated with low status in their community because of members' impression that they did not have any expertise or provide antenatal or postnatal care. During her fieldwork, Rosario observed that Muslim TBAs willingly told her they did not cut the cord without her inquiring. She found that Hindu TBAs reacted similarly: a Hindu woman claimed she would only cut the cord for her daughter and asked, "If I cut the cord, will I not become a *dai*?" (Rozario, 1995, Identifying the Traditional Birth Attendants section, para. 5). However, implications of the word "*dai*" seemed to vary by region. The name was not seen as stigmatizing but rather respectful among my informants. Islam (1981) differentiated between the terms *dai* and *dhoruni*, specifying that *dai* had an urban flavor and implied "beyond-village" mobility in her research site.

Dais are customarily called at the start of labor pains to catch the baby. They are considered adept at assessing labor development and perform vaginal exams. According to Rosario (1995), however, they were not the decision-makers in the birth team. Instead, older female guardians determined based on the TBA's assessment whether to use certain treatments, stimulate labor using homeopathy or allopathy, or take the mother to a facility, among other decisions. In addition, TBAs were not sought for medical advice (Rozario, 1995).

Blanchet (1984) and Rozario (1995; 1998) observed that *dais* came from the lowest castes and were generally very poor, uneducated women with no other career options. The status of TBAs in Noakhali was low despite the fact that their consumers

were middle-class families. The impression from TBAs was that when the mother was in danger, the family called for the TBA incessantly; yet after the delivery, she was cast away immediately. Payment to *dais* consisted of bar soap and attar (a Muslim perfume) for cleansing and prayer (Blanchet, 1984) or a sari or other fabric (Rozario, 1998). While some TBAs received a small sum of money, monetary payment could not be expected since delivering babies was a way to gain *sowab* (spiritual benefit in Islam). Because of *sowab*, poor, low caste TBAs could not request financial payment from the upper class patients who cited it as justification for not paying TBAs (Rozario, 1995).

Project Site: the ICDDR,B intervention area of Matlab *Thana*

Matlab *Thana* is a rural sub-district located 55 km southeast of Dhaka in the Comilla-Chandpur district (Figure 2). Located in the delta region, Matlab *Thana* experiences flooding for a portion of the year during the rainy season. The *thana* is divided into two halves: the ICDDR,B intervention area where MCH care has been provided by the organization since 1977, and the government service area where standard government services are available. While ICDDR,B's intervention area was only one half of the total area within the *thana*, I will be referring to this specific area (Blocks A, B, C, and D in Figure 2) as Matlab and the greater community (all blocks) as Matlab *Thana*. The *thana* is home to 222,679 residents (as of 2008), most of which are farmers, primarily of jute, and fishermen. The majority of residents are Muslim, but small Hindu communities also exist. Women's mobility is generally limited.

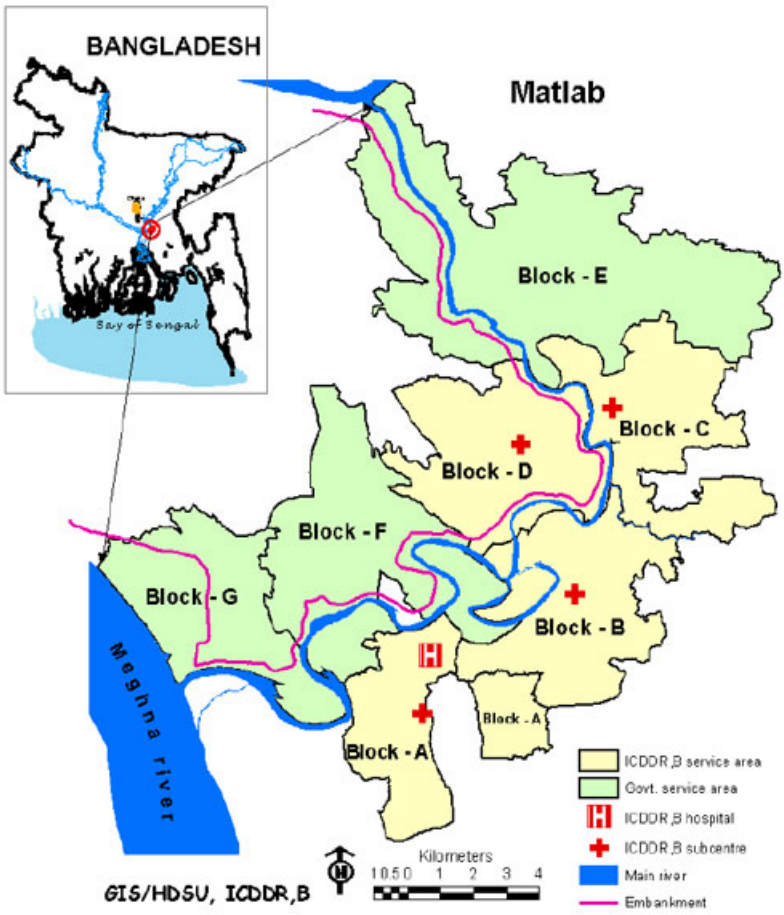

Figure 2. Map of Matlab *Thana*. Location at the national scale, and block layout

History of the ICDDR,B

Initially established as the Pakistan-SEATO Cholera Research Laboratory (CRL) in 1960, the organization conducted research that has greatly contributed to our modern knowledge of diarrhoeal diseases and the invention of oral rehydration solution (ORS) (ICDDRB, 2009a). ORS is estimated to have saved 40 million lives globally. Further progress has come with the discovery of anti-diarrhoeal properties of zinc and successful integration of the mineral into diarrhea treatment. After becoming international in 1978, the Government of Bangladesh reestablished the CRL as the International Centre for

Diarrhoeal Disease Research, Bangladesh, a non-profit health research and training institute which focused on diarrhoeal disease and its related issues, nutrition and fertility. Evolving from its roots in diarrhoeal disease research, ICDDR,B has adopted a "Life Cycle Approach" that extends research to crucial and cost-effective (with intervention) periods throughout an individual's life: conception/pregnancy, delivery, neonatal stage, infancy, childhood, adolescence, reproductive age, ageing/disability, and cross-cutting issues between birth and reaching reproductive age (Appendix C). ICDDR,B is currently recognized as a leading research organization established in a developing country and an authority on health and population-related issues for governments and development agencies (ICDDRB, 2009b).

The ICDDR,B's presence in Matlab dates back to 1963 when a field station was established to conduct cholera vaccine trials. The Health and Demographic and Surveillance System (HDSS) began three years later (ICDDRB, 2009a). The current HDSS records for all residents are extensive and extremely organized. Individual records include *bari* name, family name, given name, date of birth (approximated by month and year if unknown), vital status, position in household, relationships within the household (marital partner, children), date of migration into and out of the HDSS study area (new location specified if migration occurred within the HDSS study area), and religion. Because it is advantageous for those who migrate in to register with ICDDR,B for certain healthcare benefits, the HDSS has relatively good coverage of residents in the study area.

The Maternal, Neonatal, and Child Health (MNCH) Program

CRL initially began MCH and family planning interventions in 1977. ICDDR,B implemented the community-level Matlab Maternity Care Program in 1987. The program

trained and equipped SBAs to handle obstetric complications and supported them with a chain of referral. SBA responsibilities included going to the mother's home for delivery, handling normal deliveries, administering medical treatment (iron, antihypertensive drugs), accompanying mothers with complicated pregnancies to the basic essential obstetric care (BEOC) unit in the Matlab Hospital, antenatal and postnatal visits, and training *dais*.

Since SBAs were of a significantly different socioeconomic status and more educated than their patients, community health workers' (CHWs) responsibilities included establishing initial rapport with pregnant women. The SBAs were positioned in the four ICDDR,B sub-centers to be close to pregnant mothers and facilitate rapid intervention if complications arose. Each sub-center served approximately 25,000 residents and was located within three kilometers of 90 percent of the households. However, MCH in Matlab began evolving away from home births toward facility births in 1996. The four sub-centers were upgraded to handle obstetric care, and SBAs were asked to stay in the sub-centers instead of traveling to patients' homes (Blum et al., 2006).

The current Maternal, Neonatal, and Child Health (MNCH) Program began in 2007 and serves the ICDDR,B intervention area of Matlab (113740 residents in 2008). This program covers approximately 33,000 women of reproductive age and 13,000 children under five years old. Approximately 2,500 live births occur annually. Both horizontal and vertical interventions are provided and supported by demand-creating activities to increase use of these services in the community. Its package of evidence-based interventions includes strengthening and monitoring both its preventive and

curative services, such as family planning counseling and contraceptive distribution. The MNCH Program also subsidizes facility care for pregnant women, which translates to free skilled care for normal births at its four sub-centers and the BEOC unit in the Matlab Hospital. The Matlab Hospital can handle some complications, and includes technology such as oxygen, ultrasound, and vacuum-assisted birth, but it cannot perform caesarean sections and has limited blood transfusion abilities. Referrals for comprehensive essential obstetric care (CEOC), such as caesarean sections, are made from the Matlab Hospital to the government-run district hospital in Chandpur (approximately 30 minutes travel time) with financial assistance for transportation and cost of care[8]. For those in the lowest quintile (poorest), the MNCH Program covers the full cost of services in the Chandpur district hospital. While sub-centers serve 28,000 people and are staffed 24 hours per day by a nurse or midwife who handles normal deliveries, some women opt instead to travel farther to the Matlab Hospital due to a skewed perception that a caesarean section is inevitable and a wish to avoid multiple referrals while not forgoing the financial assistance given to women referred from Matlab Hospital to Chandpur. Others may travel directly to Chandpur to avoid referrals. In providing biomedical healthcare services, ICDDR,B also seeks to facilitate acceptance of these services in the ICDDR,B intervention area of Matlab through "demand creation activities" involving community members, especially support persons and community health research workers (CHRWs).

Community Health Research Workers

CHRWs act as local liaisons between ICDDR,B and pregnant women in Matlab. Surveillance CHRWs associated with HDSS visit all household in their area at least once

[8] A caesarean section can cost between 18,000 and 29,000 taka (Borghi et al., 2006). Women receive partial to full coverage of costs from the MNCH Program based on their quintile of asset index.

every two months. Women suspected to be pregnant are tested at their homes with a spot urine test during these visits to allow for early identification of pregnancy. Surveillance CHRWs inform service CHRWs from the MNCH Program of women who test positive. Subsequent use of the term “CHRW” in this paper refers to MNCH service CHRWs unless otherwise specified. In the first trimester of pregnancy, the mother is approached by her area’s CHRW and encouraged to register for the MNCH Program’s services. Upon obtaining consent, the CHRW provides the mother with a “Take Action Card,” which is a pictorial booklet detailing step-by-step procedures to be taught during Home-Based Life Saving Skills (HBLSS), a training to teach laywomen step-by-step procedures to manage common obstetric complications in home births. The CHRW also counsels the mother on the importance of attending four antenatal care (ANC) visits in the sub-centers, selecting a support person and birth team, and birth preparedness/complication readiness CHRWs are responsible for teaching HBLSS classes, which utilize skits and role-playing to help facilitate learning and evaluation.. Closer to the delivery date, the CHRW encourages the mother to deliver at an ICDDR,B facility. Since they request families to call them when labor begins, CHRWs may be present for home births and occasionally perform them when needed. In the postnatal period, CHRWs conduct checkups at 0 (home births only), 3, 7, and 28 days after delivery to check the mother’s and infant’s health, provide counseling, and collect anthropometric measurements of the infant. By running fixed site clinics at their homes, CHRWs also provide numerous primary healthcare services, including nutritional supplements, vaccinations, and family planning (pills, injectables, condoms). CHRWs maintain contact with the MNCH staff through block meetings every two weeks.

Support Persons

A support person (or two) is chosen for each pregnancy by the pregnant woman and CHRW together. She is a laywoman, often a relative of the pregnant woman, and is trained along with the pregnant woman in HBLSS, a basic four session course that teaches women about birth preparedness, danger signs, and step-by-step procedures for certain postnatal problems, prolonged labor, birth asphyxia, and postpartum hemorrhage. In the case that delivery occurs at home, HBLSS prepares support persons with steps to handle these complications while transferring the mother and infant to a nearby sub-center or Matlab Hospital. While HBLSS is a major component of the support person's role, the MNCH Program maintains that the support person's main responsibility includes encouraging the mother, husband, and family to choose facility birth, motivating the family to prepare by collecting savings, and planning transport for the pending birth, which are promoted during HBLSS. The training is also seen as a way to maintain consistent contact with local women. Each support person assists one mother, but the collective population of support persons in Matlab also serves a broader role, according to the MNCH project proposal: "Creating demand will also be accomplished by identifying a support person to work closely with CHRWs, families, and health providers at hospital/sub-centers."

Chapter 4:
Methods and Field Observations

Objectives of the study

The goals of this study were to:

- define the current roles of *dais* and characteristics of their practice in Matlab
- explore potential future roles of *dais* in the formal healthcare system
- explore the body of ideas around home and facility birth in the local community

Methods

To accomplish these objectives, I examined the perspectives of local *dais* and other figures who also play important roles in women's pregnancy experiences in Matlab. Aside from *dais*, I also included three other groups: CHRWs, who are employees of the MNCH Program and act as the link between communities and ICDDR,B; support persons, who are laywomen involved in the pregnancy and delivery and responsible for complication management and facility referral in home births; MNCH research investigators, who determine ICDDR,B's maternal health policies. Qualitative data was collected through semi-structured interviews with each group. A total of 27 interviews were conducted, consisting of eight *dai* interviews, eight support person interviews, eight CHRW interviews, and three MNCH research investigator interviews. I designed interview questionnaires with the help of project advisers. They were translated from English into Bangla upon my arrival in Dhaka and continuously revised to improve clarity. Interviews with *dais*, support persons, and CHRWs were conducted in Bangla by

my translator and voice-recorded. These recordings were later transcribed in Bangla and translated into English by Dhaka University students. Interviews with MNCH research investigators were conducted in English and processed by myself.

All informants were identified through records maintained by the MNCH Program. The MNCH research investigators maintain a registry of *dais* in Matlab, which had just been updated at the time of my arrival. Support persons are recorded when pregnant women register for the MNCH Program services, and the list of CHRWs is publicly posted in the center. All informants were randomly selected by a random numbers table except for MNCH research investigators who were recommended in the planning stages of this study. Besides an existing record in the MNCH database, no exclusion factors were used, except for generating the initial list of support persons. I selected for support persons who were registered for births in 2009 to find women who had participated recently in HBLSS training and involved in home births to learn more about the role of the *dai* and reasons for selecting home birth. The limited duration of fieldwork did not allow me to interview mothers so support persons fulfilled two roles: providing input as a figure active in the pregnancy experience of a woman and as a local source of layperson perspectives on childbirth, *dais*, and ICCDR,B.

For support persons and *dais*, the MNCH Program provided me with the informant's name, village name, *bari* name, and the CHRW responsible for the informant's area. However, this information alone was not sufficient to locate informants. In order to obtain directions to each informant's home, my translator and I visited CHRWs during their block meetings. All CHRWs of a block congregate for a day-long meeting in their sub-center every two weeks. Going to the sub-center during these days

was the easiest way to find CHRWs, who in turn could provide specific directions to informants' homes as they were familiar with the residents of their surveillance areas. During these initial interactions with CHRWs, we also asked permission to interview those who were randomly selected in their homes at a later date. Since CHRW interviews could last over an hour, it was not possible to interview them during block meetings.

Reaching our informants' homes was not an easy task, and we ended up in the wrong *bari* or village more than once. We were, however, able to interview all individuals who were randomly selected, except for one support person, the reason for which is discussed later. Consent was obtained immediately before the interview, and verbal consent was used if the individual was illiterate. We carried an ink pad to interviews for those who preferred providing their fingerprint and those who did not have written signatures. Interviews for *dais* and CHRWs lasted over an hour on average, and interviews with support persons and MNCH research investigators were generally an hour or less. While I could not conduct most interviews due to language barriers, I accompanied my translator to interviews and recorded observations of my informants and their surroundings.

Limitations of the study

In order to have permission to conduct research in Matlab, I had to submit my study to ICDDR,B's Research Review Committee and Ethical Review Committee. The Ethical Review Committee had specific guidelines about the consent form that I would be distributing, most notably that ICDDR,B's name needed to be displayed. Having worked extensively in Matlab for about half a century, ICDDR,B had developed a reputation among the residents. At minimum, everyone knew the "cholera *haspatal*." While I tried

my best to distinguish my work from that of ICDDR,B and the MNCH Program, I suspect that most *dais* and support persons thought I was an ICDDR,B employee. How and to what extent that belief affected their responses cannot be pinpointed. However, these women often have an idea of what ICDDR,B wants to hear—for example, that all *dais* immediately refer mothers to a facility when an obstetric complication arises. People do not always do what they say they do, and a number of motives could convince informants to misrepresent themselves: fear of getting in trouble, a desire to be looked upon favorably, wishing to be perceived as particularly capable. However, during interviews, some informants shared thoughts and actions that disagreed with ICDDR,B's beliefs and policies, such as reasons to choose home birth.

Another limitation of the study concerns the transcription and translation of interview recordings. Despite initial instructions to do so, interviews ultimately were not transcribed verbatim, and I was not successful in conveying the need for verbatim transcripts to the university students whom I had hired for the work. The translated transcripts were abridged versions that represented what occurred during the interview but not how it occurred. This limitation barred the possibility of micro text-analysis since the manner in which informants expressed themselves was largely lost. It is possible that some dialogue relevant to this study was also excluded due to students' beliefs that they were irrelevant. Students had requested copies of the interview questionnaires, and some transcripts showed evidence that only interview content that the student evaluated as directly relevant to the questionnaires' inquiries were transcribed. Comparisons of a transcript translated by my translator in the field and one translated by a university student revealed large discrepancies, and certain passages appeared verbatim in multiple

transcripts. However, subjectivity on the part of the students was not suspected since all were educated, city dwellers with little familiarity with the rural context.

Field observations in Matlab

My translator and I spent much of our time navigating the roads and small paths, and occasionally waterways, of Matlab. Perhaps the most influential factor to our transportation was the season. Our work was conducted in July and August, or more concisely, the rainy season. Residents have complained that the dry season forces them to travel by foot, which is slow, and by rickshaw, which are hard to find (Blum et al., 2006). I can personally attest to the difficulty of tracking down rickshaws outside of any village centers. Villagers prefer the rainy season when boat transportation is viable. We, unfortunately, had no boat and had to rely on rickshaws and their motorized counterparts, CNGs (an acronym for compressed natural gas, the fuel that the motors use) and tempos (a larger, minibus-sized CNG) when present. These vehicles are rarely found near residents' homes and are usually congregated in village centers or bazaars. While our battles with the muddy roads are largely not relevant to the mobility of Matlab residents in the rainy season, the obstacles of finding land transportation are significant when applied to mobility in the dry season, especially with transporting pregnant women by land to facilities.

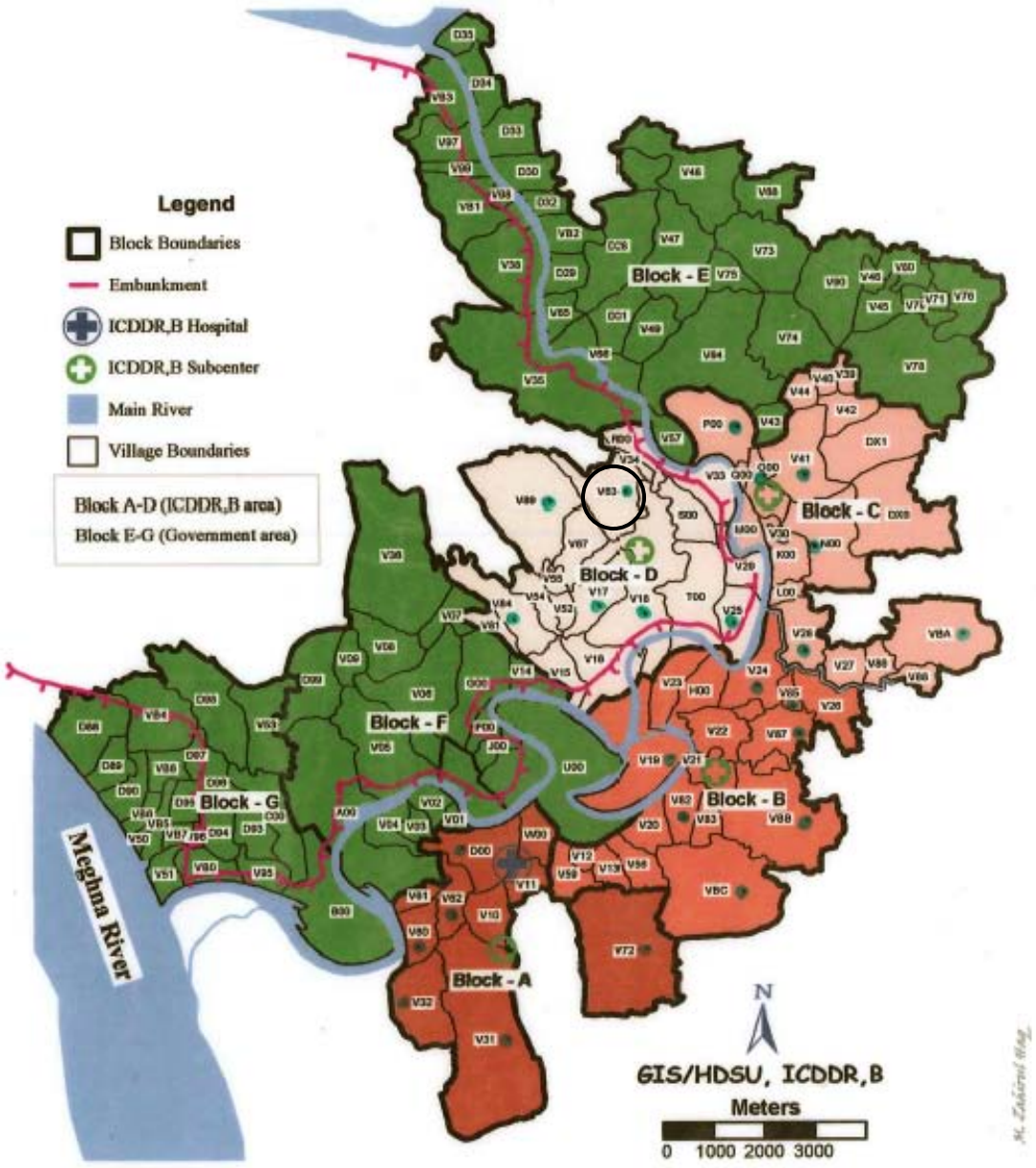

Figure 3. Map of the Matlab HDSS Study Area. Matlab *Thana* and the layout of villages within blocks (teal markings on the map were for my fieldwork purposes)

The four blocks of Matlab are largely similar, except in their proximity to the Matlab Hospital. While sub-centers are strategically placed to be within three kilometers of most households, blocks that are closer to the Matlab Hospital have had higher incidences of facility birth. Block D is the furthest when both distance and physical barriers are considered. The main river in Matlab isolates Block D from the other three blocks

(Figure 3), and Block D has the lowest facility birth incidence. On a particularly grueling day, we spent four hours roundtrip traveling by road to a household in East Islamabad (Figure 3, Block D, V63, marked by black ring) from the Matlab Hospital. This was partly due to the muddy, cratered roads and the fact that CNG drivers were unwilling to operate with empty seats in the vehicle, which was complicated by the fact that we were females, and it was considered improper for males and females to sit in a row together. Consequently, filling a CNG properly required a fair amount of waiting. I had resolved to respect and follow societal rules, but gendered rules were definitely inconveniencing and frustrating at times.

Aside from the town of Matlab and various bazaars and small centers scattered around the region, the majority of households are located in remote areas. Each block in Matlab is divided into villages. From my experience looking up individuals in the HDSS bound hardcopy records, the number of people and families in each village can vary considerably. Within the boundaries of each village are clusters of households called *baris*. It was described to me that each village holds approximately a dozen *baris*. Residents in each *bari* are generally kin.

Figure 4. Housing structure built from reeds

Figure 5. Housing structure built from metal sheets with firm mud foundation

The structures that residents lived in were usually constructed of either woven reeds (Figure 4) or metal sheets (Figure 5). Whether each household had electricity depended on their socioeconomic status and the availability of a power line in their *bari*. I encountered a range of apparent wealth, from poorly constructed reed structures housing simple and worn possessions to sturdy metal homes with ceiling fans, TVs, and DVD players. An important factor to the socioeconomic status of households was the existence of a family member who worked in the city or abroad and sent back earnings.

Field observations of the Matlab Hospital

During my last week in Matlab, after finishing interviews and in the midst of wrapping up fieldwork, I spent some of my spare time in the hospital of the ICDDR,B Matlab Research Centre. The hospital has two departments: diarrhoeal disease and MCH. The diarrhoeal disease section accepts all patients exhibiting diarrhoea-like activity, but lab work to confirm the microorganism is only provided for residents of the ICDDR,B intervention area. However, some cases are diagnosable by the qualities of feces alone. Common pathogens include rotavirus, *Shigella*, and *Vibro cholerae*. Two wards were created to keep adults and children separate, but the facility is designed to allow for expansion into the outdoor walkways if overflow occurs. According to one doctor who showed me around, diarrhoea in Matlab is not as prevalent as in Dhaka, the capital city of Bangladesh, because the sewer system in Dhaka cannot always handle the dense population, especially during the rainy season when the flooded sewer system may mix with the municipal water system. However, in Matlab, feces-contaminated water is relatively less common partly due to the lower population density. During my visit, the hospital's diarrhoeal disease department was also undergoing a transition from paper to

electronic files, so doctors were keeping records by paper and by palm pilot, which my physician tour guide found too time-consuming. The treatment that patients receive include intravenous fluids and rice ORS, which is the conventional ORS made with rice water. Patients with other complications may also be treated during their hospitalization for diarrhea.

ICDDR,B researchers designed rice ORS in the 1980s, and it was found to be more effective than normal glucose ORS in children and adults with cholera. While in the hospital my guide showed me the solution, a cloudy white fluid. He also noted that patients received zinc tablets. For younger patients, he showed me the ICDDR,B-invented “baby zinc”, a zinc treatment in a dissolvable tablet. He placed it in a spoonful of water, and within seconds, it had dissolved into the water.

My guide was a young doctor who seemed a bit out of place in rural Bangladesh. He was dressed in especially sharp work clothes and moved confidently around the facility. He was very interested in showing me the adult and infant signs of dehydration. While lecturing about the signs of dehydration in infants—one of which is slower resettling of skin after being pinched—he pinched the skin of a baby patient… and continued to pinch it again and again, even after I made it clear that I understood his demonstration. The baby cried with every pinch, but this outcome did not seem to discourage him from administering repeated pinches. His adolescent sister, who calmed her baby brother down between pinches, exchanged glances with me as my facial expression increasingly expressed how appalled I was that this doctor’s harassing behavior. Despite language barriers, I am pretty sure she knew my thoughts at that moment, and I saw in her the expectation to comply with the doctor’s actions. In another

instance, my guide repeatedly had a patient recovering from severe dehydration stick out his tongue to show the dryness associated with dehydration. During these moments, he seemed to treat his patients like dummies or objects—anything but human—and I began wondering whether he cared about them at all. The young doctor's suspected disinterest in his patients was supported by his explicitly-stated intentions for accepting his present position, a one-year clinical fellowship in Matlab (for which he apparently beat out a hundred other applicants). By working in Matlab for a year, he hoped to get a foot in the door with ICDDR,B and wanted actually to become a researcher with the organization. Therefore, he saw his current clinical position as not ideal but a stepping stone to his career goals.

While ICDDR,B's roots are in diarrhoeal disease, their addition of MCH care in the Matlab Hospital has had a significant effect on the local community. At all hours of the days and evenings at least, female residents in patterned *saris* deck the open halls, some getting a breath of fresh air while others wait to be seen by the doctors. Nurses in white *saris* and younger women in blue *salwar kameezs* assist female doctors, who integrate their white coats into their *salwar kameez* ensembles. ICDDR,B intentionally requires MCH doctors to be female since MCH doctors must work closely with women; whereas all the diarrhoeal disease doctors whom I met were male.

A number of wards make up the MCH section of the hospital. There are two general wards, one for infants and another for pregnant women and older children. While some beds were empty during my visits to these wards, beds were more or less a foot away from each other. The MCH unit admits pregnant women and children under five years of age who are residents in the four blocks of the ICDDR,B intervention area

(Blocks A, B, C, and D). All residents seeking care must have cards that confirm their residence is within the boundaries of the ICDDR,B intervention area. Women who migrate into the area, commonly for marriage, may register with the HDSS department to receive MCH services. Whether this fact was widely known among Matlab residents was speculated, since a few informants cited no registration as a reason why women who migrated into Matlab for marriage were likely to give birth at home.

I spent a whole day following one of the female doctors in the MCH wards. During that time, I met most of the female doctors of the department. Each was very friendly and conversed well with me in English. Although they also wrote their medical notes in English, these doctors still conversed among themselves in Bangla. I learned that five female doctors worked in the MCH section: three doctors rotated to cover the labor room and MCH wards from 8:00AM to 10:00PM every day of the week, one was a medical officer who evaluated incoming patients, and the last one was busily engaged in research and no longer involved in the clinical practice. The latter two physicians maintained homes in Dhaka, but the former three lived in Matlab for their jobs. This difference was significant to me as I experienced the contrast between living conditions in Dhaka and Matlab. Both *dai*ly power cuts and the weak generators made evenings and nights in Matlab dark and dull. In addition, Matlab had no semblance of the cosmopolitan environment that Dhaka could offer.

While my translator and I tried our best to see a woman deliver at the Matlab Hospital during the last week, we seemed to always be too early or too late for the actual delivery. However, these experiences familiarized me with the delivery experience at the hospital. Women in early labor wait with companions in the “antenatal” room located

outside the labor room. When their labor intensifies, they are moved into a bed in the labor room. The labor room has two birthing beds and a number of normal beds for the mothers. The walls are covered with posters showing useful information, such as number of fingers translated into how many centimeters a mother's cervix was dilated. A range of equipment sat to the side, one of which a doctor eagerly point out to me: a vacuum machine with a soft round suction cup to help expel the baby's head. It was not routinely used, she told me, and was only attempted two to three times during delivery. The ultrasound room is also accessible through the labor room. While the room is monitored by a doctor, nurses often do vaginal examinations and exclusively deliver the babies. After the delivery, women return to the antenatal room to rest.

Women who are having complications also may stay in the labor room. One woman I saw many times stayed there for about two days. She was excreting fluid from her vagina, and her family was concerned that her membrane had ruptured. However, she was only 33 weeks pregnant and ideally would deliver one month later. The doctors decided to give her treatments to suppress the labor for at least 12 hours. They also confirmed that her discharge was due to a vaginal infection and not her membrane rupturing. After they confirmed that she was in no danger of preterm labor, she was discharged and sent home.

I also saw a postpartum procedure performed for vaginal tearing (after just missing the delivery). It was approximately 10:30 at night, and the doctor had returned home before the delivery. A nurse both performed the delivery and sutured her vaginal canal. The experience was consistent with a previous birth experience I had witnessed in

a developing country and literature that indicates that normal obstetric procedures are routinely performed by nurses instead of doctors in the developing world.

Chapter 5:
The *Dai* Practice in Matlab

An exploration of the current practices of *dais* in Matlab was necessary for two primary reasons. First, the bulk of ethnographic data on *dais* in rural Bangladesh may be outdated and not necessarily applicable to all areas of Bangladesh. Second, ICDDR,B's implementation of biomedical practices over several decades makes Matlab significantly different from other rural communities and may have affected *dais*' practices in recent years. The TBA practice is increasingly affected by biomedical beliefs and practices as the formal healthcare sector is strengthened in rural communities. In addition, the Government of Bangladesh's SBA training program is increasing access to skilled attendance in the rural regions where *dais* are still the main obstetric care providers. Descriptions and opinions of *dais* and their practices varied among *dais*, support persons, CHRWs, and MNCH research investigators. The perspectives of support persons, CHRWs, and MNCH research investigators on *dais* are explored in subsequent chapters.

The eight *dais* whom I interviewed had varying characteristics. Perhaps the only common link was that they were married and had children, which is essentially the fate of all Bangladeshis. While the interview questionnaire included a question on what age informants were, all responded with estimates of their ages. Hence, birth date information was obtained from the HDSS records, in addition to family size and religion. Based on HDSS records, the mean age was 61.75 years old with a range between 48 and 72 years. The majority had ages in the sixties. This information is also imprecise as HDSS began after the birth of some of the informants and became more rigorous as it grew. The average family size was six to seven individuals. In our sample, five *dais* were Muslim

and three were Hindu in the HDSS records, which was supported by observations of Hindu decorations in Hindu *dais*' homes.

Dais' impressions of how long they had practiced ranged between 15 and 40 years with an average of 27.75 years as an active *dai*. Two informants were no longer actively practicing, and both attributed this to health problems compromising their ability to perform deliveries. All *dais* had either learned their skills by accompanying a relative who was also a *dai* (aunt, sister-in-law, mother-in-law) or by observing home births themselves. Unlike most *dais*, the youngest *dai* of our group claimed that she learned her skills by observing birth in facilities, which she believed made her even more knowledgeable and "skilled" than other *dais*.

When asked for their occupation, none of our *dai* informants mentioned working as a *dai* as their profession but instead identified themselves as housewives or by any other jobs they had. One widowed *dai* defined her occupation as foraging for various crops when the opportunity arose, a supplement to what her grown children provided for her. Another widowed *dai* worked as a maid for a local official. However, each woman's reputation as a *dai* was known by her neighbors. While locating our informants, Neela would often mention both the name of our informant and that she was looking for a *dai* when we reached the correct *bari*. The combination of name and status of being a *dai* made it easy for us to find our *dais*, which was not always the case for our informants[9]. Perhaps, this characteristic of the practice is partly influenced by *dais*' inability to rely on income generated through providing this service. Another reason may be that *dais* in Matlab do not currently conduct enough deliveries to be regularly or frequently occupied

[9] When locating our support person informants, we occasionally had trouble identifying them by name alone in their *baris*, and their status as support persons in a delivery did not help.

with deliveries. No *dais* had a system of recording how many deliveries they had conducted. Consequently, self-reported estimates of the number of births each *dai* had conducted in her lifetime ranged widely, from 35 to 5,000 to 1 *lakh* (100,000). These large numbers were impossible, but the *dai*'s belief that she could deliver so many babies suggested a high regard for her work and abilities. While responses to the total number of deliveries conducted varied greatly, our informants largely agreed that they delivered fewer babies in the present time than in the past. On average, *dais* conducted one home birth per year in recent years compared to multiple deliveries per month in past years.

The most common types of compensation for a *dai* to perform a delivery were payments in kind, such as giving a cotton *sari* (valued between 100 and 500 taka) or inviting her after the delivery to one or more meals, generally within the five day period after the birth. Less frequently, *dais* mentioned receiving soap, attar, or other oils, which was observed in past literature (Blanchet, 1984). Most *dais* said monetary payment was uncommon, but one *dai* said she received 500 taka for deliveries while another said she would receive 30 to 50 taka if the family was too poor to offer anything else. The type of compensation that *dais* receive may also be locally determined. Most *dais* that we interviewed had been actively practicing only in Matlab, but one *dai* who had moved years ago to Matlab made a comparison between the standard payment in her previous home and Matlab: "They also gave cloth in Rajshahi[10]. Here in my village they give cloth only. In Rajshahi, they gave soap, attar, and a whole meal." Receiving no payment at all was also a possibility. When this topic was brought up, all *dais* expressed a reluctance to ask for compensation or to ask for more when the amount was not satisfactory. One *dai*

[10] Rajshahi is located on the far western edge of Bangladesh near its border with India and is latitudinally north of Dhaka.

claimed that asking for a payment was stigmatized by her community and would provoke reproach:

> Would it be right to ask for these types of payment? If I ask for them, they will say, "You witch, have you started a business here?" That's a slip of tongue. According to their will, they will give me clothes or sometimes food.

Another *dai* disagreed with asking for money because of personal values:

> I don't want anything from them. I've learned it to serve the people. If anyone gives willingly, then I take. If they don't give, then I don't want. I think it would be shameful to want something from them. If you are a considerate person, then you'll give it willingly. It's your personal matter. So I think it's shameful.

Moreover, most *dais* felt that it was not their role to determine whether and how much they were compensated. Instead, they assigned this responsibility to the patient's family:

> For this job, I don't claim anything from anyone. If anyone wishes to, they give me *saris*. Otherwise I get nothing. I just help them when they are in hazard. I don't demand any fixed item or money.
>
> If I am not satisfied, I won't complain. It's their matter what they will give.

Lastly, a few *dais* said that some families could not afford to give anything, and in that case, how could they justify demanding payment? *Dais* seemed to be familiar with the socioeconomic situations of the families whom they served. Below are some of our *dais*' reactions to being asked about compensation for delivery and whether the payment was enough:

> Not everyone does give me clothes. Thos who are unable to pay, they don't give me anything. I don't take anything from them. They are too poor.
>
> What could they do if they can't afford it!
>
> I have needs. Even if I demand, from where would they give me? They can't feed themselves. There are some who said they would give but couldn't manage it.

Since payment to *dais* for delivering babies was largely not monetary or guaranteed, it was not surprising to hear that *dais* did not depend on the earnings they received. Two *dais* had living husbands and depended on their husbands' incomes. Those who were

widowed depended primarily on their children for subsistence. For some, this situation did not elicit any complaints, but for others, the treatment they received as dependants of their children seemed marginalizing.

If a *dai* accompanied a woman to a facility for delivery, the charges that she incurred as a companion were covered by the pregnant woman's family. Therefore, acting as a companion in facility birth did not benefit or tax *dais* financially or materially. However, if a *dai* only referred or accompanied a woman to the facility, she neither expected nor received any type of compensation because she saw this act as equivalent to giving advice:

> What would I want for that? I'm giving them advice.
>
> Does anyone give aid because of giving advice? Now, I am talking to you. Would I ask you money for it?

Paying *dais* money to refer pregnant women in their areas to ICDDR,B facilities was proposed as a potential role for current *dais* in Matlab for ICDDR,B when I was initially presented with this research opportunity eight months before I arrived in Matlab. ICDDR,B staff were suspicious of a conflict of interest since *dais* were more likely to receive compensation if they could deliver the baby themselves instead of referring the woman. However, the inconsistency of compensation and the fact that *dais* were mostly paid in kind—which had little effect on their economic situation—strongly suggested that *dais'* motives for practicing were not financial. The uniform consensus over these two characteristics of payments to *dais* from *dais*, support persons, and CHRWs further indicates that these two facts were widely recognized, and a woman would not likely see becoming a *dai* as financially beneficial. Why then did women become *dais*?

Motivations to practice

When asked why they became *dais*, a common answer of *dai* informants was to be able to help women during a time of need. Responses that expressed this romantic intention included:

> To help people, to save lives.
>
> I go to rescue people.
>
> Because it's a very urgent and dangerous period for the patient. And we are working to save the patient.

Two important observations were made from these responses. First, a desire to help other women, most specifically the women in their communities, was expressed in all interviews to a certain degree and seemed to be an essential component of the motivation to become a *dai*. Furthermore, the motivation to provide a service to their communities, especially when the role needed to be filled, indicated that *dais* had a high regard for their communities. Wishing to help others generally prioritizes the helped individual's interest and welfare and is a motivator that often downplays the helper's consideration of tangible incentives, which, in the case of *dais*, did not seem all that appealing. The degree to which helping people was the primary motive for becoming a *dai* varied, but most seemed to state this reason over others. One *dai* elaborated on this intention:

> Suppose we have a hospital in Matlab. So we can bring the people to the hospital. But what will those people who haven't any hospital in their area do? One of them has to learn this work. Because when a pregnant woman is in labor, she needs a *dai*. If a woman of that area learns this work, takes training, then she can help the pregnant women. Then the child will be okay, and the mother also will be okay. Otherwise people without any hospital will die.

This *dai* saw the safety and welfare of both the mother and child as important to her work, and this motivation is highly significant in considering their abilities to contribute

to women's health. In fact, helping people and working for the safety of mothers and infants were fundamental goals of both *dais* and MNCH workers.

Secondly, childbirth in *dais*' point of views was seen as a risky and potentially fatal process, evidenced by how often *dais* expressed a belief that their work had the ability to save lives. This opinion suggests that *dais* view childbirth as potentially dangerous and possibly deadly, the same attitude of MNCH staff, who themselves did not believe *dais* recognized the risks of childbirth. Both the desire to help women in a risky time and a belief that childbirth was dangerous held striking, albeit not surprising, similarities to the motivations and concerns of MNCH staff.

Antenatal customs

In the antenatal period, most *dais* did not interact with the mother or birth team. Most were open to pre-delivery consultations or meetings when requested, although one *dai* claimed that her patients never informed her before the delivery period. The *ad hoc* attitude toward antenatal meetings made it unclear as to how often *dais* were informed of pregnancies before the delivery, but it seemed that unless any concerns arose during gestation, a *dai* was not necessarily informed of upcoming pregnancies and less likely to meet the mother before delivery. One *dai* even mentioned that if the pregnant woman discussed possible problems, that was *aje baje*. A common Bangali saying is "*Aje baje kota bolona*" or "nonsensical/taboo talk speak not," used to reprimand talk of hypothetical problems. *Aje baje kota* can be serious or petty concerns and is associated with a fear that mentioning aloud a potential issue could cause it to become reality or bring more trouble. Characterizing pregnant women's discussion of possible obstetric complications as aje baje kota reflected the inauspicious approach toward childbirth

found in other literature on childbirth in rural Bangladesh (Afsana & Rashid, 2009; Blanchet, 1984).

However, as *dais* are usually neighbors with their patients and claim to interact regularly with their community members, a significant number of meetings and consultations may occur between *dais* and the mother and her family in an informal manner, especially when the nature of the interaction is primarily social rather than work-related. It may be true that *dais* do not know whether they will be needed for a delivery beforehand, but if *dais* are a normal part of their communities as they claim to be, they will likely know who in their area is pregnant.

As I mentioned earlier, considerable variation was found among the practices of our *dais*. Two *dais* mentioned being regularly involved during the antenatal period. One *dai* said that she would meet two to three times with the mother prior to delivery and advise her on healthy food choices. Another also provided advice on healthy behaviors during pregnancy, such as not carrying heavy items. When asked whether *dais* performed any procedures during gestation, those who were involved in the antenatal period saw this action as being outside of their abilities. One *dai* said "I don't do any kind of test to them. Because I am not a doctor, I have no knowledge about any kind of test." Multiple *dais* asked rhetorically, "What would I do?" implying that they believed our question was ridiculous and irrelevant to their work.

***Khalas*: Making *bachcha kacha* delivered**

As most *dais* did not interact with pregnant women or their families for pregnancy-related purposes during the gestational period, their responsibilities usually did not begin until the woman was in labor. *Dais* could be called at any hour of the day

and night and lived close to their patients, often in the same *bari*. This characteristic of *dais* is highly significant because informants would cite a delivery occurring in the middle of the night as justification to choose home birth over facility birth since finding transportation was extremely difficult then. The individual who called the *dai* was generally a male or female relative of the pregnant woman: mother-in-law, sister-in-law, mother, sister, brother, aunt, husband, father-in-law. Less often, an unrelated neighbor of the pregnant female went. Most *dais* departed soon upon being called. I witnessed this quick reaction first-hand when minutes after we left one *dai*'s home, we found her briskly scurrying past us to answer the call to deliver a baby goat (some *dais* also handle non-human deliveries). Most informants characterized the instance when *dais* were called primarily by "rising labor pain", which one *dai* called *dhurphor*, and occasionally by "membrane rupture." *Dais* saw no need to be present at the delivery earlier than this point, partly because they did not have responsibilities during the initial period of labor:

> No, how can they call at the beginning! Not at the beginning, they watch they arrange everything, and then they call. Is it she would call me after just turning about? First they will observe whether the pain signing delivery or just a false pain, would they not see?

One even said she would be given tasks that were not part of her responsibilities as a *dai* if she arrived when the delivery was not near: "If I go there early, I have to face lots of problems. Then I have to do lots of work. Before delivery, there are lots of customs, which are done by the family members. I don't want to face them." The customs that she was referring to may have been the preparations that family members made when the mother began experiencing labor pains. These preparations included collecting necessary materials for the delivery, such as a clay basin for the afterbirth, generally placing all supplies in order.

While some *dais* brought delivery materials such as old cloths for cleaning after the delivery, most counted on the family to provide delivery materials. It is unknown whether this was previously a responsibility of the *dai*, since some *dais* still brought certain materials with them to the mother's home. However, *dais* were generally conscious that CHRWs had distributed ICDDR,B's home delivery kits to pregnant women and consequently depended on those kits during the delivery. The delivery kit, according to multiple records, includes multiple pieces of gauze, bleaching powder, soap, a pair of gloves, a blade, and an instruction manual with pictures. *Dais* regularly changed their clothes before the delivery, either at their own home or at the pregnant woman's home where clothes were provided by the family. Before tending to the mother, *dais* washed their hands; about half of them specifically said that they used soap, which was provided by the family or from the delivery kit. Washing before delivery was a sign of biomedical practices infiltrating *dais*' practices since past accounts showed that *dais* only saw the need to wash after performing the delivery to remove the pollution of childbirth (Blanchet, 1984; Rozario, 1995).

Upon entering the birth room, a *dai* would observe the situation to assess whether she was capable of delivering the newborn, *bachcha kacha* (literally means "raw child"). To ensure that the baby was in the correct position for delivery, she would perform a vaginal examination and feel for the head or hair of the perinate. As the woman in labor encountered increasing labor pain, some *dais* would massage the genital area with a lubricated hand. Use of coconut oil, mustard oil, and gloves were mentioned by different *dais*. The significance of labor pain in our informants was comparable to its essential role in delivery in other South Asian societies (Jeffery, Jeffery, & Lyon, 1989; Van Hollen,

2003). Besides being the most mentioned indicator of when to call a *dai*, the existence of labor pain was perceived as essential to the delivery of the baby: “If the pain grows, only then can the baby come out.” One *dai* even interpreted obstructed labor as the mother’s labor pain being “stuck” when the baby could not descend.

Interviews consistently showed that the role of the *dai* was specifically to handle the delivery, or “to make the child delivered.” The Bangla word for birth delivery, *khalas,* also meant release, unloading, and relief. Hence, her role in performing the delivery also suggested deeper meanings of releasing the mother and child from labor. *Dais* were also responsible for delivering the placenta and tying and cutting the umbilical cord. This responsibility seemed paramount to their service, since in one support person’s account of a home birth, she had delivered the baby because a *dai* was called too late, but the *dai* was the one who cut the cord. The task of burying the afterbirth was assigned to a birth team member.

After the delivery and perhaps after the *dai* departed, a Muslim family would welcome a newborn male by *ajan,* a summons to prayer whispered into the infant’s right ear, and Hindu households greeted male and female babies by *jatakarma*, which includes reciting prayers to Hindu gods (Gatrad & Sheikh, 2001; Thakrar, Das, & Sheikh, 2008). Although *dais* felt responsible for the outcomes of the delivery, after delivering the infant and departing, *dais* felt that the health of the mother and baby were no longer their responsibility. *Dais* often mentioned returning home to bathe or wash after performing a delivery, especially if they were invited to a meal on the day of the delivery.

Complication management in home birth

Much concern over the use of TBAs in developing countries is their inability to handle obstetric complications. With the availability of facility care in Matlab, I was curious to know what *dais* did in the face of complications during a home birth. The MNCH staff was particularly interested in knowing how *dais* handled cases of prolonged labor and retained placentas. In our interviews, all *dais* whom we talked to said they would refer the mother if a complication prohibited them from delivering the baby. Some did not even claim to try any interventions before sending the mother off or accompanying her to the facility: “If there’s a complication I don’t find it out, I take to Matlab [Hospital].” Many complications were listed as reasons to send the woman and baby to a facility, including obstructed labor, extreme labor pain, and a variety of infant complications. However, some *dais* described interventions for prolonged labor, retained placenta, and breech birth.

If the delivery progressed slowly, *dais* would usually wait 12 hours and then send the mother to a facility. This was also the recommendation made by the MNCH staff. However, one *dai* described a few practices that she used when labor stalled or when the cervix would not dilate. These practices were largely symbolic of the processes of birth and not invasive to the mother. The first intervention she described involved a flower that she called the *Maryam flower* or “Mary’s flower,” named after Bibi Maryam in the Qur’an. This flower, *Anastatica hierochuntica*, was believed to reduce labor pain and facilitate childbirth when the dried flower was infused in water (Wickens, 1998). The *dai* explained, “If I pour water into it and make it wet, it’s petals will spread. The more it will spread, labor pain and difficulties will be reduced. Then the cervix becomes opened.” The

opening motion of the flower in response to liquid seemed to symbolize the dilating motion of the cervix. In another practice for dilating the cervix, she collected snail shells, discarded the snail flesh, filled the shell with kerosene oil, lit the shell on fire, and revolved the shell around the patient's belly two to five times. When labor did not progress, she would tie a string made from a special plant somewhere on the mother's body, which she believed would allow the delivery to continue normally: "There is a plant. If you tie this part with a string made of its leaves, your labor pain will increase. Then the child can come out smoothly." The success of this intervention rested on whether the plant itself was uprooted smoothly. If so, the child would be delivered quickly. Again, this practice seemed to have symbolic meaning, as if the successful uprooting of a plant from the earth would translate to a smooth exit of the baby from the womb during childbirth. When asked whether she used all of these methods when she encountered prolonged labor, she explained that the position of the baby determined the method. These types of herbal treatments, or *kabiraji*, were not mentioned with other informants but were, rather condescendingly, mentioned by ICDDR,B workers and have been observed in other studies of *dais* (Blanchet, 1984; Rozario, 2002). These practices were particularly worrisome to MNCH research investigators because they feared that *dais* would waste time during an emergency situation trying out these practices.

Among our *dais*, some claimed an ability to handle breech births by repositioning the baby to appear head first. Sometimes, they mentioned having to push a limb back into the birth canal. While some *dais* immediately saw breech position as a reason to refer the mother to a facility, those who felt capable of repositioning the baby said that once a limb

had descended too far, they also could not handle the delivery. One *dai* actually delivered a baby in breech position and had to leave the outcome of the delivery to fate:

> One of the women of a house whom I saw, both legs of the baby came out. They called me a bit late. I couldn't even change my clothes. The boy, by Allah's grace, has grown up. He goes to school. He is 13 and first son of the house. My uncle had called me to go and said, "Both legs have come out." I was surprised. How could this happen? Instead of the head, the legs came out. But Allah helped the legs, and the head came out. Among all the deliveries, this one scared me.

Breech birth was a memorable experience for *dais* who had performed such deliveries and an event that caused severe anxiety and doubt over one's abilities in those *dais*. In one *dai*'s experience, the infant died during a breech delivery. However, that *dai* refused to accept responsibility for the infant's death because she claimed a male healthcare worker was performing the delivery and directing her, and she felt that she had not yet gained the knowledge to handle breech birth, which she claimed to have performed adequately since the incident.

Delivering the placenta did not seem intimidating to *dais*, and some had multiple methods that they believed would facilitate its delivery. One *dai* could not even understand how the placenta would not be released soon after the infant came out, indicating that she had never encountered the complication (she did, however, say that she would refer the patient). Most *dais* said they massaged the woman's abdomen to expel the placenta. Aside from massaging the belly, massaging the birth canal and pulling the cord gently were mentioned. A retained placenta elicited a fear that the placenta would move further up into the woman's body. One *dai* said:

> If the placenta doesn't come out, the belly button should be massaged. Then, if it still doesn't come out and moves upward, the patient must be taken to the hospital. The cord must be held with a hand. If it's not, the placenta would go up. And then the mother would die.

Among MNCH staff, there were claims that *dais* poured kerosene oil or stuffed the mother's hair in her mouth to induce a gag reflex, which would create more pressure to expel the placenta. In addition, they claimed that *dais* would forcefully push on the mother's abdomen with hands and feet. One MNCH research investigator recounted a maternal death due to a *dai*'s mismanagement of a retained placenta:

> She did all the sorts of injurious, risky practice behaviors to deliver the placenta, giving the hair to the woman's mouth, putting two fingers in to vomit her, or pressing the abdomen, pressing with her hands and legs, and also shaking the trees. The woman should stand and hold the tree and shake it. The perception is that the placenta will come out. So she tried all sorts of things, and it took a long time, and she failed, and after that, then she had thought "I have done all the things, and they have not helped her, so I need to refer her." She referred her, and on the way to the hospital, the mother died. She had waited two and a half hours after the delivery.

Interestingly, these practices were not mentioned by our *dai* informants. Accounts of maternal and infant deaths or near deaths by the inability of *dais* to handle obstetric complications are numerous throughout the literature, and these works support *dais*' use of risky practices at those times. However, none of our *dais* gave the impression that they currently used these methods.

Chapter 6:
Change and Resistance in Local Birth Ideology and Practices

Signs of change

Impressions of facility birth

All community-level informants unanimously said that facility birth in their residential areas had risen recently and that most women go to a facility for birth. Coming from *dais* and support persons who had engaged in home births, this observation was highly significant, although not unexpected considering the current statistics in Matlab. Perceptions of medical facilities were largely positive. Benefits of facility birth according to our informants included the free cost of care, the availability of advanced technology (ultrasounds, caesarean sections), provision of some medications, the presence of doctors and nurses, the ability to handle complications safely, and the quality of care that women received. From our interviews, it seems that facility birth was highly acceptable to the majority of Matlab residents. When asked why women delivered at facilities, one support person said: “To keep everybody healthy. After delivering, both the baby and mother stay well. The people who go to hospital, they get proper medical treatment.” This impression of facility birth as the location of birth that was most safe for the mother and infant was expressed by all informants to some degree. The fact that cost of care was free for normal deliveries in ICDDR,B facilities was often cited, and one MNCH research investigator believed subsidized care was necessary to maintain the goals of the MNCH project.

Changes in dais*’ practices*

Dais observed changes related to a decreased demand for their services in recent years. First, they believed that most women were delivering at a facility, which partly accounted for the decreased demand from their point of view. Yet, they also saw the decreased demand for their services as partly explained by changing fertility patterns. Many women were only having two or three children and then stopping, they observed. Contraceptive use in Matlab is almost 60 percent, and *dais* were aware of family planning methods.

Another significant change in the practice of *dais* was the incorporation of biomedical practices and the avoidance of indigenous practices after receiving training. All *dais* talked about washing their hands before performing a delivery, and some made it a point to mention using soap, using gloves, or paring their nails before working, which past literature specifically contradicted (Blanchet, 1984; Rozario, 1995).As I had mentioned, risky indigenous practices of *dais* were only cited by MNCH employees and a couple of support persons but not actually by our *dais*. All of our *dais* had received some TBA training in the past and recalled lessons they learned from those trainings. Skills taught in trainings seemed to be practiced by our *dais* and replaced older indigenous practices. While discussing the placenta with a *dai*, an on-looking woman said "She has forgotten many things. If the placenta has not come out at the time of delivering, you will have to put hair in the pregnant woman's mouth. Then she will vomit. As a result, pressure will be created on her womb and the placenta will come out." to which the *dai* responded "This method is not being followed now." She then demonstrated the rubbing motion that she used to release the placenta, which was not forceful to any degree. Regarding delivering the placenta, a CHRW also mentioned past indigenous

practices that *dais* had used, such as forcefully pushing the abdomen or pouring kerosene down women's throats, and that after teaching them safer methods, *dais* had agreed with the new methods and were following them. The *dai*'s blatant dismissal of a past indigenous practice and the account provided by the CHRW suggested that *dais* could learn, but more importantly, that *dais* had the capacity to change, a belief unaccepted among MNCH research investigators.

Development of support persons

Support persons seemed to be more conscious of the potential complications in childbirth, which they learned primarily through HBLSS training. CHRWs also observed that mothers had become more cautious through MNCH Program services. While one primary goal of HBLSS is to show the dangers of home birth, women were able to learn more about childbirth through HBLSS, although the level of understanding complications was only deep enough to identify the complication and the steps involved in handling it.

If a *dai* uses any risky practices during a home birth, MNCH employees believe the support person's HBLSS training will enable her to intervene and instruct the *dai* based on training methods. When asked about HBLSS trainings, support persons had positive experiences with HBLSS trainings and felt the content was useful. One support person explained, "Good means the training makes consciousness about the opportunities," meaning that she felt more aware of the choices that they had throughout the delivery. Most support persons also claimed that they would object if they witnessed a *dai* using methods that they were not taught during HBLSS. Of those, the majority said they would show the *dai* what was taught in HBLSS, and one said she would refer the woman to a facility. Yet, no accounts of *dais* using any objectionable methods in a home

birth had occurred in support persons' personal experiences and were unheard of in other accounts of home births that they were aware of. Therefore, the situation in which a support person would need to actively intervene with a *dai*'s methods had never occurred.

Sources of change

The acceptance of facility birth in Matlab can be largely credited to the work of ICDDR,B since the rates they have achieved were not so high in the past and are not comparable to national rates or rates in the government-service area of Matlab *Thana*. The MNCH Program was designed with the intention of creating local demand for its services. The sources of this "social marketing" to increase local demand for facility birth and other services seem to be primarily disseminated by CHRWs in HBLSS training and ANC visits. CHRWs—who are often called "*apas*" (meaning "sister") or even called doctors by support persons—were said to suggest facility birth to community members. One support person even said: "Nobody delivers at home because *apas* have forbidden delivering at home. *Apas* are creating such a pressure that no delivery can take place in a village." In HBLSS, it seemed that facility birth was being presented as the "correct" choice for women in childbirth. One support person recounted her HBLSS experience: "There, they tell us, 'What is the right place for delivering a baby?' We say that hospital is the best place. They have told us to take the patient to the hospital."

During interviews with CHRWs, it was evident that they enjoyed their work despite the heavy loads and took their jobs very seriously. Many said that it was necessary to be persistent with families and even went to their superiors for assistance when anyone expressed resistant behaviors. One CHRW said:

> Suppose, if we tell them about any vaccination or any system, even when we tell them in an organized way, they don't allow us. Then I am going to them once, twice,

> even for a tenth time also. Day after day, I am going to her. After and after going to them, what has been seen is that after trying a lot, we can take that lady, father, mother under control.

However, the persuasion and persistence of CHRWs was not always welcomed among local women. One CHRW talked about the challenge of convincing women to use MNCH services:

> When we go to houses, we talk about injections, condoms, but after explaining everything to them, they do not agree to take precaution [contraceptives]. They directly refuse. That is how they behave. When we go for motivation, they think-, and sometimes tell us to leave by saying, "Yesterday I told you everything. Then why are you coming now?"

These statements from CHRWs about creating change and that of the support person characterizing CHRWs' behavior as "pressure" indicate a rather aggressive approach toward change from MNCH employees.

Furthermore, the perceptions of MNCH services presented in their social marketing strategies have created local demand but may come with other consequences. Widespread marketing of biomedical interventions can often cause false or over exaggerated beliefs because information provided is so generalized. In order to make a population aware of new interventions yet make the information accessible, marketing campaigns often dilute the information they disseminate, which can result in vagueness and skewed casual relationships. Gregg's (2003) work on women and cervical cancer in Recife, Brazil revealed erroneous perceptions of pap smears—for example, that they could cure or protect women from sexually transmitted infections—which was partly caused by marketing materials. In Matlab, MNCH employees used marketing strategies that demonized home births and *dais*. One CHRW said, "Patients are convinced by us or in the sub-centre during MNCH about the risk of home delivery." This strategy could create the impression that facility birth has no risks.

Because of the technology provided in facilities, certain beliefs had developed in local residents around facility birth. One belief was that facility birth was safer, which is reasonable since facilities can offer BEOC in emergencies that home birth cannot. However, there was a perception that the delivery occurred with more ease and speed in a facility as opposed to at home. This idea likely came from a facility's ability to provide interventions that facilitate delivery. Some interventions mentioned by our informants were episiotomies, injections, and use of saline. Yet, an association between facility birth and speed and ease was often a general statement. No perceptions of facility birth in residents were alarmingly wrong, but interviews suggested that information provided by MNCH employees was not fully factual or representative of the full picture of facility care in resource-limited, South Asia communities. The MNCH Program's activities are not presenting the full details of facility birth, only enough to convince women to stop giving birth at home. At some point, this one-sided portrayal of facility birth will need to become more comprehensive.

Signs and sources of resistance

Fatalistic approaches to birth

Certain favorable impressions of home birth still existed among our informants. Even among those who viewed facility birth positively, some shared a belief that whether birth took place at home or in a facility was determined by a higher order. One support person said, "Means their luck is better made by Allah for it is not needed to go far. Pain starts and deliver at home." Home birth was closely tied to ideas of luck and fate:

> I think it's fate. Sometimes someone has to go to a doctor urgently. On other hand, someone has a delivery in home. So it's not specific. Suppose if both the mother and the baby are healthy and hearty. Then the delivery should take place in home.

Births with complications were seen as “unlucky”:

> Think, if you would have a caesarian section, then you have to collect money for that. So you have bad luck. Otherwise you have good luck if the delivery takes place in the home. Free from all types of complications.

This fatalistic approach to childbirth was expressed many times during interviews and applied to many aspects of childbirth. Whether this belief was disempowering to women was undeterminable by our interviews. However, it confirmed the continued existence of some indigenous beliefs toward childbirth in rural Bangladesh.

Facility birth and perceptions of value

A few women portrayed facility birth as holding higher value than home birth, comparable to a privilege rather than the standard. In the past, before healthcare was subsidized to any degree, facility birth was only available to the most affluent rural Bangladeshis, and the value of facility birth was perhaps created from associations with the upper class (Blanchet, 1984). In one case, a support person said that the delivery that she was involved in occurred at home after the family found out the sex of the fetus as the reason why the family did not choose facility birth (incidentally, a few women stated ability to learn the sex of a fetus as a benefit of the facilities). The rationalization seemed to say that a female child was not valuable enough to enjoy the privilege of delivery at a facility. Another woman, who was a witness at an interview, said: “If they delivered at the hospital, then the baby’s mother has value. What’s the meaning of value? If I go to the hospital, then the doctor would look after her, give her treatment.” These beliefs toward facility birth already show some skewing of the face value and abilities of facilities, and with marketing, such definitions may only become more distorted.

Distrust of ICDDR,B

Many accounts of resistance to facility birth and other MNCH initiatives were given by CHRWs, and their input was valuable since they were highly concerned with the uptake of MNCH services in Matlab. CHRWs had to deal with misconceptions and doubts concerning the true purpose of ICDDR,B's services. In two cases, the CHRWs said that some residents believed they benefited in some way, such as receiving a commission, for taking women to facilities. Residents seemed to suspect a conflict of interests, which showed a degree of distrust in ICDDR,B and its work. One CHRW said that some educated individuals doubted the services of ICDDR,B due to the organization's focus on research and fears that free services were actually research studies: "Many educated people say that we are doing research, that we do research with the babies and test with foreign medicine." Another CHRW talked about a conspiracy theory circulating her area: "Now problem is about giving vitamin A capsules. In some *baris*, everybody is saying by giving vitamin A capsule, medicine for worms, we are killing babies. Killing!" Her interview transcript was unclear at some points, but it suggested that there was a belief circulating her work area that ICDDR,B was selling the blood they collected for blood tests. These ideas certainly do not dominate local perceptions of ICDDR,B; it is unlikely that uptake of their services would be so high had they been widely accepted. However, these accounts indicate a certain degree of distrust in residents towards ICDDR,B, which is primarily a research institution. The initial purpose of the Matlab community was to act as a test sample for cholera vaccines in 1963. This begs the questions of whether distrust of ICDDR,B has existed in Matlab since the 1960s and whether current signs of distrust are lingering or developing trends.

Hindu beliefs in childbirth

One Hindu *dai* claimed that home births had increased in her area. It was protocol according to her to attempt the delivery at home and to refer to a facility only if problems arose. She saw home birth as preferred because Hindu mothers feared having operations in facilities. Operation, she claimed, was a sin in Hinduism. There was no other account of home birth becoming more popular among any informants, but it is possible that the trend that this *dai* observed was rapid acceptance of facility birth in her community followed by a decrease in use after issues with operations arose. By her account, women in her community, a Hindu fishermen village of residents in the dalit *kaibarta das* caste, preferred giving birth at home and resisted going to a facility. At the same time, this Hindu *dai* had received the most TBA training of all our *dais* (approximately three and a half months of training) and eagerly discussed the biomedical practices that she used and had learned from trainings. This suggests that while skills learned from trainings are appreciated and practiced by *dais*, they continue to respect indigenous beliefs and the concerns of their patients.

Authority of males

Multiple MNCH research investigators and CHRWs viewed the ability of males to exercise control over women and their interaction with facility care as a barrier to their goals. Sometimes, males would not allow their wives to deliver in a facility or even to access ANC at ICDDR,B sub-centers. One CHRW gave her interpretation of the challenge:

> But males have problem. Still now, males understand less. If you manage male doctors for explaining, then they would feel better to talk with you more. We are not working with males. We are working with females. Females can understand. Females can't make the males understand. What benefit would be gained after talking with you!

This CHRW also suggested that male CHRWs be employed to work with male residents in Matlab. Aside from recognizing the value of a facility's obstetric care, some men also did not see the need for going to a facility for their personal health. According to one CHRW, some men would grumble about visiting a facility for an illness and say "We have to go and wait there. Better we would buy something with money and eat it."

In order to address issue of male dominance over healthcare decisions, the MNCH Program reached out to local males to explain the program, to persuade them to allow wives and female kin to go to ICDDR,B facilities for ANC and birth, and encourage them to attend one HBLSS class. One MNCH research investigator believed that they were changing male perceptions. However, since multiple informants mentioned men as a challenge to their work, it is still considered a source of resistance. It is also interesting to contrast ICDDR,B's approaches to *dais* and men, two groups whom they perceive as resistant to ICDDR,B's initiatives. While *dais* are being ignored, putting additional effort into working with men is seen as necessary for the success of the MNCH Program's goals. Incidentally, this approach also seems to reinforce men's control over women by making men's perceptions of the MNCH Program more favorable rather than promoting an idea of women's personal agency over healthcare.

Support Persons: the reality of training laywomen

Another group in which ICDDR,B invested much effort in were support persons. Although the creation of support persons was a sign of change in Matlab, a gap between the MNCH employees' ideas of their role and the actual actions of support persons also indicates signs of resistance. I previously mentioned that support persons felt empowered to intervene with *dais*' practices through their HBLSS training, but as this incident had

never occurred, it was hard to say whether support persons would act according to their word. Support persons looked favorably upon *dais* as figures who contributed a great service to the community by helping women in danger, and prior to any interventions by ICDDR,B, support persons seemed to have a passive role in home birth. Consequently, while some support persons were willing to stand up to a *dai*, no *dais* thought it was a support person's place to instruct them. When asked whether support persons had any authority in home birth, one *dai* said:

> How will they do anything? Do they know anything? They are only helping us. I do the main job. They have not any knowledge about my work. How can they learn our work by a training? They only learn how to look after a pregnant woman by the training. They have no practical knowledge. The *dai* guides the support person. How to take care of a pregnant woman in delivering a baby.

The role of the support person seems to have been subordinate to the *dai* in the past. Consequently, *dais* thought it was inappropriate for support persons to go against their word:

> I haven't faced such an insult anywhere! Sometimes, one has to face insults. If I tell them to take the patient to Matlab, but they decide to stay at home, would it not be an insult? But I haven't faced such things. They do so. What I say to them, they do.

These opposing ideas of the role of support persons in home births could cause animosity between *dais* and support persons in the future. However, as HBLSS is restricted to whomever a mother selects and no other outreach methods between ICDDR,B and *dais* are active, the avenue in which it would be possible to inform *dais* of the role of support persons does not exist. Some of our *dais* had actually attended HBLSS training, but some CHRWs did not permit *dais* to be support persons in their areas because of a perception that a *dai* would become overconfident in her abilities and keep women at home.

While our support persons looked favorably on HBLSS, at best, only four informants had attended all four HBLSS training sessions. In some cases, they had

claimed that someone else was primarily responsible for attending the training. Others had also said that they attended those that another could not attend or someone else attended a session when they were absent. In fact, one support person whom we talked to was not even registered as one; we talked to her after discovering that the designated support person was neither involved in the pregnancy nor aware that she had been designated. This woman was the mother of the pregnant woman, and she claimed to have attended one HBLSS session when no one else in the birth team could. Therefore, HBLSS education seemed at times to be scattered among multiple individuals in the birth team and attendance at all HBLSS sessions was not guaranteed.

In addition, there were doubts that support persons had actually been present at the delivery for which they were designated to serve. In three cases, the support person was definitely not present, and in one case, a designated support person happened upon the birth when she was fetching something in the birth room. Even though she claimed to be present at the delivery, we found that one of the three women not present for the birth actually had gone home to do chores and returned after the delivery. Neither claims of attending HBLSS training nor being present at delivery were questioned during the interview, so the number of support persons who completed HBLSS training and were present at the delivery was not confirmable once there was evidence that these claims could be false.

Another issue encountered while talking with support persons the method of selection. Some of our informants were the mother-in-laws of the pregnant women. Literature has shown that the mother-in-law has an important and active role in the delivery of her daughter-in-law, and some support persons actually said that the mother-

in-law was in charge during the delivery (Blanchet, 1984). The pressure of this role made one informant agree to be a support person although she was not healthy: “I sat down in the birth room. I was sick, what could I say? People would gossip if the mother-in-law doesn’t go. That’s why I went.” In another case, a mother-in-law who was a support person refused to enter the birth room for religious reasons.

Variable success was found in the MNCH Program’s support person model. While women found the HBLSS training to have useful content, support persons often did not go to all four sessions nor were they necessarily present at the delivery for which ICDDR,B had invested support. Evidence through interviews suggests that the concept of a support person has been present in rural Bangladeshi births, but the role that ICDDR,B has assigned to them may be different from their past roles. First, it seemed highly inappropriate for support persons to undermine the authority of *dais* during home birth from *dais*’ perspectives. In addition, support persons had their own set of priorities that often interfered with their roles as support persons. It is possible that ICDDR,B placed too much responsibility on these women, especially when their motivation to be a support person was mainly because of their relationship with the mother and not an interest in the actual work, which was the case for *dais*, CHRWs, and MNCH research investigators.

Convenience of home birth

The most popular reason for birth to occur at home seemed to be its convenience. Many hassles were associated with facility birth, especially births that occurred in the middle of the night, a time when rickshaws were impossible to find but *dais* were available nearby. Both support persons and CHRWs saw this as a reason for birth to occur at home. At other times, the delivery could come too quickly for the family to be

able to reach a facility in time for the delivery. However, CHRWs described the most troubles with making families understand why facility birth was better even if the birth was normal. Some of our support persons also could not understand the need for facility birth when birth progressed normally.

The relationship between facility and home birth

Women generally favored facility birth over home birth, but based on their preferences and the circumstances at the time, either facility birth or home birth was seen as the backup option. For those who wished to deliver at home, the facility was seen as the backup plan if any problems occurred. Two home births that support persons recounted were supposed to occur at the facility, but in one, a rickshaw could not be found since the delivery had started in the middle of the night. In the other, the women were walking to the facility, but the woman in labor had to return home because the delivery came too soon. A small lingering preference for home birth and unavoidable circumstances that restricted a family to home birth indicates that there will continue to be births that occur outside of the facility, sometimes regardless of whether the pregnant woman and family favor facility birth.

Chapter 7:
Knowledge as Power

Sources of knowledge on childbirth

The informants this study all had varying levels of knowledge on childbirth that came primarily from two sources: indigenous beliefs and rituals and biomedical theory. Most informants found that the work-related skills and knowledge that they gained enabled them to be useful in a way that made their work highly satisfying and meaningful whether it was the nature of the work or the degree to which they could perform it. Most MNCH research investigators, CHRWs, and *dais* were enthused about their ability to help people through their work, and knowledge seemed to open up the opportunity to earn those positions.

The three MNCH research investigators had all earned MBBS degrees, the standard degree for practicing physicians in Bangladesh originating from the British educational system. The MBBS degree program in Bangladesh includes the same biomedical content as most other Western medical programs, and coursework is actually taught in English. Physicians at the Matlab Hospital wrote all their medical notes in English, and MNCH research investigators published works in English. In addition to the MBBS, one research investigator had earned a Master in Public Health (MPH) degree, while another had earned a Master of Science (MSc) in Disease Culture. While MNCH research investigators had likely read literature on local birth ideology and practices, they had not necessarily witnessed rural Bangladeshi birth practices first-hand. None claimed any substantial relationships with local *dais*.

CHRWs received training specific to their work. According to one CHRW, the initial training for the position lasted one and a half months. While ICDDR,B periodically revamps community-level maternal and child health programs in its Matlab intervention area, CHRWs have maintained their original roles of visiting home-to-home and collecting data in their designated areas. As ICDDR,B's programs have evolved to slowly incorporate more strategies for improving maternal, infant, and child health in Matlab, CHRWs have also accumulated new skills and responsibilities. In preparation for the launch of the MNCH Program, CHRWs attended several days of training to learn about the new program, counseling, and data collection. They travelled to the Institute of Child and Mother Health in Dhaka to train for Basic Essential Newborn Care. A new role that CHRWs adopted in the MNCH Program was the ability to teach HBLSS, which they learned through a three-week training. Near the end of my stay in Matlab, two MNCH research investigators were busily running two-day HBLSS trainings in the International Training Center to introduce an updated "Take Action Card" and help CHRWs transition from teaching HBLSS in four classes into two classes.

Support persons accompanied the pregnant woman to HBLSS since they would be responsible for handling unexpected complications should the mother wish to deliver at home. The complete program consisted of four classes focused on these components of childbirth: normal birth delivery skills, preventing problems after the baby is born, handling prolonged labor and referring mothers, birth asphyxia and referring the infant, and postpartum bleeding. During HBLSS, the HBLSS teachers, who were also CHRWs, encouraged attendees to choose facility birth over home birth. Aside from this common source of biomedical knowledge, which says nothing about how much support persons

actually knew since it depended on whether they attended each class, those whom we interviewed had varying levels of formal education. Half of our support person informants had attended at least one year of school. Of those four informants, the education level at which each stopped attending school was Class 1, Class 3, Class 5, and Class 8. The woman who had studied until Class 8 was our youngest informant at age 25. Younger informants were more likely to have any schooling and to progress farther in school, so education level seemed to be related (not exclusively) to age. This pattern perhaps reflects a gradual acceptance of the necessity and benefits of education for women and the general population. For those who had any schooling, they stopped attending school once they were married, based on their accounts of when they left school and when they were married.

Dais originally learned their skills by observing multiple births themselves or were taught by an active *dai*. Often the *dai* who passed on her skills was a relative, such as an aunt, mother, or sister-in-law. However, all of the *dais* whom we interviewed had attended or completed TBA trainings in the past. Again, this characteristic does not ensure equivalence of knowledge on childbirth in our sample of *dais* since TBA trainings are not universally, nationally, or regionally standardized and the number of trainings each *dai* participated in varied with our informants. However, TBA trainings were a source of biomedical knowledge, and most *dais* had participated in multiple trainings when they were offered in the past. In terms of formal education, most *dais* had never attended school. The youngest *dai* whom we interviewed, at age 48, had studied until Class 6 and specifically said that she stopped attending once she was married. Another seemingly implied that she had some schooling, but no concrete answer was found in the

transcript of her interview: "I had the ability. So, I did it. Educated people have knowledge." I could not decide whether the use of the word "educated" truly meant that she had some formal education or was only a poor translation of a word expressing her special abilities. Her age, which was in the sixties, made it unlikely that she had received any education. Another *dai*, who was 51 years old had said, "During that time, education wasn't available like nowadays," which further suggested a link between education level and age in Matlab.

The above descriptions show that types and levels of knowledge on childbirth in our informants varied by source—indigenous or biomedical, by the amount of exposure to the knowledge, and by the method that the knowledge was delivered—by didactic teaching or through observation and practical experience. Clearly, MNCH research investigators could learn indigenous birth practices, and *dais* could learn biomedical principles of birth. However, these variables in addition to prejudices and attitudes toward the opposite party would likely cause misunderstandings. Perhaps, this difference in experiences of gaining knowledge made TBA training particularly difficult for TBA trainers and *dais*: One *dai* has told us:

> In the training in Chandpur, they brought cassettes. They spoke in a mike and recorded this. They played it again and again. When we didn't understand then they wrote and tried to make it understandable to us.

An MNCH research investigator also described his past experiences as a TBA trainer:

> In 1992 -1994, I was actively involved in working with the TBAs because I trained the TBAs when I was working in BRAC. Trainings of 7 full days, we used the TBA module, we used pictures, and models, and lectures, and discussion. But it was very difficult to manage them because all the TBAs are old, and I'm like their son. And one is taking betel leaf and another is not paying attention.

Perspectives from both sides indicated a gap in mutual understanding between trainers and *dais* and during these trainings. As one support person explained, "Doctors give by

education. *Dais* are doing by their brain," underscoring the different ways in which doctors and *dais* had gained their knowledge.

Dais: Courage through knowledge

Many *dais* proudly described when they first observed a delivery and began deducing how to deliver the baby themselves from the experience. This was an auspicious moment in the lives of *dais* because after seeing their first delivery, some described gaining a sense of "courage" which motivated them to become *dais*:

> When I went to Rajshahi, at the beginning one woman told me, "I have this type of pain for two days, what should I do?" Someone said, "Call Aali's wife." I got scared.
>
> *They called you?*
> Yes. They did. I got scared. How could I do it? I knew nothing. They insisted on me to go. I went quickly. I didn't know anything. I was scared. Because if anything goes wrong, they would blame me. When I reached there, I saw the woman.
>
> *The pregnant woman?*
> Yes, and the child's head was about to come out. A little left. I went near and asked someone there, "What do I do?" She said, "If the head's out, then you can't pull it out with your hands. Then pull it with your cloth. Then I took cloth. Then she lied down, and I asked her to press. When the baby's head came out, I pulled it, and the delivery was done. I got the courage after that. This was the first time I worked as a *dai*.

While this woman's beginning as a *dai* was not necessarily a conscious personal decision, the courage she gained from the experience was important to her. She later attributed her motivation to a belief that she was more courageous than others—for example that she was not afraid to be around cholera or smallpox victims. Another *dai* described the first time that she accompanied a *dai* to a delivery and gained courage, which seemed to be an enabler for her to become a *dai*:

> Went with other *dai beti*, went, saw & heard. I got courage, and then did it. If I go with one, I will get courage, would not I? She came with you, didn't she get courage? Like that I get the guts. Then she [the *dai beti*] told me just learn it.

Virtually all *dais* looked proudly upon their practice for the knowledge they had and their ability to perform deliveries: “I have made so many children delivered. I know how they were born. I have knowledge about it.”

In addition, they enjoyed the respect and praise of their local communities. From the perspective of support persons, *dais*’ work was largely viewed as altruistic:

> This is a type of helping people. It’s virtue. She gets peace in the world after death. So, people say, no one can give return to the responsibility *dais* perform.
>
> They’ve learnt it to serve the people in their danger time. Suppose when a pregnant woman is in danger, then a *dai* can help her.

Even one CHRW described their work as virtuous, contrasting her work helping mothers and children to theirs: “This is not their job. They are saying, ‘We are doing for heaven.’ We [CHRWs] are doing a job with salaries, but they are not. They are doing virtuous work.” These opinions translated to courteous treatment of *dais* in their communities. In rural Bangladesh, a woman has few opportunities past being a housewife. *Dais* had explicitly stated helping women in need as a main motivation, but it seemed that implicitly, they also valued the status and respect that came with their work.

Chapter 8:
Ego, Reputation, and Prejudice

Colonial representations of *dais* and their legacy

As mentioned earlier, colonial powers viewed *dais* with great dis*dai*n. Of their opinions, Van Hollen (2003) wrote, "[*Dais*] are depicted as self-serving criminal agents who are rigid in their opinions and are thus obstructing progress…rural *dais* [it was felt] were rigid in their ways and a force to be reckoned with" (p. 52). According to colonialists, *dais* belonged in a separate "class," "race"—any ambiguous term representing a category—that placed them in the lower rung of society with no access to education and inherently dirty. This was partly due to the fact that *dais* did come from the lower castes of Hindu societies. Therefore, while colonialists abhorred the Hindu caste system, they used their perceptions of it to define and criticize *dais* and their work. *Dais* were characterized as "evil," "barbarous" and "meddlesome," comparable to the prejudices that midwives experienced in the Western world (Lang, 2005; Van Hollen, 2003). The accounts according to female physicians were perhaps a bit more forgiving but generalized that *dais* were ignorant, incompetent, and controlled by superstition . It was even suggested that the low status of *dais* was a colonial construct since some earlier accounts before colonialism indicated favorable impressions of *dais* (Lang, 2005).

International discourse on TBAs has evolved and become more sophisticated since the era of Imperialism. However, beliefs towards TBAs that are not validated by studies can still echo those prejudices of colonial powers from hundreds of years ago. The views towards *dais* expressed by MNCH research investigators and propagated by

some CHRWs seemed to fall into this category. Some comments were unnecessarily harsh.

Knowledge and *garima*

MNCH workers generally felt that *dais* were not knowledgeable, did not have the capabilities of handling births, and used "superstitious" indigenous practices. While knowledge was empowering to MNCH research investigators, CHRWs, and *dais*, gaining knowledge was also associated with *garima*, which could mean "ego," "pride," or "vanity." How *garima* was perceived by *dais* and support persons in MNCH workers was not brought up in interviews, but the literature indicates that education can encourage a sense of superiority in skilled workers (Van Hollen, 2003) and create a divide between the highly educated and the uneducated (Blum et al., 2006). However, both MNCH research investigators and CHRWs discussed *garima* appearing in *dais* and even support persons when they acquired more knowledge.

There was a fear among some MNCH workers that allowing *dais* to receive more obstetrical training would be counterproductive and "overempower" *dais* to believe they were able to perform home births. While many *dais* had been chosen as support persons and participated in HBLSS training, one CHRW, who would not allow *dais* to attend HBLSS trainings, said: "If they learn, they would do the delivery at home." Another CHRW said:

> We work with *dais*, but we haven't given them any priority for last three to four years. Do you know what the reason is? Because if we give priority to them they keep mothers in the house during delivery so that we try to make the *dai* understand to take mothers to hospital we tell them don't take any risk…We don't to give any responsibilities to TBA as a support person, because, if they get responsibilities they want to deliver the baby at home.

However, CHRWs' involvement with local *dais* seemed to be determined by the individual CHRW. Some mentioned working with *dais*, and a CHRW emphasized the need for *dais* to take the HBLSS training to avoid risky practices in the future. According to this CHRW, *dais* in her area recognized the five danger signs of mothers (probably a component of MNCH interventions) and complication management. The opinions of CHRWs towards training *dais* seemed to represent the two extremes. On one hand, training could make them excessively egotistical about their abilities. On the other hand, *dais* were learning their mistakes and improving their skills through increased training.

MNCH workers also saw *dais* practices as superstitious and static and credited *dais* with little ability to learn. When asked whether *dais* participated in HBLSS, one CHRW responded, "What would they do? What would they understand?" Later, we asked the same CHRW whether *dais* could be a part of the MNCH Program. She said that she could pay them to inform her when they were called for a delivery, and that during postnatal house calls, she would be willing to pay *dais* to carry her bags and her scale! One other CHRW said, "If they will do the work according to our instruction, then *dais* are necessary to us. Otherwise, they are useless."

Another common belief among MNCH workers was that *dais* valued the material benefits of their work over the welfare of their patients and were willing to put them at risk for the potential material gains. One CHRW recounted, "When we tell them to go to the hospital, then they think they have no profit in going there. If they do the delivery in the home, they get food, money, and cloth. It is their opinion." She implied that *dais*' personal interests were in material incentives. Because of the mentality that *dais* highly valued incentives, CHRWs, who were the only MNCH workers to have any ideas

towards integrating *dais* in ICDDR,B programs, generally proposed new roles for current *dais* with a financial incentive system. However, this approach seemed to miss the importance of pride and social value in the *dai* practice.

On the ground, these negative beliefs towards *dais* were spread by CHRWs and influenced the policies of the MNCH Program, which was directed by research investigators. Some CHRWs' general impressions of *dais* and home birth also showed rather negative perceptions of their skills and continued use of risky indigenous delivery practices. One CHRW claimed that after taking HBLSS training with her, no one would want to seek a *dai* again. Another CHRW explained:

> We don't give the *dais* any chance for delivering the baby. We don't given them any importance…In my area, I tell the mother that "you're baby's life depends on the *dai*'s hands. If the *dai* doesn't deliver the baby properly, then the baby would have problems. So your baby would be a burden of yours for your whole life. Do you want it?" I talk to them in this manner…If there is no one to deliver a baby in the home, then I would go to this house for delivering a baby. But I don't place the responsibility in *dais*' hands.

Yet, not all MNCH workers disdained *dais*. One CHRW said that she told *dais*, "Don't take the risk to deliver at home. Bring them to the hospital. Because you have no tools in your hand. You don't have any medicine with you," which suggested that she attributed the cause of problems in home births partly to structural restrictions rather than placing blame on *dais*' innate abilities.

However, the most controversial beliefs that MNCH workers shared were ideas of the *dai* as a passive barrier to the MNCH Program's goals and an active obstruction working against those goals. One CHRW said, "I believe that they know nothing…They tell the mothers not to go to the hospital. As soon as the woman is seven months pregnant, that time the *dai* tracks them and tells the father-in-law not to go to the hospital," even though she credited current biomedical practices used by *dais* to

education from herself and her colleagues. Another CHRW also believed *dais* approached pregnant women to accept their services instead of patients seeking that *dai*. However, one CHRW, who seemed fairly involved with the *dais* in her area, thought that they were not resentful over the decreased demand for their services: "They [*dais*] would never say, 'Why didn't you call me? I know how to do it.'"

While dais and support persons did not make any comments about ego or reputation related to ICDDR,B, it is possible that these forces influence the policies of ICDDR,B. One indication of prejudice toward *dais* in MNCH policies was observed in the diverging ways in which perceived sources of resistance, males and *dais*, were addressed. While males received additional attention from the MNCH workers because they were viewed as barriers to MNCH goals, dais are excluded and ignored despite also being viewed as barriers. One MNCH research investigator said:

> My perception is that the TBA is the barrier to conducting safe deliveries or increasing institutional delivery, and I think in any maternal health program, they should be excluded, like in the MNCH Program. There should be more support for the support person because it is very difficult to break their [the TBAs'] beliefs.

This comment is quite similar to the prejudiced colonial perceptions of *dais*.

As the only institution of its type in a developing nation, ICDDR,B also must maintain a reputation at the international level. Consequently, when international agencies, such as the WHO, makes recommendations, ICDDR,B can feel a pressure to comply. Support for *dais* can be perceived as a backwards strategy and noncompliant to the recommendations of international experts. This personal belief is harder to prove, but experts have commented on the power that the WHO has to influence policies on TBAs despite indications that countries did not always share their opinions (Fleming, 1994). While the international community lauds the achievements of ICDDR,B, some of its

strongest criticism has come from Bangladeshis. These sources are often online blogs and do not have the respect of formal publications, but the intentions of ICDDR,B have been questioned—for example, the fact that an ICDDR,B has not had a Bangladeshi director in decades. A heated media battle similar to the previously mentioned one between TBA supporters and critics occurred in the Daily Star, the most widely distributed Bangladeshi newspaper, between a Bangladeshi ICDDR,B critic and the executive director of ICDDR,B (Khan, 2006). In addition, a professor of Jawaharlal Nehru University had responded to the debate on TBAs in *D+C* magazine saying:

> This [debate] came at a time when the grip by uninformed foreign personnel has become tighter still after the notorious imposition of structural adjustment and globalization by IMF, World Bank and their lackeys who wield considerable power. These children of European Renaissance have moved far away from scientific approaches.
>
> (Banerji, 2009, p.174)

These criticisms coming from South Asians suggest that institutions like ICDDR,B may have a conflict of interest in maintaining an international reputation, with the conflict often being between international and local perspectives.

Reputation, biomedical knowledge, and skills in *dais*

Dais seemed aware of the social value placed on biomedical knowledge as most claimed that they were willing to receive more training or to work for ICDDR,B. *Dais* felt ignored by ICDDR,B and the MNCH Program:

> If they give me delivery work, then I'll do it. But it's disappointing for us that they don't inform us to participate.
>
> They do not take me in with them. There are other *dais* also, but they do not take them.
>
> I am a bother to the women who are working for MNCH.

Furthermore, *dais* expressed an interest in participating in trainings and other educational activities: “Trainings increase our knowledge and interest. So it is very disappointing that they have various activities without informing us.”

While ICDDR,B policies ostracized local *dais*, it did not seem to discourage *dais* from desiring work or trainings from ICDDR,B nor did they share any ill feelings toward ICDDR,B. The reputation of a *dai* was related to the amount of TBA training and use of biomedical practices, which laywomen were much more aware of after exposure to MNCH interventions. Support persons’ perceptions of the authorities on childbirth often began with the figure who had the most biomedical knowledge, a doctor. The significance of biomedical knowledge in the general population was gleaned from interviews with support persons because they best exemplified the laypersons of Matlab. When asked whether community members listened to *dais* for advice, one support person responded: “Why should community members? They are educated. They can see papers… Pregnant women do as the female doctors say to them to do. Why would they listen to *dais*? They listen to doctors.” Another support person said that while some residents followed the word of *dais*, such as food advice, the suggestions of hospital staff were preferred.

In general, level of knowledge was a marker of the reputation a *dai* was and a deciding factor when choosing which *dai* to call. When asked whether there existed good and bad *dais*, one support person said, “Everybody tries to be good. Can it be said why they are different? The reason may be lack of knowledge or something.” Her comment suggested that there was a substantial amount of information that a *dai* could learn. Therefore level of knowledge was a way to differentiate *dais* from each other.

Specifically, indicators of biomedical knowledge were noticed by support persons when evaluating *dais*:

> They say this *dai* is good. She uses gloves. Those who use gloves during delivery are good. Those village *dais* don't use gloves. Shahanara is a trained *dai* of the hospital. So, people call her. Are trained and sensible. Now people don't call those [village] *dais* to attend birth, what we did in the past.
>
> If the *dai* works according to the doctor's directions, then everybody calls her.

They also mentioned the importance of choosing a trained *dai* over an untrained *dai*. Support persons seemed to be conscious of which *dais* in their community were trained. Another indication of past training according to a CHRW was whether the *dai* had her own delivery kit. She mentioned that a *dai* in her area who had received TBA training from the government and ICDDR,B owned a bag with delivery kits and contrasted this with untrained *dais* who she characterized as never bringing their own delivery kits. However, one problem with using ownership of delivery kits as an indicator was that trained *dais* did not necessarily have any ways to replenish their supply of kits after TBA training was discarded for skilled attendance. One *dai* talked about receiving supplies with every training she attended and lamented that her supplies had been used up.

The reputation of a *dai* also depended heavily on the outcome of the mother and infant. One CHRW explained, "If the baby is well after delivery, then it is told that credit goes towards the *dai*, but if it happened opposite, then discredit goes to the *dai*." Hence, *dais*' reputations were at stake if they encountered and mismanaged a complicated birth. Alluding to episiotomies being performed at facilities, another CHRW said, "If you couldn't cut and tear properly, then you couldn't deliver the baby, and you would be responsible for it. Then nobody would call you for delivering a baby. Nobody would show you respect."

Consequently, *dais* were cautious of potential complications in home births. *Dais* saw limitations to their abilities and seemed to respect these perceived limitations. Many did not want their reputations to be tainted by maternal or neonatal deaths, which is one reason why they were willing to refer births with complications. According to one *dai*:

> If a baby or mother dies, then I'll be responsible for that. For this reason, when we notice that the condition of the mother become intricate, we hospitalize the patient. The cost of the hospital will be paid by the patient's husband. It doesn't matter to me.

Her explanation indicated a concern for her reputation and gave the impression that referring the mother to a facility had no effect on her reputation. Furthermore, her comment suggested that she performed some variation of a cost-benefit analysis to determine whether she should perform the delivery. While cost focused on the effects of a delivery on her reputation, this factor is directly determined by the health status of both mother and newborn. Perhaps the presence of facility birth has allowed *dais* to be more selective with which deliveries they perform as this affects their social value.

Chapter 9:
Conclusion

The Future of Maternal Health in Matlab: Considerations and implications of the beliefs and policies of the MNCH Program

The motivation of *dais* was highly rooted in their perceptions of their work as helping women in need and the respect and treatment they garnered from their local community as a result of positive local perceptions of their work. In rural Bangladesh, a woman has few opportunities to become anything besides a housewife, especially if she has no secondary education; hence, prestige is elusive for rural Bangladeshi females. Since women were not expected to gain financial value, women were free to pursue activities to generate social value. *Dais* also took pride in their work and abilities, which engendered a feeling of empowerment that many women in their communities never experience. Knowledge and practical experience were seen as enablers to their practice. Those who were trained valued the biomedical knowledge they received and were eager to receive more training from ICDDR,B or other organizations.

Dais' satisfaction with their general ability to save mothers and infants had the same ideological foundations as the motivations of MNCH research investigators and CHRWs but not those of support persons, whose concerns were narrower. Their genuine desire to help community members was confirmed by most support persons' and some CHRWs' opinions of *dais*. The lack of financial security from the practice was expressed by *dais*, support persons, and CHRWs. In addition to satisfaction through the nature of their practice, *dais* enjoyed respect and favorable treatment from community members because of their reputation as *dais*. Although *dais* were not considered authorities for

health advice, they were seen positively as virtuous and providing a service for the good of the community. Their reputation among community members, however, was also contingent on signs of biomedical knowledge, amount of formal training, and the absence of immediate adverse birth outcomes in the deliveries they performed. Problems arising after the immediate postnatal period were not their responsibility.

TBAs have often become the scapegoat for the failures of Safe Motherhood, but portraying TBAs as obstacles to decreasing maternal mortality implies that they have some superpower to counteract the efforts and resources of NGOs, governments, and international agencies. The evaluation of *dais* as barriers to MNCH services and goals was suggested (sometimes explicitly) by MNCH workers. However, there were no signs that *dais* were against ICDDR,B's initiatives, except when requested by the patient or family. Therefore, while ICDDR,B's policies have ignored *dais*, and they were well aware of this animosity, *dais* were not opposed to facility birth nor did they harbor any negative feelings towards ICDDR,B. In fact, all able-bodied *dais* wanted more involvement with ICDDR,B's work.

Unfortunately, from the point of view of MNCH research investigators, *dais* could not be integrated into the MNCH Program. This consensus came as a surprise to me since it had been suggested in the planning stages of this study that ICDDR,B would possibly work with *dais* to refer pregnant women to their facilities. Opinions of *dais* from MNCH research investigators were quite harsh and echoed colonial beliefs. They saw *dais* as unable to change their ways and working for personal benefits. Perhaps I am being naïve or optimistic, but the idea that a *dai* would keep a woman experiencing difficult labor at home and risk her life for food or clothes seems ridiculous to me. *Dais*,

like any other rural Bangladeshi, are integrated into their communities. They know the women whom they help, and it is probable that they value their relationships with their patients as fellow community members more than the small and inconsistent material benefits they gain by practicing. What they do value is the respect that they garner from their local community, and that respect is closely tied to how they perform as *dais*. Interviews with *dais* showed that *dais* referred and even accompanied women with difficult deliveries to facilities, and one even alluded to cost-benefit analysis when deciding whether to refer women with the emphasis on adverse home birth outcomes as costs to their social value. Therefore, the conflict of interest from potential material incentives that MNCH workers often cited seems weak. Because they have relationships with the mothers they care for, because they understand how immediate outcomes of home births influence their reputations, and because they take pride in their abilities to save lives, it would make sense that *dais* prioritize the health of mother and baby. Even in the colonial era, *dais* were viewed as working to save lives (Lang, 2005). Therefore, their motivations actually seem to resonate with those of CHRWs and MNCH research investigators, yet these individuals tend to be their greatest critics. Additionally, it is not impossible that conflicts of interest could exist among ICDDR,B and its workers, as seen with my experience meeting a diarrhoeal disease doctor in the Matlab Hospital and critiques of ICDDR,B from South Asian natives.

Furthermore, the work that ICDDR,B has done in its intervention area of Matlab also raises important ethical considerations about global public health and its role at the local level in communities all over the world. What power do NGOs and international agencies have in governing healthcare strategies? Beyond the duty of increasing

awareness to empower community members, what power should institutions have to control "deviants" to their policies? ICDDR,B seems to have no legal power to control residents, but it has demonstrated that it can change social norms and may have the power to phase *dais* out of Matlab.

There are many considerations in moving childbirth from the home to the hospital, including whether a woman is fully aware of her reproductive choices. If she makes a decision without understanding the range of options available to her, it is considered a violation of reproductive rights. However, there will eventually be a point in which women are aware of their choices. As demonstrated in this study, a number of considerations may be involving in the decision-making process between facility and home birth. Presently, some families may choose the facility and others the home. ICDDR,B's policies have drastically decreased the demand for *dais* and ostracized them from the formal healthcare sector. In the future, this could mean that fewer *dais* exist, and the accessibility of home birth becomes almost impossible. If facility birth becomes hegemonic in Matlab, there can be negative repercussions. Furthermore, one could say that the MNCH Program's social marketing is a violation of reproductive rights, as it is heavily biased.

At the same time, the services that the MNCH Program provides have greatly increased options throughout a woman's pregnancy. Before ICDDR,B's presence, the only option was home birth, and complications were viewed as fatalistic. Therefore, childbirth was viewed generally as a dangerous act without awareness of the specific risks involved. Through facility care and educational activities such as HBLSS training, ICDDR,B has raised awareness toward obstetric complications and empowered local

women to feel capable of handling complications through the availability of the facility or through skills that they learned in HBLSS training.

In addition, the MNCH Program's interventions have kept the *dai* practice in check. Our interviews showed *dais* adopting biomedical birth practices, such as washing their hands before delivery and abandoning risky indigenous methods. *Dais* have made changes to their birth practices according to information distributed by ICCDR,B. I was apprehensive about *dais* thinking that I was an ICCDR,B employee and censoring their answers as a result, but regardless of the validity of their words, discussions of safe delivery methods shows that *dais* are aware of the goals of ICDDR,B despite the poor interaction between the two parties. It is likely that *dais* try to conform to the practices promoted by the ICDDR,B because of the greater respect a *dai* who adopts biomedical practices receives from her community. Indicators of biomedical knowledge as perceived by laypersons come partly from increased exposure to biomedicine through HBLSS training and first-hand experiences of facility birth. Therefore, among *dais,* a desire to change their practices and improve one's skills was, to a degree, influenced by ICDDR,B's MNCH initiatives.

If *dais* disappear and no alternative option for childbirth in Matlab remains, some of the needs of pregnant women go unanswered, and no system will be able to counter biomedical birth. As of now, MNCH staff work hard because of a perceived threat from *dais*. Will this complex system dependant on the dedication of its workers run just as well once the threat of *dais* disappears? ICDDR,B cites studies of the progress made by the facility birth strategy, but can it be that different societies have distinct perceptions and indigenous practices toward childbirth that make one universal model implausible? A

medically plural health system in this case could solve some of the proposed issues and allow residents to have a choice. In this system, a *dai* would be able to maintain her original role. Both home birth and facility birth would be required to perform at a high level to ensure the satisfaction of Matlab women.

At the very least, MNCH workers need to reach out to *dais* in Matlab and learn more about them since MNCH employee's opinions of *dais* seemed prejudiced, outdated, and pressured by international constructs of TBAs. Another respectable Bangladeshi NGO, BRAC, has continued to work with TBAs after it ceased TBA trainings. In addition, perhaps ICDDR,B should note that community involvement is now advocated by the WHO, including cooperation with TBAs (Santarelli, 2010).

Recommendations

- Universal availability of skilled attendance is not likely to occur in the near future. In areas where TBAs are currently prevalent and active, more rigorous research studies need to be conducted. The results of these studies should not be pooled together to create a single international recommendation but rather they should be assessed to create a guide of significant factors that influence the effectiveness of supporting local TBAs to help policymakers rationalize whether TBA involvement would be beneficial.
- The MNCH Program may benefit from an ethnographic study on the *dais* of Matlab to understand their current practices. *Dais* will also look favorably upon any outreach from ICDDR,B. If a medically plural system of birth is not adopted, it is still highly advisable for ICDDR,B to work with *dais* at the community level since they can learn new practices, and based on their motivations to practice, would welcome such training.

- The effectiveness of the support person method in MNCH policies should be evaluated since ICDDR,B invests heavily in them, and this study found signs of issues associated with the use of support persons.

References

Afsana, K., & Rashid, S. F. (2001). The challenges of meeting rural Bangladeshi women's needs in delivery care. *Reproductive Health Matters, 9*(18), 79-89.

Afsana, K., & Rashid, S. F. (2009). Constructions of birth in Bangladesh. In H. Selin & P. K. Stone (Eds.), *Childbirth across cultures: Ideas and practices of pregnancy, childbirth and the postpartum* (1 ed., pp. 123-135). Dordrecht: Springer.

Ahmed, T., & Jakaria, S. M. (2009). Community-based skilled birth attendants in Bangladesh: Attending deliveries at home. *Reproductive Health Matters, 17*(33), 45-50.

Banerji, D. (2009). Uninformed foreign personnel. *Development and Cooperation (D+C), 50*(4), 174.

Barnett, S., Azad, K., Barua, S., Mridha, M., Abrar, M., Rego, A., et al. (2006). Maternal and newborn-care practices during pregnancy, childbirth, and the postnatal period: A comparison in three rural districts in Bangladesh. *Journal of Health, Population, and Nutrition, 24*(4), 394-402.

Bhuiyan, A. B., Mukherjee, S., Acharya, S., Haider, S. J., & Begum, F. (2005). Evaluation of a skilled birth attendant pilot training program in Bangladesh. *International Journal of Gynecology & Obstetrics, 90*(1), 56-60.

Blanchet, T. (1984). *Women, pollution, and marginality: Meanings and rituals of birth in rural Bangladesh*. Dhaka: The University Press Limited.

Blum, L. S., Sharmin, T., & Ronsmans, C. (2006). Attending home vs. clinic-based deliveries: Perspectives of skilled birth attendants in Matlab, Bangladesh. *Reproductive Health Matters, 14*(27), 51-60.

Borghi, J., Sabina, N., Blum, L. S., Hoque, M. E., & Ronsmans, C. (2006). Household costs of healthcare during pregnancy, delivery, and the postpartum period: A case study from Matlab, Bangladesh. *Journal of Health and Populational Nutrition, 24*(4), 446-455.

Bullough, C., Msuku, R., & Karonde, L. (1989). Early suckling and postpartum haemorrhage: Controlled trial in deliveries by traditional birth attendants. *The Lancet, 2*, 522-525.

Butler, S. (2008). *Bangladesh* (6 ed.). Victoria: Lonely Planet

Chaudhury, R. H., & Chowdhury, Z. (2008a). Maternal Mortality in Rural Bangladesh: Lessons Learned from Gonoshasthaya Kendra Programme Villages. *Asia-Pacific Population Journal, 23*(1), 55-78.

Chaudhury, R. H., & Chowdhury, Z. (2008b). Realistic aspirations for Bangladesh. *Development and Cooperation (D+C), 49*(9).

Chaudhury, R. H., & Chowdhury, Z. (2009). In defense of traditional birth attendants. *Development and Cooperation (D+C), 50*(2).

Chowdhury, A. M. R. (2007). Rethinking interventions for women's health. *The Lancet, 370*(9595), 1292-1293.

Chowdhury, M. E., Botlero, R., Koblinsky, M., Saha, S. K., Dieltiens, G., & Ronsmans, C. (2007). Determinants of reduction in maternal mortality in Matlab, Bangladesh: A 30-year cohort study. *The Lancet, 370*(9595), 1320-1328.

Chowdhury, M. E., Ronsmans, C., Killewo, J., Anwar, I., Gausia, K., Das-Gupta, S., et al. (2006). Equity in use of home-based or facility-based skilled obstetric care in rural Bangladesh: An observational study. *The Lancet, 367*(9507), 327-332.

Cueto, M. (2004). The origins of primary health care and selective primary health care. *American Journal of Public Health, 94*(11), 1864-1874.

Davis-Floyd, R. E. (1993). *Birth as an American rite of passage*. Berkeley: University of California Press.

Davis-Floyd, R. E. (1994). The technocratic body: American childbirth as cultural expression. *Social Science and Medicine, 38*(8), 1125-1140.

De Brouwere, V., Tonglet, R., & Van Lerberghe, W. (1998). Strategies for reducing maternal mortality in developing countries: What can we learn from the history of the industrialized West? *Tropical Medicine & International Health, 3*(10), 771-782.

Fathalla, M. F. (2006). Human rights aspects of safe motherhood. *Best Practice & Research Clinical Obstetrics & Gynaecology, 20*(3), 409-419.

Fleming, J. R. (1994). What in the world is being done about TBAs? an overview of international and national attitudes to traditional birth attendants. *Midwifery, 10*(3), 142-147.

Foster, J., Anderson, A., Houston, J., & Doe-Simkins, M. (2004). A report of a midwifery model for training traditional midwives in Guatemala. *Midwifery*, *20*(3), 217-225.

Freeman, M., & Motsei, M. (1992). Planning health care in South Africa: Is there a role for traditional healers? *Social Science & Medicine, 34*(11), 1183-1190.

Gatrad, A. R., & Sheikh, A. (2001). Muslim birth customs. *Archives of Disease in Childhood - Fetal Neonatal Edition, 84*(1), F6-8.

Gayen, K., & Raeside, R. (2007). Social networks, normative influence and health delivery in rural Bangladesh. *Social Science and Medicine*, *65*(5), 900-914.

Goodburn, E. A., Chowdhury, M., Gazi, R., Marshall, T., & Graham, W. (2000). Training traditional birth attendants in clean delivery does not prevent postpartum infection. *Health Policy and Planning, 15*(4), 394-399.

Gregg, J. (2003). *Virtually virgins: Sexual strategies and cervical cancer in Recife, Brazil*. Palo Alto: Stanford University Press.

Harris, M. S., & Lloyd, E. (Eds.). (2001) Countries and their cultures (Vols. 1). New York: Macmillian Reference USA.

Harvey, S. A., Blandón, Y. C. W., McCaw-Binns, A., Sandino, I., Urbina, L., Rodríguez, C., et al. (2007). Are skilled birth attendants really skilled? A measurement method, some disturbing results and a potential way forward. *Bulletin of the World Health Organization, 85*(10), 783-790.

Hogan, M. C., Foreman, K. J., Naghavi, M., Ahn, S. Y., Wang, M., Makela, S. M., et al. (2010). Maternal mortality for 181 countries, 1980-2008: A systematic analysis of progress towards Millenium Development Goal 5 [Electronic Version]. *The Lancet*. Retrieved April 14, 2010 from www.thelancet.com.

Houssain, Z., Ripon, F., & Chowdury, J. (2000). Promotion of Breastfeeding: An operations research on traditional birth attendants (TBA) and village doctors. Unpublished report. Development Support Services.

Hruschka, D. J., Sibley, L. M., Kalim, N., & Edmonds, J. K. (2008). When there is more than one answer key: Cultural theories of postpartum hemorrhage in Matlab, Bangladesh. *Field Methods, 20*(4), 315-337.

ICDDRB. (2009a). A brief history of ICDDR,B. *Publications* Retrieved July 16, 2009, from www.icddrb.org

ICDDRB. (2009b). History. *Publications* Retrieved July 16, 2009, from www.icddrb.org

Islam, S. (1981). *Indigenous abortion practitioners in rural Bangladesh*. Dhaka: Women for Women.

Jeffery, P., Jeffery, R., & Lyon, A. (1989). *Labour pains and labour power: Women and childbearing in India*. London: Zed Books Ltd.

Jokhio, A., Winter, H., & Cheng, K. (2005). An intervention involving traditional birth attendants and perinatal and maternal mortality in Pakistan. *New England Journal of Medicine, 352*(20), 2091-2098.

Kamal, I. T. (1998). The traditional birth attendant: A reality and a challenge. *International Journal of Gynecology and Obstetrics, 63*(Supplement 1), S43-S52.

Khan, M. A. (2006). A report on ICDDRB anomalies in recruitment, failings in research publications [Electronic Version]. *Megh Barta*. Retrieved April 12, 2010 from http://www.meghbarta.org/nws/nw_main_p02b.php?issueId=6&sectionId=30&articleId=145.

Kruske, S., & Barclay, L. (2004). Effect of shifting policies on traditional birth attendant training. *Journal of Midwifery and Women's Health, 49*(4), 306-311.

Lang, S. (2005). Drop the demon *dai*: Maternal mortality and the state in colonial Madras, 1840-1875. *Social History of Medicine, 18*(3), 357-378.

Lefèber, Y. (1994). *Midwives without training: Practices and beliefs of traditional birth attendants*. Assen: Van Gorcum.

Lefèber, Y., & Voorhoever, H. (1997). Practices and beliefs of traditional birth attendants: Lessons for obstetrics in the north? *Tropical Medicine and International Health, 2*(12), 1175-1179.

Lodrick, D. (Ed.) (1998a) Worldmark encyclopedia of cultures and daily life (Vols. 3: Asia and Oceania). Detroit: Gale Research.

Lodrick, D. (Ed.) (1998b) Worldmark encyclopedia of cultures and daily life (Vols. 3: Asia and Oceania). Detroit: Gale Research.

Mangay-Maglacas, A., & Pizurki, H. (1981). *The traditional birth attendant in seven countries*. Geneva: World Health Organization.

Maternal & Neonatal Health Program. (2002). *The traditional birth attendant: Linking communities and services*. Washington, DC: US Agency for International Development.

MNCH Program. (2006). Birthing practices of Matlab TBAs and TTBAs. Matlab: ICDDR,B.

Murakami, I., Egami, Y., Jimba, M., & Wakai, S. (2003). Training of skilled birth attendants in Bangladesh. *The Lancet, 362*(9399), 1940-1940.

Nichter, M. (2008). *Global health: Why cultural perceptions, social representations, and biopolitics matter*. Tucson: University of Arizona Press.

O'Rourke, K. (1994). The effect of a traditional birth attendant training program on obstetrical practices and perinatal mortality in rural Guatemala. Unpublished dissertation. University of Massachusetts.

Paul, B. K., & Rumsey, D. J. (2002). Utilization of health facilities and trained birth attendants for childbirth in rural Bangladesh: An empirical study. *Social Science and Medicine, 54*(12), 1755-1765.

Recent history (Bangladesh). (2010). (2010). In *Europa world online*. London: Routledge.

Rosenfield, A., & Maine, D. (1985). Maternal mortality-a neglected tragedy : Where is the M in MCH? *The Lancet, 326*(8446), 83-85.

Rozario, S. (1995). *Dai* and midwives: The renegotiation of the status of birth attendants in contemporary Bangladesh. In J. H. Roberts & C. Vlassoff (Eds.), *The female client and the health-care provider* (pp. 172). Ottowa: International Development Research Centre.

Rozario, S. (1998). The *dai* and the doctor: Discourses on women's reproductive health in rural Bangladesh. In K. Ram & M. Jolly (Eds.), *Maternities and modernities: Colonial and postcolonial experiences in Asia and the Pacific* (pp. 144-176). Cambridge: Cambridge University Press.

Rozario, S. (2002). The healer on the margins: The *dai* in rural Bangladesh. In S. Rozario & G. Samuel (Eds.), *Daughters of Hariti: Childbirth and female healers in South and Southeast Asia* (pp. 130-146). London: Routledge.

Samuel, G. (2002). Introduction: The daughters of Hariti today. In S. Rozario & G. Samuel (Eds.), *Daughters of Hariti: Childbirth and female healers in South and Southeast Asia* (pp. 1-34). London: Routledge.

Santarelli, C. (2010). *Working with individuals, families, and communities to improve maternal and newborn health*. Geneva: World Health Organization.

Sargent, C. F., & Brettell, C. (1995). *Gender and health: An international perspective*. Upper Saddle River: Prentice Hall.

Sibley, L. M., Sipe, T. A., Brown, C. M., Diallo, M. M., McNatt, K., & Habarta, N. (2007). Traditional birth attendant training for improving health behaviours and pregnancy outcomes. *Cochrane Database of Systematic Reviews*(3).

Sibley, L. M., Sipe, T. A., & Koblinsky, M. (2004a). Does traditional birth attendant training improve referral of women with obstetric complications: A review of the evidence. *Social Science and Medicine, 59*(8), 1757-1768.

Sibley, L. M., Sipe, T. A., & Koblinsky, M. (2004b). Does traditional birth attendant training increase use of antenatal care? A review of the evidence. *Journal of Midwifery and Women's Health, 49*(4), 298-305.

Sibley, L. M., & Snipe, T. A. (2006). Transition to skilled birth attendance: Is there a future role for trained traditional birth attendants? *Journal of Health, Population and Nutrition 24*(4), 472-478.

Smillie, I. (2009). *Freedom from want: The remarkable sucess story of BRAC, the global grassroots organization that's winning the fight against poverty*. Sterling: Kumarian Press.

Starrs, A. (1997). *The Safe Motherhood action agenda: Priorities for the next decade*. Paper presented at the Report on the Safe Motherhood Technical Consultation.

Starrs, A. M. (2006). Safe Motherhood Initiative: 20 years and counting. *The Lancet*, pp. 1130-1132.

Stephens, C. (1992). Training urban traditional birth attendants: Balancing international policy and local reality : Preliminary evidence from the slums of India on the

attitudes and practice of clients and practitioners. *Social Science & Medicine, 35*(6), 811-817.

Thakrar, D., Das, R., & Sheikh, A. (2008). *Caring for Hindu patients*. Oxford: Radcliffe Publishing.

Van Hollen, C. (2003). *Birth on the threshold: Childbirth and modernity in South India* (1 ed.). Berkeley: University of California Press.

WHO. (1992). *Traditional birth attendants: A joint WHO/UNICEF/UNFPA statement*. Geneva: World Health Organization.

WHO. (2005). *The world health report 2005: Make every mother and child count*. Geneva: World Health Organization.

WHO, ICM, & FIGO. (2004). *Making Pregnancy Safer: The critical role of the skilled attendant*. Geneva: World Health Organization.

Wickens, G. E. (1998). *Ecophysiology of economic plants in arid and semi-arid lands*. Berlin: Springer-Verlag.

Appendix A
Interview Questionnaires

i. *Dais*

Respondent ID:
Location:
Date:

1. Demographic information:
Sex:
Age/DOB:
Highest level of education:
Occupation:
Marital status:
(if married) occupation of husband:
Block residence:
Duration of residence:
Past residence locations:

2. Job Description:
Are you currently working as a *dai*? If yes, when was your last delivery?
How long have you been [or were you] active as a *dai*?
How many births have you assisted in the past month or past year?
Do you have any idea how many births you have assisted in your lifetime?
Have any of them resulted in infant deaths, during or after the delivery?
Do you record how many births you assist? How do you record it?
Are there periods of time each year that you are busier or times each year that you assist in fewer births? Why?
How did you become a *dai*? Who did you learn your skills from?
Why did you become a *dai*?
Is this the same reason that other women become *dais*?
Wha is your relationship with the mothers you assist? How do you usually know them?
Have you attended any trainings? How many? Which ones? When? Who ran them? Did you complete each of these trainings?
Are *dais* paid and how much?
Is the amount satisfactory for you?
How do community members treat *dais*? Well or badly, and why?

3. Pregnancy Scenario:
If I were pregnant, when would you first hear from me if I wanted you to deliver the baby?
Who would contact you?
Why would they choose you?
How often would I see you before the delivery? When during my pregnancy?
What would we talk about during those appointments? Would you examine me?
On the day of the delivery, when would I call you (at the beginning of labor, the middle of labor, or right before the baby is born)?
How would I contact you?
What would you do before you came to my house?
Do you bring anything with you for delivery?

4. Delivery Complications:
What do you do to prepare for possible complications before delivery?
What do you do when there is a complication during the delivery?

Wha do you do when the woman's labour is prolonged?
What do you do with a retained placenta (after-birth)?
Have you referred women to a facility for any reason? Why or why not? For what reasons?

5. Transition and Changes:
Have you noticed any changes in your job experience as a *dai* in the last 2 years? In the last 5 years?
Have you noticed a change in the number of women requesting your services (if participant is active)?
More women are now choosing to deliver in a facility. Have you noticed this?
Has this change affected your role in the community?
Do you feel the way community members treat you has changed?
Why do you think they choose faiclity birth over home birth?
What are benefits to delivering at a facility?
What are benefits to delivering at home?
Do you believe *dais* will always be needed in the community? For what reasons?

6. MNCH Programme:
What are your thoughts on the MNCH programme? Do people inform you about the programme? What have you heard about it?
Has the programme affected your practice? If yes, how have you adapted to any changes?
Can *dais* be a part of government and ICDDRB's maternal health programs and how?
Would you like to be included in the MNCH programme?
Do other *dais* feel the same?
In your opinion, how could you participate/take part in the MNCH programme?
Would you be willing to refer women to facilities?
What incentives would you suggest to refer women?

7. HBLSS
What do you know about the HBLSS programme?
What are your opinions on the programme?
How do you feel about not being involved with the HBLSS programme?
Have you ever participated in the programme?
If "yes": How did you get into the programme?
Why did you do it?

8. Support Persons (SP) and Birth Team
Do you already know the SP before the delivery?
Do you meet with the SP before the delivery?
What is the relationship between the SP and the *dai* during delivery?
Do the SP and *dai* ever disagree during the delivery?
What happens when they disagree?
Does the SP have any ability to intervene and/or modify *dai*'s behaviors/practices?
Have you ever had trouble with an SP and why?
What is the role of the SP—only for the newborn—or also for the mother?
What is the role of the birth team?
How does the birth team interact with the *dai* during delivery?

ii. Support Persons

Respondent ID:
Date:
Location:

1. Demographic Info
Sex:
Age/DOB:
Relationship to mother:

Proximity to mother's home:
Highest level of education:
Occupation:
Marital status:
(if married) occupation of husband:
Block residence:
Duration of residence:
Past residence locations:

2. Job Information
For the birth this year in which you were the support person, how do you know the mother?
Were you present at the birth?
How is the support person for a pregnancy picked?
What is your role during delivery? For the baby? For the mother?
Are you responsible for anything before the delivery? What?
What makes the support person important during the delivery?
Do you receive compensation for assisting the delivery?

3. Facility vs. Home Birth
Who chooses whether the mother gives birth at home or at a hospital? When is this decided?
Why do some mothers give birth at home instead of at the hospital?
Are you aware that mothers receive free care at hospitals? Is this enough to convince mothers to deliver in hospitals?
What are additional costs a mother will incur by delivering at a hospital?

4. HBLSS
Have you completed the HBLSS course? Who did you take the course through?
    If "no": Why not?
How long ago did you participate in it?
What are your thoughts on the HBLSS course? Did you find it useful?
Did you understand everything?
Do you remember what they taught you?

5a. Dais—General
Have you worked with *dais* before? Do you have any thoughts on your experience with the *dai*?
Why do women become *dais*?
How does the community treat them? Well, indifferently, or badly, and why?
Do community members have any opinions on *dais*?
Are *dais* paid for their work?
Who calls the *dai* during the delivery? How and when do they call her?
Is there a relationship between the *dai* and the mother? Are they related?
What does the *dai* do during delivery?
Does she have any responsibilities before the delivery?
Does the *dai* have the most control over the delivery?
Are they still seen as authorities on maternal care in the community?
Who else can be authorities on maternal care?

5b. Dais—Relationship with SP
During delivery, what is your relationship with the *dai*?
Do you already know her before the delivery?
Do you talk to her before delivery?
Are you willing to work with any *dai*?
Are some *dais* better than others? Why?
Have you ever disagreed with a *dai*?
    If "yes" to above: What did you do when you disagreed? Why?
    If "no" to above: What would happen if you did disagree with the *dai*?

Do you have any ability to intervene and/or modify *dais*' behaviors or practices?
If the *dai* were to attempt to do something that went against HBLSS practices, would you allow her to continue or tell her to stop?
Has a *dai* ever done or attempted to do something that goes against what you learned in HBLSS? If so, what did you do?
Have other friends of yours who have provided support during deliveries ever disagreed with a *dai*? What did they do?
Has the mother or her family ever disagreed with the *dai*? What happened?

iii. Community Health Research Workers (CHRWs)

The terms "TBA" and "dai" were used interchangeably in most CHRW interviews.
Respondent ID:
Date:
Location:

1. Demographic information:
Sex:
Age/DOB:
Highest level of education:
Occupation:
Block that CHRW works in:
Marital status:
Block residence:
Duration of residence:
Past residence locations:

2. Job Description:
What specifically do you do?
How long have you been a CHRW?
Why did you choose this job?
What do you like about your job?
Are there any challenges in your work?
Tell me about the community you work in. Who do you work with in the community and what do you cooperate on?

3a. TBAs—Opinions
Do you know any TBAs? What are your thoughts on them?
Why do women become TBAs?
How does the community treat them? Well, indifferently, or badly, and why?
Do community members have any opinions on TBAs?

3b. TBAs—Job Description
When and how do pregnant mothers contact a TBA?
Does the TBA visit the expecting mother before the delivery?
- When during the pregnancy and how often?
- What does she do during these visits?
- Does she tell the mother anything or examine her?

On the day of the delivery, when is the TBA called (at the beginning of labor, the middle of labor, or right before the baby is born)?
Who goes to find her?
Do TBAs prepare anything before going to deliver?
Do they bring anything with them?

3c. TBAs—Delivery Complications
Do they prepare for possible complications?

What do they do when there is a complication during delivery?
What do TBAs do when there is prolonged labour?
What do TBAs do with a retained placenta (after-birth)?
Do they ever referred women to a facility for any reason? Why or why not? For what reasons?

4a. Transition and Changes—General
Have you noticed any changes in the use of TBAs in the last 2 years? In the last 5 years?
Have you noticed a change in the number of women requesting their services?
More women are now choosing to deliver in a facility. Have you noticed this?
Has this occurred in the other blocks of Matlab?
Has this change affected the role of TBAs in the community?
Has the community's perception of TBAs changed? For better or for worse?
Why do you think women choose facility birth over home birth?
What are benefits to delivering at a facility?
What are benefits to delivering at home?
Do you believe TBAs will always be needed in the community? Why?

4b. Transition and Changes—Block-specific
What are the opinions of the people in your block toward facility birth?
What are their opinions toward home birth?
Are these opinions uniform among all the blocks of Matlab? Why?
How many births in your block in the past year are facility births?
How many births in your block in the past year are home births?

5. MNCH Programme:
Tell me about the MNCH programme.
Has the programme affected TBAs' practices?
If yes, how have TBAs conpensated for any changes?
Can TBAs be a part of government and ICDDRB's maternal health programs and how?
Could they be included in the MNCH programme?
Should they be included and why?
In your opinion, how could they participate/take part in the MNCH programme?
Do you think they would be willing to do this?
What incentives would you suggest for TBAs to fulfill this role?

6. HBLSS:
Can you tell me the purpose and goals of HBLSS?
What are your opinions on the programme?
Who is HBLSS directed towards?
Who can participate?
Why are TBAs not allowed to participate in the course?

7. Support Persons (SP):
What is the role of the SP? For the baby or for the mother?
What are the responsibilities of the SP during delivery?
Does the SP have other responsibilities during the pregnancy besides delivery? What are additional resposibilities and when does she fulfill them?
What is the realtionship between the SP and delivering mother?
What is the relationship between the support person (SP) and the TBA during delivery?
Do SPs and TBAs ever have conflicts? If so, how are they resolved?
Does the SP have any ability to intervene and/or modify TBAs' behaviors/practices?
What is the role of the birth team?
How does the birth team interact with the TBA during delivery?

iv. MNCH Research Investigators

Respondent ID:
Date:
Location:

1. Demographic information:
Sex:
Age/DOB:
Highest level of education:
Occupation:
Marital status:
Block residence:
Duration of residence:
Past residence locations:

2. Job Description:
Can you give an overview of the MNCH program and how it is implemented in the community?
How has MNCH had an impact on the community?
How long have you been working in the MNCH program?
How did you become interested in the field that you work in?
What specifically do you do for MNCH?
Why did you choose this job?
What do you like about your job?
Are there any challenges in your work?
What community members do you work with and what do you cooperate on?

3. TBAs:
Do you know any TBAs who are still practicing?
What are they like?
Are some better than others?
Why do women become TBAs?
How does the community treat them? Well, indifferently, or badly, and why?
Are TBAs paid for their work?
Do they only handle deliveries or do they have other roles?
Who are the women who still use TBAs?
Why do they choose them?
Do you work with TBAs? Why?
    If "yes" to above: How do you work with them? Are they generally cooperative in working with you?

4. TBA/NGO cooperation:
Can TBAs be a part of government and ICDDRB's maternal health programs and how?
What roles can they fill in the maternal health programs?
Do you think they would agree to these roles?
What type of compensation is appropriate for TBAs?
Could they be included in the MNCH programme?
Do you think they should they be included?
In your opinion, how could they participate/take part in the MNCH programme?
Do you think they would be willing to do this?
What incentives would you suggest for TBAs to fulfill this role?

5. Transition Period:
What are the costs of a home birth?
What are the costs of a facility birth?
What are the reasons women choose a home birth? Facility birth?
Can you tell me about the shift from majority home births to majority facility births in Matlab?

When did it start? Has the changed occurred smoothly or were their periods of rapid change and periods of slow change?
Why is this transition occurring?
What percentage of women do you think have facility-based deliveries in Matlab?
What about the percentage in Bangladesh?
Has there been a change in the demographics of women who deliver in facilities compared to in the past?
How has this change in favor of facility deliveries had an impact on the facilities?
Can they handle the increasing numbers of women wanting to deliver in hospitals?
Have organizations that subsidize skilled maternal healthcare been able to financially handle the increasing numbers of demands for facility delivery?

6. HBLSS:
Can you tell me the purpose and goals of HBLSS?
What are your opinions on the programme?
Who is HBLSS directed towards?
Who can participate?
Do all participants finish the course?
What have been the benefits of HBLSS in the community?
Have there been any problems?
Why are TBAs not freely allowed to participate in the course?
Have they been found participating in HBLSS in the past?
Should they be allowed to freely participate or not? Why?

Appendix B:
Timeline of MCH- and ICDDR,B-related events

This timeline was created to assist readers with the chronology of events in the histories of MCH, Safe Motherhood, and ICDDR,B mentioned in Chapters 1, 2, and 3 of this paper. It is not a comprehensive timeline detailing the full history of any one organization or movement but a selection of events I felt were important to the background of this study. I have also provided page numbers to direct readers to the most comprehensive descriptions of each event.

1960—The Pakistan-SEATO Cholera Research Lab (CRL) is established (pp. 39).

1963—CRL establishes a field station in Matlab to conduct cholera vaccine trials (pp. 40).

1966—The Health and Demographic Surveillance System (HDSS) is established in Matlab (pp. 40).

1971—Bangladesh becomes an independent nation (pp. 32).

1977—MCH and family planning services are implemented in Matlab by CRL (pp. 40).

1978—The International Conference on Primary Health Care is held in Alma Ata, Kazakhstan (pp. 8; 17-18).
—The Government of Bangladesh reestablishes CRL as the International Centre for Diarrhoeal Disease Research, Bangladesh (pp. 39-40).
—The Government of Bangladesh begins providing TBA training programs (pp. 25).

1982—ICDDR,B implements TBA training programs (pp. 26).

1987—The Safe Motherhood Conference is held in Nairobi, Kenya (pp. 18-19).
—ICDDR,B's Matlab Maternity Care Program is implemented (pp. 40-41).

1994—The International Conference on Population and Development is held in Cairo, Egypt (pp. 19).

1997—The "Safe Motherhood—the Next Ten Years" technical consultation is held in Colombo, Sri Lanka (pp. 3-5; 20).

1998—The Government of Bangladesh discontinues TBA training to focus on increasing skilled attendance (pp. 25-26).

1999—ICDDR,B ceases TBA training programs and directs policy towards SBAs and facility birth (pp.27).

2007—The Maternal, Neonatal, and Child Health (MNCH) Program is implemented in ICDDR,B's intervention area of Matlab (pp. 41-44).

Appendix C:
Life Cycle Approach to Prioritization of ICDDR,B Research

1. **Conception/Pregnancy**
    a. Maternal nutrition
    b. Safe Motherhood

2. **Delivery**
    a. Low birthweight
    b. Safe Motherhood

3. **Neonatal Stage**
    a. Low birthweight
    b. Neonatal mortality

4. **Infancy**
    a. Low birthweight
    b. Integrated Management of Childhood Illness (IMCI)

5. **Childhood**
    a. Low birthweight
    b. Nutrition
    c. IMCI

6. **Adolescence**
    a. Adolescent health
    b. Reproductive tract infections/sexually transmitted infections/HIV/AIDS
    c. Fertility

7. **Reproductive Age**
    a. Family planning
    b. Reproductive tract infections/sexually transmitted infections/HIV/AIDS
    c. Fertility

8. **Ageing/Disability**

9. **Cross-cutting Issues**
    a. Infectious diseases
    b. Reproductive health
    c. Vaccines
    d. Anti-microbial resistance
    e. Reproductive tract infections/sexually transmitted infections/HIV/AIDS
    f. Integrated delivery of services
    g. Quality of care

9. Cross-cutting Issues

h. Health financing and sustainability
i. Health equity
j. Fertility
k. Urbanization
l. Population and development linkages