

BIRTH IN A BROKEN HEALTH SYSTEM; HOW ABUSE, NEGLECT, POVERTY AND
DISRESPECT UNDERMINE INTRAPARTUM CARE IN MOROGORO REGION, TANZANIA

by

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Abstract

Despite decades of policies, declarations and interventions, in 2013 more than 289,000 women died from causes related to pregnancy and childbirth, and most of those deaths occurred in Sub-Saharan Africa. Tanzania, which is situated on the east coast of Africa, bears a disproportionately high burden of maternal deaths; it is among ten countries that account for a majority of the world's maternal deaths. Rates of skilled attendance at birth have remained low (below 52%) for more than 20 years among Tanzanian women.

This dissertation sought to explore how women, their partners and relevant community members describe the decisions and experiences related to birth in Morogoro Region, Tanzania. The study drew upon quantitative methods (including a household survey) and qualitative methods (including in-depth interviews).

The study found that disrespectful care – feeling neglected, scorned, discriminated against or charged arbitrary fines or fees – permeated respondent accounts of childbirth, and compelled many families to minimize their exposure to the formal health system (detailed in Chapter 5). These experiences undermined respondents' faith in the health system and shaped decisions that placed mother-baby pairs in danger.

Respondents described delaying departure from home to facilities, which in some cases led to births en route (detailed in Chapter 6). They also described departing facilities dangerously early after delivery (detailed in Chapter 7).

In conclusion, this study found that disrespectful care has become a normalized yet understudied component of the careseeking experience in Morogoro Region. In presenting not only the dynamics of disrespect but also the nexus between disrespect and careseeking at and around the intrapartum period, we add to a limited but expanding body of literature examining disrespectful care, and the ways in which it undermines efforts to promote careseeking for delivery.

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Preface and Acknowledgements

Preface

Like most young researchers, I wanted my dissertation to make an original and substantive contribution to my field. Like most young journalists (in my case, former journalists), I wanted to conduct a compelling investigation on an under-examined topic. For these reasons I almost didn't pursue research on maternal health and careseeking for birth.

The terrain of maternal health is well trodden. We know when mothers die (at and around childbirth). We know why they die (hemorrhage, eclampsia, infections etc.). We know what to do about this (encourage delivery in a health center). And we have enshrined as the “Three Delays” our knowledge of why women do not deliver in facilities: women delay leaving their homes, they encounter delays both en route to facilities and once at facilities.

With so many questions already answered, what's left for a journalist-turned-PhD-student to uncover? Not much, I thought.

Then I moved overseas and started spending some time in urban hospitals. While there, I witnessed a series of unsettling, disturbing interactions, and I began asking friends about their experiences within health facilities – both as patients and as researchers. *Did they see nurses screaming at patients, I silently wondered. Did they observe warped triaging that left the exceptionally ill unattended?* In these informal chats, I heard about providers denying care, demanding bribes, and slapping patients or swatting them with sticks. I naively assumed that these experiences were outliers – stories told to keep a conversation lively. I made no link between my own work (on birth in rural facilities) and these accounts from urban, tertiary facilities about experiences unrelated to birth. Hospitals in capital cities are notoriously overcrowded, and patients can get lost in a mass of nameless faces. And birth, I reasoned, is not like illnesses or conditions that prompt a hospital visit. Birth is sacred – to a woman, a family, a community and a health system. Birth is a pre-cursor *to life*. Can't we all empathize with birthing mothers since we all have a mother who gave birth to us? Furthermore, if birth entailed abuse, wouldn't that be extensively discussed in public health literature and courses? This was the lens through which I saw the world as I designed my study.

I began collecting data in 2011. I planned to compare experiences of women living near and far from facilities since distance is a tenet of the Three Delays, and I expected that careseeking for birth in rural Tanzania hinged on this delay. Imagine my surprise on the

first day of data collection, when our team arrived in a village that abutted a health facility, and we couldn't find a single woman who had delivered in a facility. The data collection team and I were dumbfounded. I interviewed a village leader to learn more. "We don't go there," he said. "People have lost trust in those health workers." He then added that women grew tired of being mocked or called "stupid" by providers, that one woman's unborn son had died under questionable circumstances and the community collectively decided to forgo facilities and deliver at home.

Despite my previous interactions with the health system *and* this early encounter, I felt that this must be an aberration. As data collection progressed, and more post-interview debriefings centered on abuse I realized the naïveté of my earlier estimations. Across districts and facilities – regardless of a family's proximity to a facility – respondents recounted experiences of abuse. Nevertheless, I kept asking interviewees to describe issues that garnered the lion's share of attention in the literature – transport costs, bad roads, women's knowledge regarding skilled attendance at birth. During a debriefing session one night a data collector interrupted me. "Shanoni," she said, exasperated. "Women are being abused. That woman in (Village X) *delivered alone*. This is abuse."

My feelings about this finding spanned from surprised, confused, horrified, skeptical and indignant to thoughtful and eventually concerned. As a young journalist, finding an

under-reported topic is thrilling and celebrated. As a young researcher engaged in a topic that has been crisscrossed by icons and visionaries in your field, it is deeply disconcerting. When I presented our team’s preliminary findings to stakeholders and colleagues in Tanzania’s capital, suggestive questions spilled forth. “Why don’t more people hear about this issue if it is so problematic?” asked one fellow researcher. Later, an obstetrician said, “Who did you talk to exactly? And how exactly did you ask your questions? I don’t believe this.” The underlying and overt suspicions continued as I analyzed my data and wrote up my results. I felt equally concerned. Did I do something wrong during data collection? If I did something right, why *am* I among the very few to find this? With so many scientists studying careseeking in this and similar settings, why aren’t academic journals dripping with accounts of abuse?

As I set out to write this dissertation – which examines what abuse toward laboring, Tanzanian women consists of and how it affects behaviors and experiences in the hours surrounding birth – I drew academic and intellectual comfort from a series of sources. First, I discovered a coterie of researchers who published on the experience of abuse toward women in low- and high-income settings (Rachel Jewkes in South Africa¹, Ana Flávia Pires Lucas d'Oliveira in Brazil² and Robbie Davis-Floyd in the United States³). In 2011 and early 2012, a colleague introduced me to a newly published [landscape report](#)⁴ on disrespect and abuse by Diana Bowser and Kathleen Hill of Harvard University. This

same colleague shared a declaration called the [Universal Rights of Childbearing Women](#)⁵ issued by the White Ribbon Alliance, a maternal health advocacy group in October 2011. Then a handful of publications related to abuse in Tanzania emerged first from Sydney Spangler⁶ of Emory University and then Lilian Mselle⁷ of Muhimbili University. There appeared to be a groundswell of interest in a topic that was described as understudied in preceding decades. My publication on abuse was published in 2014⁸. It adds to a still-growing body of work on this issue. In June, the Lancet issued a series on midwifery and abuse including a commentary by Lynn Freedman⁹ of Columbia University that criticized researchers and practitioners for their collective “blind spot” toward disrespect and abuse. Later this year, the World Health Organization is scheduled to issue a statement and call-to-action outlining what governments, researchers, donors, advocates and relevant stakeholders must do to address abuse toward laboring women during delivery.

For me, this dissertation represents personal growth on several levels. At a fundamental level, I learned that even the most pored-over issues can contain an under-investigated dimension. As a young researcher, I learned the value of high-quality data collectors, of standing behind them and our findings and being diplomatic-yet-firm regarding questions about the trustworthiness and credibility of my work. As a writer, I’ve learned

(and am still learning) how to craft articles that attract attention from not just public health or academic corners but also prove accessible to wider audiences.

I hope this dissertation speaks to the minds and hearts of those reading it, and that it inspires fellow researchers to consider how a health facility – if it is meant to become a place of healing – must contain not only infrastructure and equipment, but also provide compassion, dignity, respect and understanding in order to improve the public's health. The task now is to examine how we can collectively make that happen.

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List of terms and abbreviations

ANC	Antenatal Care
BBA	Birth Before Arrival (to a health facility)
BEmONC	Basic Emergency Obstetric and Newborn Care
CHW	Community Health Worker
CEmONC	Comprehensive Emergency Obstetric and Newborn Care
CPR	Contraceptive Prevalence Rate
DHS	Demographic Health Survey
DMO	District Medical Officer
EmONC	Emergency Obstetric and Newborn Care
FP	Family Planning
JHSPH	Johns Hopkins School of Public Health
LAM	Lactational Amenorrhea Method
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MEP	Morogoro Evaluation Project
MMR	Maternal Mortality Ratio
MNCH	Maternal Newborn and Child Health
MoHSW	Ministry of Health and Social Welfare (of Tanzania)
MUHAS	Muhimbili University of Health and Allied Sciences
PNC	Postnatal Care
PPC	Postpartum Care
PPFP	Postpartum Family Planning
RCH	Reproductive and Child Health
RDW	Recently-Delivered Woman (woman who has given birth in preceding 14 months)
SPA	(Tanzanian) Service Provision Assessment
SSA	Sub-Saharan Africa
TBA	Traditional Birth Attendant
TDHS	Tanzania Demographic and Health Survey
TFR	Total Fertility Rate
U5MR	Under-Five Mortality Rate
USAID	United States Agency for International Development
WHO	World Health Organization

Chapter 1 Introduction

1.1 Introduction

Each year, hundreds of thousands of women die due to complications related to pregnancy or delivery^{10,11}, making pregnancy and birth one of “the greatest killers of women of reproductive age” in low-income countries¹². Each maternal death marks not just the end of a woman’s life, but a threat to the health and welfare of her children, who are significantly less likely to survive childhood, complete primary education and to delay sexual debut and their own first pregnancy¹⁰. For every woman who dies of a pregnancy-related cause, 20 to 30 others experience acute or chronic morbidity^{13,14}. Maternal health is also an issue of equity¹⁵. While many health indicators collected by the WHO reflect disparities across high- and low-income countries, maternal mortality reflects one of the greatest such disparities¹²: in poor regions of the world, the estimated life time risk for dying from maternal causes is 1 in 52 compared to 1 in 3400 in high-income settings¹¹.

Research has deepened our understanding of where, when, how often and why maternal deaths take place¹⁶. We know that the greatest burden of deaths is in Sub-Saharan Africa and Southeast Asia, where 179,000 and 69,000 deaths occur each year, respectively¹¹. We know that a majority of deaths occur in the moments leading up to,

during and following delivery and that the primary causes of deaths are hemorrhage, hypertension and infection during delivery ¹⁶. Countries that have historically succeeded in reducing maternal mortality have prioritized women's health, focused on skilled assistance at delivery and – prior to the advent of modern hospitals and medicalized birth – professionalized and supported midwifery ¹⁷. Interventions that have been shown to reduce maternal death in low-income contexts include: skilled attendance at birth, timely referral in the event of a complication during delivery ¹⁸, and access to safe abortions ¹⁹. A political environment that values gender equality and promotes education for women has been described as an equally critical – though much more complicated to operationalize – pre-cursor to overall success ^{17,19}.

More than 99% of the world's maternal deaths occur in low-income settings, and Sub-Saharan Africa (SSA) is the most deadly place in the world to give birth ^{10,11}. A woman there is nearly 100 times more likely to die due to maternal causes than a woman living in a high-income setting ¹¹. Each year, nearly 1.5 million mothers and newborns die in the region: between 179,000 and 265,000 mothers die due to complications of pregnancy and childbirth ^{11,20} and 1,208,000 babies die in the first month of life due in large part to complications in childbirth ²¹. This toll of more than 13,000 deaths a day accounts for half of the world's maternal and child deaths ²². In the last two decades, the highest rates of maternal deaths have been in SSA, a compositional shift attributed to high fertility rates in that region compared to East Asia ²³, as well as a higher

prevalence of HIV. Across regions within SSA, maternal mortality ratios (deaths per 100,000 live births) vary from 629 (508-787) in the west, 381 (288-496) in the south, 508 (430-610) in the east, to 586 (392-839) in the center ²³.

Situated on the Eastern coast of SSA, Tanzania bears a disproportionately high burden of global maternal deaths ^{24,25}. For every 100,000 live births, 449 women die ²⁶. Low rates of facility-based birth and skilled attendance at birth have undermined efforts to reduce maternal mortality across the nation. For more than 20 years, the rate of facility-based birth has remained below 52% ²⁶. Since 2004, several studies have highlighted the importance of quality of care received by women during childbirth ^{6,7,27-30}, with two of those studies highlighting discriminatory treatment in health settings ²⁸ or experiences of physical abuse during delivery ⁷. We are not aware of studies in Tanzania or similar low-income settings that have explored how both women *and* their partners experience *and* respond to abuse during delivery, and how a negative experience affects future decisions and behaviors related to careseeking for delivery- including decisions on whether and when to depart to (or from) facilities in the hours preceding (or following) birth.

1.2 Study objectives

The purpose of this study is to deepen understanding of obstetric care (or near misses in seeking obstetric care) across four rural districts of Morogoro Region, Tanzania as

described by women, their partners and community leaders. This study examines how women and their partners describe their facility experiences and how those experiences affect behaviors related to intrapartum care. This study is among the first to qualitatively capture the perspective of men in careseeking for maternal health. As partners to women, fathers to children and escorts during careseeking for delivery, insights from partners merit more attention.

Broken into subsections, the study examines (1) how women, their partners and community leaders described care received during labor and delivery with an emphasis on disrespectful care and abuse, (2) how women and their partners contend with a worst-case scenario in terms of place of delivery (giving birth en route) – and factors that underpin this experience and (3) how women who delivered in facilities describe the immediate post-delivery period and, more specifically, factors that compel them to depart facilities early.

1.3 Organization of the dissertation

This dissertation is organized into seven sections.

Beginning in Chapter 2, I outline background information related to maternal health globally coupled with an abbreviated history of initiatives to promote safe motherhood.

In Chapter 3, I present information related to Tanzania and Morogoro Region by first

highlighting demographic and health system characteristics and then examining maternal health indicators, relevant research across the maternal health continuum and policy initiatives to reduce maternal and child mortality. In Chapter 4, I present my study design and provide details of the research partners with whom I collaborated, the nature and duration of data collection, the concepts and frameworks that guided this study and methods employed to undertake data analysis.

Starting with Chapter 5, I present three manuscripts as they have been submitted to (and in one case published in) academic journals. Chapter 5 focuses on experiences of and responses to disrespectful care and abuse. This [paper was published in BMC Pregnancy and Childbirth⁸](#) and denoted as highly accessed in August 2014. Chapter 6 explores births before arrival (BBA) to a facility including factors associated with BBA and the experience of a BBA as described by women and their partners. This chapter was submitted to PLOS ONE. Chapter 7 examines times to discharge from facilities after delivery, with an emphasis on early discharge and inadequate receipt of services in the immediate postpartum period. This chapter was submitted to BMC Pregnancy and Childbirth.

This dissertation concludes with a summary of results where I highlight avenues for future research and suggestions on how findings presented here could inform future interventions.

Chapter 2 Maternal Health

2.1 Maternal mortality, definition and causes

While estimates on maternal mortality are subject to broad uncertainty, researchers within the field of international health agree that maternal deaths have steadily declined since 1990 and – in absolute numbers – far fewer women died from causes related to the pregnant state in 2013 compared to 1990 ^{11,25,31-33}.

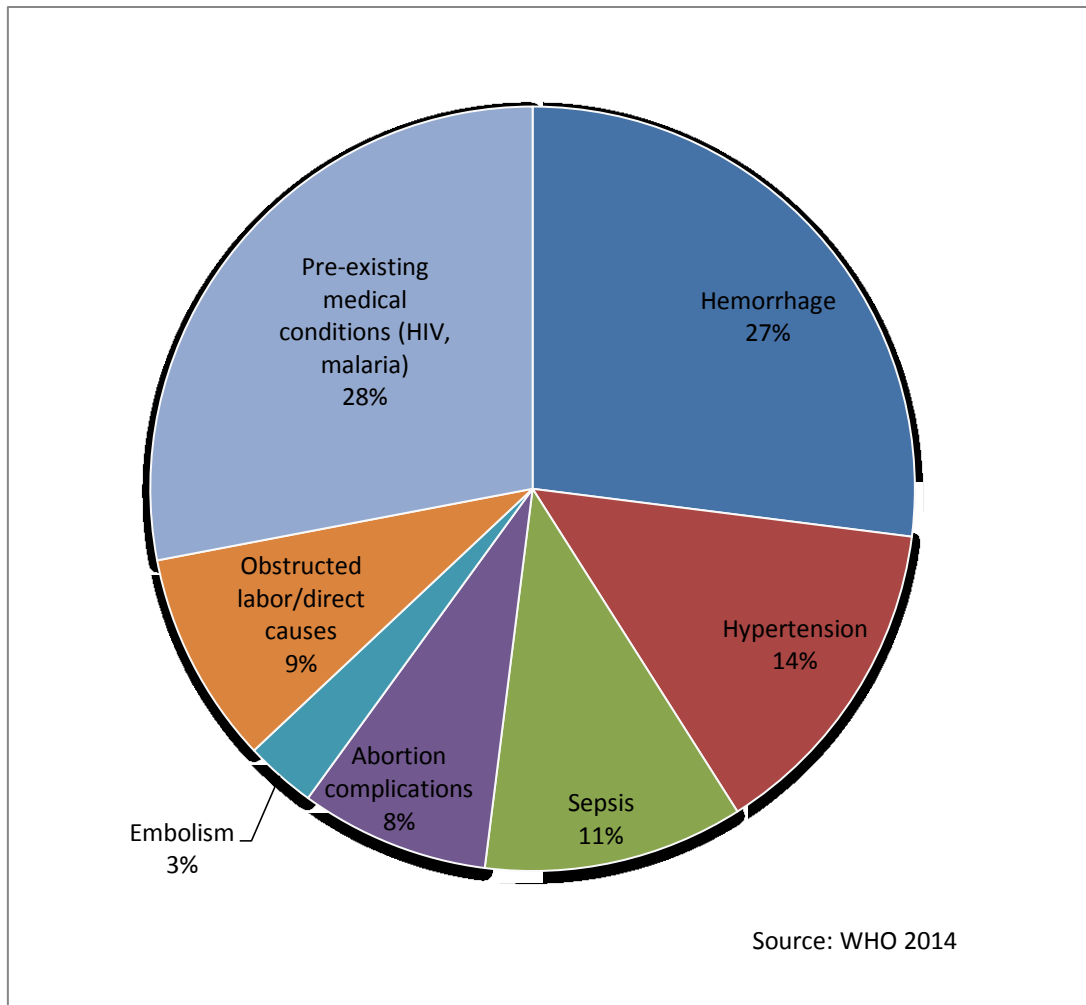
Measuring maternal death is a challenge, however, particularly in settings that lack reliable civil registration systems (which list a cause of death, date of birth and important demographic factors) ¹¹. Due to these uncertainties, two studies published in 2014 present vastly different global estimates of maternal deaths. For the period covering 1990 to 2013, a 2014 Lancet review reported reductions in maternal deaths from 376,034 to 292,982 ³¹, while a WHO report covering the same time period and published in the same year placed those estimates at 523,000 and 289,000, respectively. Other recent UN estimates from a similar period (1990 to 2010) reported reductions from 543,000 to 287,000 ³³. Data used to calculate global estimates rely on nationally representative surveys, which can mask within-country imbalances comparing urban and rural areas. There is evidence that maternal mortality in remote, rural areas is significantly higher than estimates reported in nationally representative estimates. A study in rural Mali documented a maternal mortality of 3,000 deaths for every 100,000

live births – far higher than national estimates of 1,000 deaths per 100,000 live births³⁴.

A study in rural Ethiopia calculated a maternal mortality ratio of 1,667 deaths per 100,000 live births, compared to 937 per 100,000 reported in a nationally representative survey covering the same time period³⁵.

According to the WHO, a maternal death is the “death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the

Figure 2.1. Maternal death causes globally



pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes”²⁴. Late maternal deaths include deaths after 42 days and up to 12 months following termination of pregnancy, such as infections^{16,36}.

Among maternal deaths, the WHO distinguishes between direct and indirect obstetric deaths³⁶. Direct obstetric deaths are deaths “resulting from obstetric complications of the pregnant state, from interventions, omissions, incorrect treatment or from a chain of events from any of the above such as hemorrhage”¹¹. Along with deaths from hemorrhage or hypertension, direct deaths also include deaths caused by complications during caesarean section or from anesthesia. Indirect obstetric deaths are deaths resulting from a previously existing or new (non-obstetric) diseases exacerbated by the physiologic effects of the pregnant state¹¹. Aggravation of existing conditions such as malaria, HIV, anemia, cardiac or renal disease or tuberculosis that lead to death during pregnancy, birth and postpartum periods are all considered indirect causes¹¹.

Globally, the leading causes of maternal mortality are hemorrhage, hypertensive disorders, infection and other indirect causes (see **Error! Reference source not found.**)¹¹.

2.2 Brief overview of maternal health initiatives

Recent decades have seen significant reductions in maternal mortality. From 1990 to 2013, estimates suggest that the number of deaths per 100,000 live births (maternal mortality ratio) fell by 45%¹¹. This plunge in mortality is notable for several reasons, but primarily because it represents a sudden and lasting shift from the stagnant maternal mortality rates across low-income countries that characterized preceding years.

While policy, advocacy, media coverage and funding for maternal health is currently expanding, for several decades maternal health was not a priority at national or international levels¹². In the 1970s, two international declarations highlighted the importance of women's health and safe motherhood: the United Nation's Declaration of a Decade (1976 – 1985) in 1975 and the WHO's Alma Ata Declaration of 1978 (WHO 1978). However, neither funders nor policy-makers took up the call to action, so maternal and child health programs continued to focus on the needs of children rather than their mothers¹². So subsumed was maternal health into child health that UNICEF Executive Director James Grant referred to maternal health as a "by-product" of child health in his 1990 annual address to the United Nations³⁷. Researchers Maine and Rosenfield decried the persistent marginalization in their seminal article, "Where is the M in MCH?," which highlighted that not only is maternal death ignored on the global public health stage, but when it is discussed the focus is on hyper-technical vertical interventions at the facility level rather than more socio-culturally sensitive

opportunities at the community level ³⁸. Rosenfield later expanded this assessment, arguing that maternal mortality should not, as an issue, be confined to medical or public health understandings:

“The technical solutions to reduce maternal mortality are not enough. As a basic human right, women should be able to have a child safely and with good quality of care. The human rights ‘system’ — laws, policies, and conventions — must be used to hold states accountable for obligations undertaken pursuant to treaties. Human rights principles should be used to reshape health policies and programs and to guide the delivery of health services.” ³⁹

Researchers across fields have contemplated why maternal health has been marginalized. The field’s earliest advocates (drawn largely from the fields of feminism and human rights) asserted that marginalization was intentional and linked to structural violence: “to cure the health problems of women is to acknowledge that oppression—and health problems—are not determined by biology but by a social system based on the power of sex and class” ⁴⁰. This sentiment has been echoed several times over ^{39,41}, most notably by then director-general of the World Health Organization (WHO), who in 1987 said, “the roots of much maternal mortality lie in discrimination against women, in terms of legal status and access to education, financial resources and health care, including family planning” ⁴². Political scientists argued that maternal health was viewed

as a “Trojan Horse” for pro-abortion efforts, and this connection curtailed political acceptability of supporting the issue ⁴³. Epidemiologists argued that maternal health was a victim of the “measurement trap” ⁴⁴; because maternal mortality was (and remains) difficult to measure, it is also difficult for researchers to assess the burden of disease and to then use data to generate political and mainstream momentum for the issue ⁴³⁻⁴⁵. Donors and program managers have been described as “frustrated” with the lack of precision in maternal mortality measures (represented by wide margins of error) because they hinder efforts to assess changes over time and to thereby gauge the effectiveness of policies and interventions³¹. Journalists have noted that maternal deaths – like many “quotidian cruelties inflicted on women and girls” – are largely ignored in favor of “lofty,” “complex,” “recondite ... issues” that are prioritized within the global political agenda and therefore attract wider media attention⁴⁶. Finally, academics and technical advisors specializing in health systems have described how complexities associated with addressing maternal health inherently require comprehensively strengthening health systems, which is an unattractive prospect to many donors who prefer “vertical” or “magic bullet” solutions to public health problems^{32,43,47,48}.

In the 1980s, advocates, researchers, technical experts and policy makers associated with maternal health combined under the leadership of the WHO to form what came to be known as the “Safe Motherhood Inter-Agency Work Group,” which laid the

groundwork for the newly-devised “Safe Motherhood Initiative”. An effort that – in previous decades – lacked a framework, target and timeline on how and where to reduce maternal mortality, maternal health became the focus of a series of WHO-sponsored community studies to assess levels of maternal mortality across developing countries¹². The WHO, World Bank and UNFPA, with support from UNICEF and Population Council, also hosted the 1987 Safe Motherhood Initiative in Nairobi, Kenya, the first multi-national event with an explicit aim to discuss maternal health^{12,49}. Strategies to improve maternal health that were highlighted in the conference included community-based health care and improving the skills of traditional birth attendants, as well as improving referral networks in the event of complications and increasing access to family planning^{12,49}. Attended by ministers of health from five countries and high-ranking delegates from at least four international organizations (the WHO, World Bank, United Nations Development Fund and United Nations Fund for Population Activities), the Nairobi Summit was successful in galvanizing international recognition of maternal mortality⁴⁹. However, the summit lacked representation by heads of state, executive heads of UN agencies, or senior representatives of countries, NGOs and the international development community, all of whom participated in world conferences for children in the years preceding and following the safe motherhood event⁴³.

Political engagement at higher levels began in the mid-1990s after several international conferences hosted by the United Nations took a more comprehensive view of maternal

health, highlighting that pregnancy is a necessary requirement for life and should not be viewed as a byproduct of creating children or as an illness unto itself ⁵⁰. Furthermore, the meeting participants argued, successes in maternal health should not be measured through reductions in fertility, but rather on how well a society is meeting the needs and rights of its women ⁵⁰. These meetings included the International Conference on Population and Development in Cairo (1994), the Fourth World Conference for Women in Beijing (1995), and the Social Summit in Copenhagen (1995). Goals of the meetings emphasized provision of universal education; reductions in maternal mortality; ensuring access to reproductive health care including family planning, access to skilled assistance during childbirth and the prevention of sexually transmitted infections including HIV/AIDS ⁵¹.

On the heels of these meetings and to celebrate the 10th anniversary of the Safe Motherhood Initiative, members of the Safe Motherhood Inter-Agency Work Group executed a second summit in Colombo, Sri Lanka in 1997. This was regarded as “the single largest effort to advance safe motherhood within the international and national arenas” ¹². The meeting marked changes in the scope, timeline and priorities for the Safe Motherhood Initiative. Most profoundly, two interventions that the Initiative had advocated for ten years earlier (training traditional birth attendants and screening pregnant women to identify those most at risk for developing obstetric complications) were deemed ineffective for reducing maternal mortality, and would no longer be

promoted. Researchers have referred to this shift in strategies as “a major setback” in the history of the movement⁵². The resulting shift in focus away from community-based interventions in favor of clinical care remains a point of contention within maternal health spheres today⁵³. The overarching aims outlined at Colombo included changing the political and economic environment for women through policy and advocacy, as well as outlining measurable targets that could guide improvements in women’s health: delaying marriage, screening for risk during antenatal care, providing access to skilled attendance at birth, preventing unwanted pregnancies, providing safe abortions and measuring progress toward these targets⁵⁴.

The Conferences and Summits in Nairobi, Colombo, Cairo, Beijing and Copenhagen laid the foundation for the inclusion of maternal health in the United Nation’s Millennium Development Goals (MDGs), the fifth of which calls for a 75% reduction in maternal deaths globally by 2015. In a review of the UN Secretary General’s document that created a framework for the Millennium Summit, “We the Peoples: the role of the United Nations in the 21st century” there is no mention of maternal health including maternal morbidity or mortality⁵⁵. Safe Motherhood advocates have since concluded, however, that the omission of maternal health goals from the text “was an oversight rather than intentional neglect of maternal health, which was later inserted into the text of the Millennium Declaration”¹². To date, MDG 5 has remained an effective advocacy tool, but an elusive target for most countries. Described in hindsight as an “extremely

aspirational” goal, most countries – Tanzania included – are not expected to meet MDG 5 by 2015 ³².

Chapter 3 Tanzania and Morogoro Region

3.1 National characteristics

Located on the coast of East Africa, the United Republic of Tanzania borders Kenya, Uganda, Rwanda, Burundi, the Democratic Republic of Congo, Zambia, Malawi, and Mozambique. Per capita income is approximately USD 570⁵⁶ and average life expectancy is 51 years²⁶.

Tanzania achieved independence in 1961 and, similar to several countries operating within socialist spheres, the country “prioritised health care as a human right and made maternal health facilities widely available, including community programmes in ... rural areas”¹⁷. The majority of the population (now totaling 44.9 million⁵⁷) was – and remains – mostly rural and widely dispersed. As part of efforts to reach individuals in remote areas, the government devised a multi-tiered decentralized health system which remains in function today⁵⁸. The tiers of the health system begin at the village level and extend upward to include wards, divisions, districts, regions, zones and national levels. The health provision available, in turn, follows the following order, respectively: community health post, dispensary, health center, district hospital, regional hospital, referral hospitals or specialized hospitals and, finally, referral abroad⁵⁹.

3.2 Health workforce

The Tanzanian health workforce contracted in absolute terms and in relation to the size of the population since the 1990s when the government imposed its “Retrenchment Policy” and hiring freeze from 1993 to 1999^{58,60,61}. The MOHSW estimated in a 2008 report that the health sector was facing a serious human resource crisis and 184,100 employees would have to be trained and deployed to government and non-government sectors to meet health-related demands from 2007-2017⁶¹. A follow up, mid-term review presented in 2013 concluded that human resource shortages were “gradually improving.” The document did not provide data on how much the health workforce gap had been closed⁶², but highlighted that there are currently 5.4 health care professionals (physicians, nurses and midwives) per 10,000 citizens, which is substantially lower than the 23 per 10,000 recommended per WHO standards⁶². A maternal, newborn and child health report released in 2014 stated that the total health workforce had increased to 64,449 in 2013 up from 47,000 in 2007⁶³.

Dar es Salaam, the largest city in Tanzania, has a much higher density of doctors than any other region – more than half of all doctors working in Tanzania (52%) are based there⁶⁴. In Morogoro Region, where this study was situated, facilities are understaffed. The Region’s density (expressed per 10,000 residents) of doctors (0.2), assistant medical officers (0.3) and clinical doctors (2.1) attests to severe human resource limitations⁶⁴. Less than half of all facilities in the Zone (47%) have at least 2 qualified providers

assigned to a facility to support basic emergency services 24 hours a day ⁶⁴. Supportive management practices, which are critical for ensuring quality care, are also limited. While many facilities in the Eastern Zone receive an external supervisory visit (79%), only 34% of facilities provide routine staff training and 25% of facilities provide “supportive management practices” (an external supervisory visit, routine training and personal supervision) ⁶⁴.

Along with workforce limitations, severe infrastructure and supply limitations negatively impact providers’ abilities to provide care. In the Eastern Zone (which includes the Coast, Dar es Salaam and Morogoro Regions) limitations highlighted in the country’s Service Provision Assessment (SPA) include (see Table 3.1):

- Delivery of infection control
- Availability of medicines and supplies for normal and complicated deliveries
- Management practices that promote safe deliveries, and
- Basic and comprehensive obstetric care (Basic care includes parenteral antibiotics, parenteral oxytocic drugs, parenteral sedatives for eclampsia, manual removal of placenta and manual removal of retained products. Comprehensive care expands on basic care to include surgery, anesthesia, and blood transfusion.)

Facilities are severely under-equipped in terms of basic services and facility infrastructure (infrastructure refers to beds, examination lights and visual/auditory privacy). Less than half of facilities in the Zone have regular water supply onsite (45%), and just more than half (54%) have regular electricity or a generator available during service hours or for backup ⁶⁴. This presents inherent challenges to deliveries occurring

at night. Nationwide, the best-equipped facilities (in terms of infrastructure and furnishings for delivery) are hospitals (55%) followed by health centers (30%) and then dispensaries (7%)⁶⁴. Almost no facilities in the country (including in Morogoro Region and its encompassing Zone) have all elements to support quality such as guidelines, partographs and 24-hour delivery providers onsite or on call; nationally, coverage of these components of quality is highest in hospitals (7%), followed by health centers (3%) and dispensaries (0%)⁶⁴.

Table 3.1. Health system capacity for provision of delivery care in Tanzania from the Tanzania Service Provision Assessment		
Capacity for Quality Delivery	Eastern (%)	National (%)
Availability of elements for quality delivery services		
All items for infection control ¹	25	26
All delivery room infrastructure and furnishings ²	22	12
All elements to support quality ³	0	1
Capacity (knowledge and equipment) for sterilisation ⁴	13	8
Availability of medicines/supplies for normal/complicated deliveries		
All essential supplies for delivery ⁵	15	13
Additional medicines for common complications ⁶	15	6
Additional medicines for serious complications ⁷	15	11
Management practices		
Up-to-date client register	72	84
Documented delivery coverage	30	23
Review of maternal deaths or near misses	30	37
User fees for delivery	35	18
Facilities provide basic emergency obstetric care		
	11	6
Parenteral antibiotics	50	60
Parenteral oxytocics	71	33
Parenteral anti-convulsants or sedatives	29	21
Manual removal of placenta	99	53
Removal of retained products	59	46
Assisted vaginal delivery	24	24
Facilities provide comprehensive emergency obstetric care		
	10	6
Blood transfusion	61	36
Caesarean section	60	39
Coverage rates for emergency obstetric care (EOC)		
Coverage per 500,000 population of basic EmOC	2.1	.55
Coverage per 500,000 population of comprehensive EmOC	2.1	.55
<p>* Includes Dar es Salaam, Coast and Morogoro Regions</p> <p>¹ Soap, running water, sharps box, disinfection solution and clean latex gloves</p> <p>² Bed, examination light, visual and auditory privacy</p> <p>³ Guidelines, partographs and 24-hour delivery provider onsite or on call, with duty schedule observed</p> <p>⁴ In location where delivery services equipment is processed, equipment, knowledge of minimum processing time for sterilizing or HLD processing and an automatic timing device</p> <p>⁵ Scissors or blade, cord clamp, suction apparatus, antibiotics eye ointment for newborn, skin disinfectant</p> <p>⁶ Needle and syringes, intravenous solution with infusion set, injectable oxytocic, and suture material and needle holder located in delivery room area; plus oral antibiotic (cotrimoxazole or amoxicillin) located in pharmacy or delivery room area.</p> <p>⁷ Injectable anticonvulsant (Valium or magnesium sulfate) in delivery room area and injectable antibiotic (penicillin or ampicillin) or gentamicin in delivery room area or pharmacy.</p>		

3.3 Morogoro Region characteristics

This study was based in four districts of Morogoro Region, which is situated between Dar es Salaam and the capital city of Dodoma in Eastern Tanzania. With a population of 2.2 million and a population density of 31 inhabitants per square kilometer, the Region is among Tanzania's geographically largest (70,000 sq. km) and yet least densely populated areas⁶⁵. According to a 2002 census, Morogoro Region – like most of other regions in Tanzania – has more people living in rural areas (73%) than in urban areas (27%) (The 2012 census was recently released and breakdowns do not appear to be immediately available)⁶⁶. Four districts of Morogoro Region were included in this study (Ulanga, Kilosa, Mvomero and Morogoro Rural). In March 2012 after the conclusion of data collection, Kilosa District was divided into Kilosa and Gairo Districts. For the purposes of this dissertation, we will say Kilosa District to refer to the current Kilosa and Gairo Districts.

Compared to the national average, Morogoro Region appears to have slightly larger numbers of middle and upper income households²⁶. The breakdown of wealth quintiles in Morogoro Region from poorest to wealthiest is 17.9, 14.9, 23.4, 27.2, 16.6⁶⁷.

Tanzania's national rates are 19.0, 21.5, 21.9, 19.7 and 17.9⁶⁶. The region has slightly fewer secondary school finishers compared to the national average, though again statistically significant differences are challenging to determine. A majority of women in

the Region (55.1%) can read, 2.9% are somewhat literate and 26% of women cannot read at all; national averages are 49.6%, 5.3% and 27.4% respectively⁶⁵.

Household make-up and characteristics are important factors for understanding the health status of families and children. In terms of household sizes, Morogoro Region is similar to national averages with 4.4 persons per household (slightly smaller than the national average of 4.8)⁶⁵. In terms of household make-up, a majority of children in Morogoro Region (58.9%) are living with both parents; a minority of children in the region (8.6%) have lost one or both parents, which reflects national estimates (61.5% and

Table 3.2. Household characteristics of Tanzania		
Household characteristics of Tanzania*	Urban (%)	Rural (%)
Household drinking water		
Have access to an improved source of drinking water	80.0	47.9
Household using an appropriate water treatment method	52.9	30.7
Household sanitation facilities		
Use of an improved toilet/latrine	21.6	8.5
Use of a non-improved toilet/latrine	78.4	91.5
Housing characteristics		
Have electricity	45.4	3.4
Earth, sand, dung flooring	23.1	83.9
Cement flooring	70.7	15.2
Wall material made of cement blocks	46.7	3.8
Wall material made of baked bricks	23.2	24.3
Wall material made of sun-dried bricks	20.1	31.9
Main roof material		
Grass/thatch/mud	6.5	49.0
Iron sheets	88.0	50.5
Tiles	1.8	0.2
Concrete	2.8	0.0
Rooms for sleeping		
1 room	40.8	25.7
2 rooms	29.1	40.1
3 rooms	19.1	21.8
4 rooms	7.4	7.9
5+ rooms	3.6	4.4

* Tanzania Demographic and Health Survey 2010⁶⁷

8.3%, respectively)⁶⁷. While it does not provide a breakdown by Region, the 2010 TDHS provides details of the household environment including questions about access to

electricity; source of drinking water; type of sanitation facility; type of flooring, walls, and roof; and number of rooms in the household, with a breakdown comparing urban versus rural dwellings (see Table 3.2).

3.4 Maternal and child health indicators in Tanzania and Morogoro

Region

Tanzania is among ten countries that comprise a majority of the world's maternal deaths¹¹. The average annual rate of reduction in maternal mortality improved in the 2000-2013 period to 4.8% (an acceleration from the reduction rate of 1.7% in the period covering 1990-2000), and maternal mortality has decreased by an estimated 55% since 1990¹¹. However, Tanzania would need to reduce the average number of maternal deaths by nearly half (from 410 to 230 per 100,000 live births) in order to reach its MDG5 target for maternal mortality¹¹. It is not on track to meet this target by 2015. Underpinning rates of maternal mortality are a high Total Fertility Rate (TFR) 5.4 (6.1 among rural mainland women versus 3.7 among urban mainland women), moderate-to-low rates of skilled attendance at birth (51%; 83% urban and 42.3% rural), a low age at first birth (19.5) and short birth intervals particularly comparing rural to urban women (33 months versus 43 months, respectively)²⁶.

Hospital records and hospital-based studies suggest that maternal deaths in Tanzania mirror global trends with obstetric complications, including hemorrhage, sepsis,

eclampsia, obstructed labor, and unsafe abortion causing a majority of deaths ⁶⁴.

Contributors highlighted in MOHSW documents emphasize limited access to family planning materials, human resource shortages, and shortcomings in terms of health infrastructure including essential equipment and medicines, coupled with weak referral systems ⁶³.

Policy makers and public health professionals often employ the following metrics to convey the enormity of the maternal health tragedy in Tanzania:

- Each year 7900 Tanzanian mothers die due to causes of the pregnant state ¹¹
- For every 1,000 births, 4-5 Tanzanian mothers die ²⁶
- One in 44 Tanzanian women have a lifetime risk of death due to maternal causes ¹¹

Statistics can have a numbing effect, however, so to convey the tragedy using a comparison that garnered tremendous attention in 2014, I encourage readers to recall the Malaysian Airlines flight MH370. If the total number of maternal deaths in Tanzania were conveyed in terms of MH370s, a plane carrying only pregnant (or recently-delivered) Tanzanian women would have crashed every three weeks throughout 2013. If after one year, coffins were laid side-by-side, the cemetery of Tanzanian mothers would stretch for five miles.

In terms of child mortality, Tanzania has experienced sharp declines in both infant and under-5 mortality in recent decades. From 1992/96 to 2006/10, under-5 mortality declined by 41% and is now estimated at 81 deaths per 1,000 live births²⁶. Infant mortality decreased by 42% over the same period and is now estimated at 51 deaths per 1,000 live births²⁶. This success has been attributed to several factors including an expansion of immunization and malaria control initiatives²⁶. Pneumonia, malaria and diarrhea are the primary causes of death among children (excluding newborn deaths)⁶⁸. An estimated 40% of child deaths occur in the newborn period⁶⁹. While the country has met its MDG target for child mortality, a renewed emphasis has been placed on newborn and neonatal mortality. An estimated 40,000 Tanzanian babies die in the first 28 days of life¹¹. Slow declines in newborn mortality have contributed to its outsized proportion of overall deaths of children under-5⁶³. Major contributors to the death of newborns include prematurity, intra-partum events (such as asphyxia) and sepsis^{63,68}.

Compared to the national average, Morogoro Region posts slightly better indicators related to maternal health. There are currently more married women using a modern method of contraception, more women who deliver in health facilities and slightly more women who report making their own decisions about their health care⁷⁰. A 2000 study in Morogoro Region found that the leading causes of maternal mortality were infection (35%) and postpartum hemorrhage (17%) (national and global trends place hemorrhage

as the leading cause of maternal mortality nationally) ⁷¹. That study involved a small sample (n=97), however, which merits consideration when extrapolating findings. In contrast to the more favorable indicators related to maternal health, Morogoro Region has higher rates of neonatal, infant and under-5 mortality ⁷⁰. The Tanzania Demographic Health Survey (TDHS) does not provide confidence intervals in its reports; we are therefore uncertain whether differences are statistically significant. A selection of MNCH indicators comparing Morogoro Region and Tanzania can be found in Table 3.3.

Table 3.3. Key MNCH Indicators for Morogoro Region and Tanzania

Maternal, newborn and child health indicators	Morogoro Region	National Average
Current use of any modern method of contraception by currently married women age 15-49 (%)	39.9	27.4
Women age 15-49 who had a live birth in the five years preceding the survey and received antenatal care from a skilled provider (includes doctor/AMO, clinical officer, assistant clinical officer, nurse/midwife, and MCH aide) (2010) (%)	98.3	95.9
Delivered in a health facility (2010) (%)	58	50.2
Received postnatal care within 48 hours of birth (2010) (%)	26.5	30.8
Women age 15-49 giving birth in the five years preceding the survey having no postnatal checkup (includes women who receive a checkup after 41 days) (2010) (%)	64.6	64.6
Women age 15-49 who reported at least one problem accessing health care (2010) (%)	23	35.5
Women age 15-49 ever tested for HIV (2010) (%)	52.6	59.1
Women age 15-49 who know where to get an HIV test (2010) (%)	91.3	92.4
Married women age 15-49 who make decisions about their own health care (2010) (%)	63.6	60.3
Neonatal mortality rate [^]	55.4 [^]	33.8 [^]
Infant mortality rate [^]	95.5 [^]	82.5 [^]
Under-five mortality rate [^]	138.2 [^]	132.2 [^]
[^] Rates not available for 2010 in Morogoro Region, so 2005 numbers are used for Morogoro Region and Tanzania for neonatal mortality, infant mortality, and under-five mortality rates.		

3.5 Maternal health along the continuum of care in Morogoro and

Tanzania

“The health of mothers, newborn babies, and children consists of sequential stages and transitions throughout the lifecycle. Women need services to help them to plan and space their pregnancies... pregnant women need antenatal care that is linked to safe childbirth...both mothers and babies need postnatal care ... linking the mother to family planning services and the baby to child health care.”- Kerber 2007⁷² “Continuum of care for maternal, newborn, and child health: from slogan to service delivery”

The “continuum of care” is a concept that encourages researchers to view maternal and child health through the lens of an extended relationship between clients and providers. Referred to as a “rallying call” and “core principle”, the continuum was fully elaborated by Kerber in a 2007 review that described how interventions had historically relied on fragmented approaches to improving maternal, newborn and child health rather than thinking through the consistency of interaction between communities and the formal health system⁷². Along with this element of care over time, the review also highlighted that the dimension of place – the “physical location of where care is provided” – is also important as care must be available whether in the home, at a facility or in a referral hospital.

Drawing from this continuum of care approach, I present below literature as it applies to MNCH in Morogoro Region across the continuum’s sequential phases: prior to conception (focusing on family planning), and during the antenatal, intrapartum and post-partum periods. Many of the findings presented here stem from research

conducted by colleagues engaged in the Morogoro Evaluation Project (MEP), a collaboration that is discussed in more detail in the Methods chapter.

3.5.1 Family Planning

Family planning reduces maternal deaths by allowing women to limit and space their pregnancies, decrease exposure to unsafe abortions and delay first pregnancies – an especially critical consideration among women with premature pelvic development ⁷³.

The total fertility rate (TFR) among Tanzanian women is 5.4 children per woman, with a TFR of 6.1 and 3.7 children among rural and urban women, respectively ²⁶. The median birth interval is 33.9 months, with an urban to rural breakdown of 43 to 32.9 months, respectively.

Factors contributing to Tanzania's high fertility rate include a relatively low median age at first marriage (18.9 years) and low age at first birth (19.5 years) ²⁶. Another contributor is the country's low contraceptive prevalence rate (CPR). Although CPR has risen steadily among married Tanzanian women – from 26% in 2004/5 to 34.4% in 2010 – contraceptive use remains low ²⁶. Of the 34.4% of women using any method, 27.4% use modern methods including injectables (10.6%), pills (6.7%), sterilization (3.5%), male condoms (2.3%), implants (2.3%), lactational amenorrhea (1.3%) or an intrauterine device (0.6%) ²⁶. Nationally representative surveys indicate that 25.3% of married, Tanzanian women have an unmet need for family planning ²⁶. Within Morogoro Region,

unmet need is slightly lower at 22.6% among married women ²⁶. Another contributor to high fertility is a short birth interval. A recent qualitative study on contributors to Tanzania's low birth interval emphasized that households are less likely to space births if women have restricted decision-making power, and if social norms emphasize children's contributions to "household economics" via farm work or assistance in domestic activities, and women's contribution via the reproduction of children⁷⁴.

A qualitative study conducted in Morogoro Region, in conjunction with MEP, sought to understand women's and men's experiences with family planning and their opinions regarding an ideal family size. In the study, respondents described family planning positively due to the health and economic benefits associated with having fewer children ⁷⁵. However, respondents also described how adverse side effects associated with family planning are a key factor in their decision to avoid, discontinue, switch or intermittently (i.e. incorrectly) adopt family planning methods ⁷⁵. Excessive menstrual bleeding, missed menses, weight gain and, most notably, concern for a breastfeeding infant's health were described in detail ⁷⁵.

3.5.2 Antenatal Care

Antenatal care (ANC) marks an important moment in the relationship between a mother-baby pair and the health system. Interventions provided during ANC include screening and treatment for complications (such as sexually transmitted infections and

malaria) as well as education related to birth preparedness, HIV prevention and family planning (among others). The World Health Organization (WHO) recommends that pregnant women complete at least four antenatal care (ANC) visits and that ANC should begin before the fourth month of pregnancy and occur again at months six, eight and nine ⁷⁶.

In the five years preceding the 2010 TDHS, nearly all women (96%) received ANC from a skilled provider at least once ²⁶. However, only 43 percent of women attended the recommended four times ²⁶, which represents a progressive decline in the total number of ANC visits over time ⁷⁷. As highlighted in a 2014 study (conducted by a MEP colleague), from 1999 to 2010 the proportion of women who completed ANC fell from 65% to 38% ⁷⁷. Drawing from DHS studies conducted in 1999, 2004/5 and 2010, the study determined that factors associated with declines include residing outside of the country's Eastern Zone (which includes both Dar es Salaam and Morogoro Region), never having been married, living a further distance from facilities, and delaying ANC initiation ⁷⁷. Factors associated with receipt of four ANC visits include the receipt of higher quality of services as measured via receipt of technical interventions including testing and counseling for HIV during ANC, receiving two or more doses of malaria prophylaxis during ANC and higher education status among women ⁷⁷. A mixed-methods assessment in Morogoro Region, also undertaken as a component of MEP, assessed how providers communicate during ANC visits, what patients understand in terms of

provider recommendations related to ANC and perceptions of how ANC routines and practices have changed over time ⁷⁸. The study found that declining rates of ANC completion are linked to changes in how ANC services are delivered; namely the integration of several services – including opt-out HIV testing – into fewer visits. Other factors highlighted in the study include lack of transport to facilities, poor quality of care including stock-outs of pregnancy tests (which compelled women to delay ANC until their pregnancy was “visible”), and an understanding that four ANC visits are not necessary in the event of a healthy pregnancy ⁷⁸.

3.5.3 Delivery Care

A majority of obstetric complications occur at – or in the minutes or hours immediately preceding or following – childbirth. For this reason, attention toward intrapartum care is considered an “overwhelming priority” ¹⁸ in the push to reduce maternal mortality and mechanisms considered highly effective include skilled attendance at birth coupled with access to emergency obstetric care (EmOC) ¹⁸. While skilled attendants could, in theory, perform deliveries at home, in Tanzania the term is synonymous with a birth that occurs in the presence of an individual based within a formal health facility who is trained in midwifery skills (oftentimes referred to as an RCH nurse, or reproductive and child health nurse).

Table 3.4. Place of Delivery in Tanzania

Historical Trends in DHS Data

	Facility (%)	Home (%)	Other / Missing
1993	52.6	45.5	1.9
1997	46.5	49.5	3.9
2000	43.5	56.3	0.2
2004/5	47.1	52.7	0.2
2010	50.1	48.1	1.7

Place of delivery varies widely across regions of Tanzania. Nationwide, 50.2% of live births are delivered in a health facility, with a public/private breakdown of 41%/9.1%. Home births account for 48.1% of births and “other” consists of

1.7% of births²⁶. For the past 20 years, rates of facility birth have remained persistently low, with approximately half of all women delivering in a facility, and half delivering at home (see Table 3.4).

Nationally-representative surveys indicate that skilled providers attend 51% of all births in Tanzania²⁶. A skilled birth attendant refers to “ an accredited health professional — such as a midwife, doctor or nurse — who has been educated and trained to proficiency in the skills needed to manage” pregnancies and birth, which includes identifying and referring mother-baby pairs in the event of a birth complication⁸². Researchers have critiqued the use of the term “skilled birth attendant” and its utility in measuring improvements in care provided at delivery⁷⁹⁻⁸¹. Studies conducted across low-income settings have reported on deficits between the skills providers actually possess versus those expected of them in order to be defined as “skilled”⁷⁹⁻⁸¹.

For Morogoro Region specifically, 48.1% of births take place in the public sector and 9.9% of births are conducted in the private sector. Skilled providers in the Region attend 60.6% of births²⁶. Home births account for 39.4% of all births. “Other births” (including births en route and missing data) comprise 2.6% of all births²⁶. The percentage of skilled birth attendance exceeds the percentage of facility- based births, which could suggest that domiciliary care (or skilled attendance at home births) is available in the region although this is challenging to confirm. In the Eastern Zone (which includes Dar es Salaam, Coast and Morogoro Regions), a minority (13%) of facilities provide any services to support safe home delivery (routine or emergency services)⁸³. Less than a quarter (21%) of facilities in the Zone have any official program supportive of TBAs⁸³. A study conducted in Kilombero Valley (which is within Morogoro Region, but not in the catchment area of this study) argued that the term “skilled birth attendant” and implications drawn via measurements of the “skilled birth attendant” indicator led to valuations that were not “particularly accurate, reliable or meaningful”⁸¹. The study also noted that determining who was skilled based on “title alone would have resulted in gross mischaracterization” as many medically trained providers (such as doctors and nurses) in the valley lacked “the competencies that would qualify them as skilled” while many non-accredited workers (such as aides) possessed those skills⁸¹. While I report rates of skilled birth attendance – a practice that is in line with a majority of maternal health literature – I caution that the term merits critique. I would add that while DHS estimates are invaluable for gauging trends in a population, I caution that the DHS has

limitations. In terms of methods, the DHS could be subjected to a recall bias (in the sense that women are asked to recall all births (up to 3) in the preceding 5 years), clustering bias (as the DHS-Tanzania policy is to interview all women within a household rather choosing one woman per household) and social desirability bias (in the sense that DHS interviewers in Tanzania are highly educated and usually urban dwellers; in this context, it is widely considered more “modern” and “proper” to deliver in a facility, which may hinder women from being more forthright in their responses).

3.5.4 Postpartum Care

According to the World Health Organization (WHO), the postpartum period (PPP) begins one hour after delivery of the placenta and continues for six weeks. Although as a topic PPP has garnered relatively little attention in the maternal health and careseeking continuum literature, the period presents a critical window during which care and education related to breastfeeding, family planning, immunizations, nutrition and HIV services should be provided. In Tanzania, while coverage of at least one ANC visit is high, the proportion of women receiving postnatal care (PNC) is low, with 30.8% receiving PNC within the recommended 48 hours of giving birth ²⁶.

Recent research conducted as part of MEP to understand patterns of use during PPC found that less than a quarter of women visit facilities for PPC ⁸⁴. Community-level factors associated with receipt of PNC include higher levels of family planning and a

higher sense of trust in a health system. Individual level factors include a higher education level, having had a cesarean section or forceps delivery, HIV testing of baby or of partners (conducted in the event of a woman testing positive), and receipt of messaging regarding the importance of PPC visits from a community health worker (CHW) ⁸⁴. Factors associated with not receiving PPC include having delivered at a hospital, health center or dispensary, and having had severe swelling of face or legs during pregnancy ⁸⁴. Behaviors and experiences in the immediate PPP among births based in facilities will be discussed in more detail in Chapter 7.

3.6 Tanzania's strategies to prevent maternal mortality

The One Plan and Sharpened One Plan

In recognition of the need to catalyze improvements in service delivery, knowledge, and practice, Tanzania developed its *National Road Map Strategic Plan to Accelerate Reduction of Maternal, Newborn and Child Deaths in Tanzania (2008-2015)* to highlight opportunities for action at the facility and community levels ⁵⁹. The *Road Map*, or “One Plan”, is focused on increasing facility-based care. The plan lists a series of recommendations that are intended to guide Ministries, District Councils, Public and private stakeholders and partners as they engage in efforts to reduce maternal and neonatal mortality. Key strategies in the Road Map/One Plan include:

- Increase governmental budgets for MNCH interventions including family planning and nutrition

- Revise laws that hinder effective provision of maternal, newborn and childcare services
- Improve production, employment, deployment and retention of a skilled health work force
- Strengthen basic and comprehensive emergency obstetric care and essential newborn services at dispensaries, health centers and hospitals
- Reinforce referral systems and improving infrastructure at health facilities such as communications equipment
- Establish community emergency committees to devise emergency preparedness and response strategies
- Build maternal waiting homes where appropriate
- Educate communities on MNCH interventions, re-instating quarterly village health days, intensifying adoption of positive behaviors for quality MNCH including nutrition and adolescent sexual reproductive health and birth preparedness (including transport in case of emergency, and promotion of key MNCH practices at the household and community levels).

The MoHSW conducted a mid-term review of the One Plan to gauge success in reaching targets outlined as part of the plan. The review highlighted that critical human resource shortages coupled with supply stockouts and bottlenecks compromised efforts to successfully meet targets. The Review outlined five strategic focal points to guide future

efforts which include: (1) Increasing efforts in zones with the highest burden of mortality via advocacy, resource mobilization and community awareness efforts; (2) refocusing efforts toward underserved populations including young or marginalized women and within marginally performing rural areas; (3) deploying high-impact, evidenced based interventions namely family planning, intrapartum care and postnatal care; (4) incorporating a rights-based approach to health that emphasizes access to education, economic stability and respectful care and (5) fostering accountability and transparency within the health system via routine monitoring ⁶³.

Chapter 4 Methods

4.1 The Morogoro Evaluation Project (MEP) and Partnership

In order to help reach goals set forth in the *Road Map*, the MOHSW partnered with Jhpiego to develop a Facility and Community Program to Improve Maternal, Newborn and Child Health interventions. The program sought to establish a model for provision of comprehensive and integrated MNCH services for pregnant women and their infants guided by the strategies outlined in the One Plan. Funded by USAID, the initiative was named “Mothers and Infants, Safe, Healthy and Alive” (MAISHA or “life” in Swahili). The program strategy works to ensure that all pregnant women are linked into comprehensive MNCH services through an integrated community-facility approach, implemented via community health workers and facility-based health care providers. In 2012, the MOHSW approved national guidelines that clarified the role of these MNCH CHWs. The program is now being implemented initially in Morogoro Region, with the aim of scaling up to other regions once a sustainable and scalable package is defined.

In order to assist in efforts to clarify the nature and components of the package, USAID provided funding for an evaluation through the Health Research Challenge for Impact (HRCI) cooperative agreement. The evaluation was led by Muhimbili University of Health and Allied Sciences (MUHAS), which is based in Dar es Salaam, and by the Johns Hopkins Bloomberg School of Public Health (JHSPH) of Baltimore. The evaluation began at the

baseline of the intervention, in 2011, and is referred to as the Morogoro Evaluation Project (MEP).

This research presented here stems from data collected at baseline as part of the broader MEP partnership. Findings from this dissertation have been systematically shared with colleagues from Jhpiego, MOHSW, USAID and relevant stakeholders in order to inform the program scale up. At the first annual dissemination meeting for MEP in 2012, I presented preliminary findings from this work to MOHSW officials, medical professionals from Morogoro region, staff from USAID-Tanzania and USAID-Washington, and intervention partners including Jhpiego. I have also worked in collaboration with partners during the drafting of manuscripts.

4.2 Study Design

MEP undertook a quantitative household survey (n=1960) and a series of in-depth interviews (n=118) in 2011. Senior faculty members oversaw both the quantitative survey and qualitative interviews. I was involved in devising the quantitative questionnaires, but did not engage in quantitative data collection. I coordinated and engaged in all aspects of the qualitative research.

Quantitative methods included a cross-sectional survey with women who delivered in the preceding 14 months. Qualitative methods included in-depth interviews with:

women who delivered in the preceding 14 months, partners of these women, community health workers (CHW) and community leaders, such as religious leaders, traditional birth attendants and village elders. Both methods sought to explore patterns of health behavior and knowledge or attitudes related to the antenatal, intrapartum or post-natal period. Quantitative methods sought to analyze differences across districts. Qualitative methods sought to do this and to explore differences by distance to facilities. More details related to study design are presented in the methods sections of each paper.

4.3 Study Sample and Sampling

4.3.1 Quantitative Sample

The survey sample was designed to provide estimates for rural areas of districts in Morogoro in which Jhpiego is engaging in its intervention (Kilosa, Morogoro District Council, Mvomero and Ulanga). A sample size of 960 recently delivered women in each arm was calculated by the quantitative team as the necessary target to capture a 10% difference in coverage between the intervention and comparison areas with a 95% significance level, 80% power, assuming a 15% refusal rate and assuming a design effect of 2. A two-stage sampling strategy (detailed later) was employed to select 30 clusters in each of the intervention and comparison arms with about 30 - 35 RDWs interviewed per cluster.

4.3.2 Quantitative Sampling

The quantitative study used a two-staged cluster sample. First, 30 clusters from villages in the intervention area and 30 clusters from villages in the comparison areas were chosen through probability proportional to size (PPS) sampling. Population estimates for the villages were based on the 2002 Tanzania census. All villages in the catchment areas of the health centers were listed along with population and distance to the health center (HC). The list of villages was prepared based on health center catchment data obtained from the health facilities by me and another JHSPH researcher. The discrepancy in the population figures were cross checked based on the population figures from the 2002 census data by a JHSPH doctoral student and a project manager. In each health center catchment area, villages were grouped according to the wards in which they belonged, with the wards arranged based on closeness to the health centers.

In the second stage, investigators identified women to be interviewed. For each village in which a cluster was based, a list of the population and households was made based on data from local government authorities. Each village in Tanzania is typically divided into a number of geographically defined sub-villages (“kitongoji”). Based on the population estimates of sub-villages, “kitongoji” were combined into population units with an approximate size of 1000-1500 individuals. Units were chosen in a random manner by lottery. In each unit, the survey team visited each household to administer a short instrument to identify women who had a pregnancy outcome in the last 2-14

months. An eligible woman was considered as one who gave birth within the past 14 months but not within the previous two months irrespective of outcome (we excluded women who gave birth in the previous two months because we wanted women who had had a chance to encounter post-partum care). In each household, only one woman was interviewed. If the household had more than 1 eligible woman, only one was selected for interview by random picking of names. After selection, the woman was interviewed after obtaining written informed consent. If a multiple birth was encountered then details about all of the babies were collected.

4.3.3 Qualitative Sample

The qualitative research pulled from interviews with 118 respondents (see Table 4.1). In keeping with the study objectives, the study sample was focused on the health care of the mother and the

newborn as well as awareness of and barriers to accessing care.

To ensure that the qualitative study

represented diverse facilities and locations and to ensure that its design was reflective of the quantitative survey sample, the qualitative sample collected data across four of

Table 4.1. Characteristics of qualitative respondents						
	Women	Husband	CHW	TBA	Community Leader	Religious Leader
Near	23	12	12	2	2	6
Far	26	15	8	4	3	5
Morogoro Rural	10	2	2	0	1	1
Kilosa	10	11	3	2	1	2
Mvomero	17	8	8	2	2	4
Ulanga	12	6	7	2	1	4
Total	49	27	20	6	5	11

six districts in Morogoro Region: Morogoro District (rural), Mvomero, Kilosa (including Gairo), and Ulanga/Mahenge. Sampling also occurred both near and far from health facilities as we sought to explore differences in behavior and attitudes based on a respondent's proximity to facilities.

4.3.4 Qualitative Sampling and Procedures

“The validity, meaningfulness, and insights generated from qualitative inquiry have more to do with the information-richness of the cases selected and the observational/analytical capabilities of the researcher than with sample size.” - Patton 1990⁸⁵

I used purposeful sampling to identify knowledgeable informants from different perspectives^{85,86}. The objective of this sampling approach was to find information-rich respondents who were knowledgeable about the experience of birth and careseeking for birth. Criteria for in-depth interviews with women (and their husbands) included that the informant experienced a pregnancy outcome in the preceding 14 months, and that the informant lived within the districts where data collection took place.

With regard to sample size, Morse suggests a range of 20-30 when informants will be interviewed 2-3 times and 30-60 when informants will only be interviewed once in a semi-structured setting⁸⁷. Based on these guidelines, we aimed to interview approximately 40 RDWs and 30 of their male partners at least once. Women or men whose experiences illuminated our understanding especially well or who requested to be interviewed twice were interviewed in a follow-up. Factors that guided my sample

size decisions in the field included data triangulation (cross-checking data across respondent groups) and saturation (the repetition of themes across interviews with different informants)⁸⁷.

In-depth, semi-structured interviews were conducted to understand the reasons for different patterns of service utilization. In total, 49 interviews were carried out with women, with approximately half of these women delivering at home and half delivering in a facility. In depth-interviews were conducted with husbands or partners of these women in order to explore how they view their role in the pregnancy, delivery and immediate post-natal period. Interviews were carried out with community and religious leaders across all villages to identify factors at the community level that facilitate or constrain the use of health services and to explore how religious leaders perceive and prioritize maternal, neonatal and child health in their communities.

Among the most valuable procedures I undertake while collecting data is debriefings. Modeled from my experiences as a young journalist engaging with editors, debriefings are akin to meetings wherein I interview the data collector(s) and collect field notes based on this interaction. At the outset of data collection, debriefings are one-on-one and largely procedural in content. I try to learn from the interviewer what we could do to improve the process of data collection. I ask the interviewer questions such as: Is it feasible to find and interview respondents in a private setting (or is the community

trailing after the duo to pry into the interview)? Did your recording device work (let's have a quick listen and upload the recording). Are the consent forms understandable and did you have them signed or fingerprinted (let's put them in this waterproof folder). Are the instruments too short or too long? Do we have concerns about informant fatigue and if so, what do you think we should do about this? In terms of the interviewers, I use the earliest debriefings to gauge their strengths and weaknesses as interviewers and qualitative researchers. Did they appear interested and engaged in the data collection activity? Did they probe on valuable lines of inquiry? Did they feel capable of shifting the interview back on track if it digressed in a manner that was not informing the research question? What would they like from me in terms of troubleshooting through a difficult process?

Within the first 10 days of data collection, I conducted a refresher training on the art of high quality interviewing. To do this, I pulled out a collection of my favorite interviewing tips collected from my experiences as an undergraduate in journalism school, enhanced during my time as a reporter and refined after leading trainings on how to conduct interviews (see these notes in Table 4.2).

As data collection progressed, I shifted the nature of the debriefing. I removed many of the procedural questions and the one-on-one nature of the session, and the debriefing became more like a focus group (with me as moderator and notetaker). At this phase, I

asked each interviewer to describe key points or new findings from their interview and to confirm or provide nuance to findings that we heard earlier in data collection (to guide decisions related to saturation).

At this phase of debriefings, I invited all interviewers to jump in when they could contextualize, confirm or dispute a piece of information based on their own interview (as a means to guide decisions related to triangulation). For me – and the data collection teams – this was among the most enjoyable and enlightening periods of the research process. Group Debriefings prompted new ways of looking at an issue, helped the interviewers gauge whether a follow-up interview was necessary, forced the research

Table 4.2. Interview tips for trainings & debriefing sessions*
Ask for consent
Explain the recorder, put it within reach of the respondent, tell them they can turn it off at will and explain how to do this
Use all senses to capture details. <ul style="list-style-type: none"> • Recognize pauses long and short • Capture what is spoken and unspoken (gestures, glances, fidgeting, fear, smiles, sincerity, pride) • Note the smells, sights, the “texture” of the interview
Keep a conversation comfortable <ul style="list-style-type: none"> • Start simple • Share something about yourself • Know when to pause • Respect respondents’ autonomy • Give time for responses
Avoid the temptation to interrupt the respondent
Use open-ended questions and probes
Ensure privacy
Don’t assume <ul style="list-style-type: none"> • Ask a follow-up question rather than attaching <i>your</i> interpretation to a response (<i>true even with seemingly obvious examples</i>)
Ask “remarkable questions in an unremarkable tone”
Don’t judge – not with your voice, body or face
Be conscious of your role in this endeavor (reflexivity) <ul style="list-style-type: none"> • Memo how you, as <i>you</i>, shaped this interview
Leave jargon at the door <ul style="list-style-type: none"> • Avoid words like “mortality” “careseeking process” “prevalence”; to quote Harrington they “sap the power and beauty of plain language”
End every interview with this question <ul style="list-style-type: none"> • “Is there anything I should have asked you that I did not ask you?” • This often produces the most fascinating part of the interview
<small>*Drawn in part from Harrington’s “Intimate Journalism”⁸⁸</small>

team to think through how to reframe old questions or create new questions for subsequent interviews, and served as reminders to the team that an interview is a short window into a person's life during which contextualization of experiences occurs. The "focus group phase of debriefings" sparked vibrant conversations among data collection teams about social desirability bias, thoughts on power, autonomy and decision-making within households and communities, and the role of the interviewer and research teams generally in terms of advocacy, human rights and social responsibility. It was also an opportunity for the team and me to consider issues of reflexivity and to gauge how our social standing, personal experiences and inherent biases affected our data collection activities, the nature of the interviews, our engagement with respondents and one another. For instance, we spent long periods of time discussing childbearing and the way our team had only one data collector who had given birth. The team described to me how strange it was to village elders that I was managing a sub-study related to childbirth although I was, in the eyes of Tanzanian society, childlike (due to my lack of children). They also described how their own status as childless adults helped them. Due to socio-economic differences, respondents in rural areas are often likely to defer to the expertise of data collectors, but in our study the data collectors repeatedly assured respondents that they had true authority regarding the story of their lives and their expertise related to the birth experience (which the interviewer had never personally experienced).

In the final phase of the debriefing process, I almost wholly removed myself from the process. The team nominated one of the data collectors to serve as moderator and another data collector to serve as a notetaker. The language of this Group Debriefing switched from English (used for my benefit) in favor of Swahili. When necessary, I asked for clarification of a term or phrasings that I didn't understand. During this phase, I began to build up a list of key phrasings (emic terms) that would be valuable when presenting this research to stakeholders and for use in academic publications. I began to devise a powerpoint of preliminary findings that was later presented to project principal investigators and others upon the conclusion of data collection.

The final debriefing occurs on the day after the conclusion of data collection. During this session, I presented the powerpoint to data collectors, we edited and refined the slides, we nominated and confirmed individuals to present portions of the presentation and we did a run-through of the full presentation as it was shared with partners upon our return to the university and ministry office wherein the research was nested.

4.4 Data Management and Analysis

4.4.1 Quantitative data management and analysis

All quantitative data were entered in a database using a custom-designed data entry program. The data were then converted and analyzed using Stata⁸⁹. Analysis related to study aims was conducted by me under the guidance of a biostatistics tutor based at

JHSPH (Rachel P. Chase). Further details of the analysis process for each paper is outlined in the methods section of each paper.

4.4.2 Qualitative data management and analysis

“It seems that, due to a long history of producing important findings, quantitative research has become the language of research rather than the language of a particular paradigm. Use of this language in qualitative research, and the need to ‘prove’ that an ‘unbiased’ approach has been used may stem from a desire for intellectual and scientific acceptance by the academic community.” - Gerard Tobin and Cecily Begley in “Methodological rigour within a qualitative framework”⁹⁰

This dissertation draws heavily from qualitative methods. Because of overt or subtle skepticism of qualitative methods that I have experienced within academic and programmatic communities, and because of my own desire to clearly delineate my approach to addressing rigor (synonymous with trustworthiness in qualitative research),

I outline how this study sought to ensure quality in research. A leading resource guiding rigor in qualitative studies is Lincoln and Guba’s seminal framework summarized in Table 4.3⁹¹. Rather than pulling from quantitative terminology, Lincoln and Guba

Table 4.3. Trustworthiness and rigor	
Credibility/internal validity (findings = true)	
<ul style="list-style-type: none"> • Prolonged engagement • Triangulation <ul style="list-style-type: none"> • data, investigator, methodological • Member checking • Searching for negative cases 	
Transferability/external validity (findings= applicable in other contexts)	
Thick descriptions: place, context, culture	
Dependability/reliability (methods = applicable to my research question)	
Audit trail	
Confirmability/objectivity (findings ≠ biased) (findings = “confirmable” by tracing back my data)	
Audit trail, triangulation, reflexivity	
Source: Lincoln and Guba 1985 ⁹¹	

devised the term “trustworthiness” and created four distinct aspects of trustworthiness: credibility, transferability, dependability and confirmability⁹¹. They also highlighted strategies to operationalize each aspect.

This qualitative study sought to attain trustworthiness via several dimensions during data collection and analysis. In terms of the first dimension, credibility, the data collection team spent at two (but usually three) days in each community visited. The full duration of data collection lasted two months and allowed for follow-up interviews in order to verify lines of questioning and to improve probing. The team also engaged in respondent triangulation. Each evening, all data collectors gathered and compared findings across respondent groups to gauge whether and how responses varied across respondent groups. I took notes during these sessions. These notes were used to guide future debriefing sessions between interviewers and me. While not a common approach employed in qualitative data collection, I find debriefings very useful. Guided by Sandelowski⁹², due to concerns regarding questions of “who owns the data,” sensitivities associated with power and social standing (between interviewers and respondents), and logistical difficulties of undertaking the process, we did not rely heavily on member checking (the process of providing a portion of our interpretation or analysis results to participants from the study⁹³) as a means to enhance credibility. Instead, our data collectors actively sought out negative or disconfirming cases. For instance, we sought out women who stayed longer in facilities after childbirth in order

to explore why (unlike the majority) they delayed departure. These criteria were carried into the analysis phase, when I sought to again triangulate data across respondents and across methods (comparing findings from the quantitative survey and qualitative interviews).

In terms of the second dimension of the trustworthiness framework, transferability, I tried to capture thick descriptions of place and context via copious notes collected for the duration of data collection. I wrote debriefing notes based on each interview. I engaged in observations while at facilities and tried to capture as much detail as possible to help inform dimensions of context and place. I also took photographs (upon receiving permission) in order to help many team members who were not in the field understand the setting and context. Upon returning from the field, I engaged in literature searches to gain a deeper perspective of historical and political factors that underpin the reality of what we observed while in the field.

Regarding the third and fourth dimensions, dependability and confirmability, the study was organized in a way that others (who were not in the field with us) would be able to undertake an “audit trail” and follow our process from the moments after data were collected, through field note-taking, debriefings, transcriptions, translations and coding. All interview guides contained cover sheets with a naming convention that was maintained throughout the duration of the study. All tapes, transcripts, and files were

labeled with the same code (which was not a participant's name) and backed up in two (password-protected) computers. Coding was completed collaboratively and routinely checked by senior investigators⁹⁴.

4.4.3 Qualitative data management and analysis

Transcripts of qualitative interviews were prepared in a standard format, initially by qualitative interviewers based in Morogoro Region. Audio recordings from interviews were recorded, transcribed and selectively translated based on a ranking system applied to each transcript. The ranking efforts were led by a trained Swahili speaker who reviewed and ranked all scripts on a scale of 1-10 (1 is the lowest, 10 is the highest) in an excel spreadsheet. Three especially rich scripts were transcribed, and used to develop a codebook of broad codes. Coding was informed by the framework approach⁹⁵. These codes were then applied to all transcripts in Swahili regardless of ranking (see Codebook in Appendix 9.2). Atlas.ti printouts of higher priority codes were translated first. A team of MUHAS and JHSPH researchers decided upon higher priority codes. Once translated, I conducted all analysis with oversight and code checking by my academic advisor.

Unfortunately, we could not translate all text from the Swahili scripts into English, which is a shortcoming in terms of data integrity. Selective translation was deemed necessary given the cost of translation and restrictions in our budget. The level of confusion that this process of partial-translation sparked in the research team proved to me that it is

necessary to budget appropriately for translations or to devise other mechanisms for collecting data that do not rely as heavily on transcription and translation of thousands of pages of data. Observations, for example, would have been an excellent option. Alternately, my own ability to speak Swahili would have avoided this shortcoming.

4.5 Conceptual and theoretical frameworks guiding this study

“... theory helps us structure our ideas, so as to explain causal connections between specified phenomena within and across specified domains by using interrelated sets of ideas whose plausibility can be tested by human action and human thought”
- Nancy Krieger in *“Theories for social epidemiology in the 21st Century: an ecosocial perspective”*⁹⁶

Three theoretical perspectives have guided my approach to defining my research question, deciding upon methods, writing instruments, collecting and analyzing data and writing results. The models include the Three Delays Model, Bandura’s Social Cognitive Theory and the Social Ecological Model. The Three Delays Model has dominated maternal health literature since its introduction in 1994 ⁹⁷. The latter two theories stem from the field of social epidemiology.

4.5.1 The 3-delays model

The prevailing paradigm in maternal careseeking is Thaddeus and Maine’s Three Delays model ⁹⁷. Devised as a mechanism to guide our understanding of the causes for barriers in the careseeking pathway, the 3-delays model highlights the following delays:

1. Delay in decision to seek care
 - a. Recognizing there is a problem

- b. Deciding to seek care
- 2. Delay in reaching care
- 3. Delay in receiving care once at a facility

The model has proven exceptionally useful in terms of guiding discussions around when delays in careseeking occur. Researchers laud the model for its

Table 4.4. Pros and cons of the Three-Delays Model ("Too far to walk" Thaddeus and Maine 1994)	
Pros	Cons
<ul style="list-style-type: none"> ■ Easy to grasp, clear sequence of events ■ Facilitates organized dialogue and provides outline for interviews ■ Helped us identify when women "fall of the path"; implicit recommendations for further research and interventions therein 	<ul style="list-style-type: none"> ■ Inherent bias toward facility delivery ■ Frames the issue in sequential, silos of delays, it may be more about decisions related to quality of care ■ Emphasis on "delay" (when) instead of rationale for delay (why)

universality, given that it is equally applicable whether for women living in New York City or in a distant, impoverished village. Since its introduction, the model clarified a mechanism to frame major contributors to delays: distance, cost, quality of care and sociocultural factors.

Unfortunately, while the authors of the model did not likely intend for this to happen, the Three Delays paradigm has also led to a "siloes" and sequential understanding of careseeking. Rather than focusing on *why* communities, families and women delay seeking care, attention has been diverted to *when* the delay occurs. It has also led to a proliferation of messaging directed at women and their families instructing against delaying care. A 2004 WHO publication "Beyond the Numbers: reviewing maternal

deaths and complications to make pregnancy safer” warned of this pitfall: “While this model is extremely useful to conceptualize the road to death and as a topic guide for an in-depth interview, it is not immediately helpful in formulating specific recommendations. Hence, the three delays framework should be seen as a guide for discussion, rather than as a tool for classifying deaths.”⁹⁸ Nevertheless, classification continues to occur with deaths attributed to one of the Three Delays.

Noticeably absent from these conversations is the role of overarching factors that underpin delays. For example, a primary factor guiding decisions related to birth location stem from previous birth experiences. In the instance of a woman (or an acquaintance of a woman) experiencing poor quality of care, her future intention to return to a facility is diminished; in this instance even if there is an obstetric emergency a family will wait in hopes that the emergency subsides. Using a Three Delays model, this routinely gets classified as a “first delay” or possibly a “second delay”. In reality, the delay was destined long before labor set in and it is more greatly a result of poor quality of care experienced in an earlier period of life.

Beyond diverting attention from causes that underlie *why* delays occur across phases, the Three Delays model also curtails a broader discussion on careseeking and whether it makes sense to have facility delivery as an ultimate goal. The model presents facility-delivery as the singular option for childbirth. While the initial model emphasized the

importance of careseeking for obstetric complications, more recent iterations have blurred the focus. Today, facility delivery is recommended for all births. Advocating for institutional deliveries, particularly in countries that lack basic equipment and skilled staff, is morally questionable. Persistent messaging to women that they should deliver in facilities even after these same women report verbal and physical abuse endured during delivery ² speaks to a larger discussion on ethics. If women report knowing that facility delivery is the “safer” option yet the demand for institutional delivery remains persistently low, how can researchers better formulate studies to address the gulf between what women want and what public health practitioners currently offer?

4.5.2 Theoretical Perspectives from the Social Sciences

Multiple theorists across disciplines as diverse as sociology, epidemiology, anthropology and history have argued that to understand any behavior or outcome, it is imperative to move beyond the beliefs, attitudes, and knowledge of individuals and instead place behaviors within their social, structural, and economic context. The following theories represent holistic thinking about an issue and challenge researchers to take more nuanced approaches to understanding an individual’s behavior.

Social epidemiologists including Krieger, Berkman and Glass employ phrases such as “web of causation” or “the social determinants of health” and refer to a “cascading upstream and downstream causal process” to illustrate how social context and

networks impact health⁹⁹. The sociologist Durkheim inspired generations of sociologists and, later, social epidemiologists in his seminal work *Suicide*, which explored how “social facts” explain *even* a seemingly individual act such as suicide¹⁰⁰. Durkheim’s “Social Integration Theory” concluded that an individual’s level of social integration could protect or undermine health¹⁰¹. The medical anthropologist Turshen argues that Durkheim’s perspective overlooks the economic basis of human behavior and therefore neglects the unequal power relations between individuals, social classes and nations¹⁰². Turshen, who has written extensively on Tanzania, uses the phrase “The Political Ecology of Health” and cites Marx in her argument that “individuals exist in social relations rather than in isolation” and public health programs “based on epidemiological research cannot eradicate disease in the absence of larger social changes affecting the structure of society”¹⁰². A term later applied to research that views health through a similar lens as Turshen’s is “Critical Medical Anthropology”^{103,104}. Most recently, anthropologists and public health practitioners such as Farmer and Fassin employ the term “structural violence” to argue that political, social and economic entities that advantage some at the expense of many are the true cause of disease¹⁰⁵. Farmer and Fassin are particularly critical of modern public health research and interventions that, they argue, focus too heavily on “culture” and individual explanations for disease as the root cause of public health failures, when in fact structural institutions often present the starkest barriers to care¹⁰⁵.

Regardless of the vocabulary employed, researchers engaged in social epidemiology describe the ways in which a hyper-focus on the individual in the absence of considering their larger societal web is an inadequate approach to understanding behavior and unpacking attitudes toward and experiences of seeking care to address health.

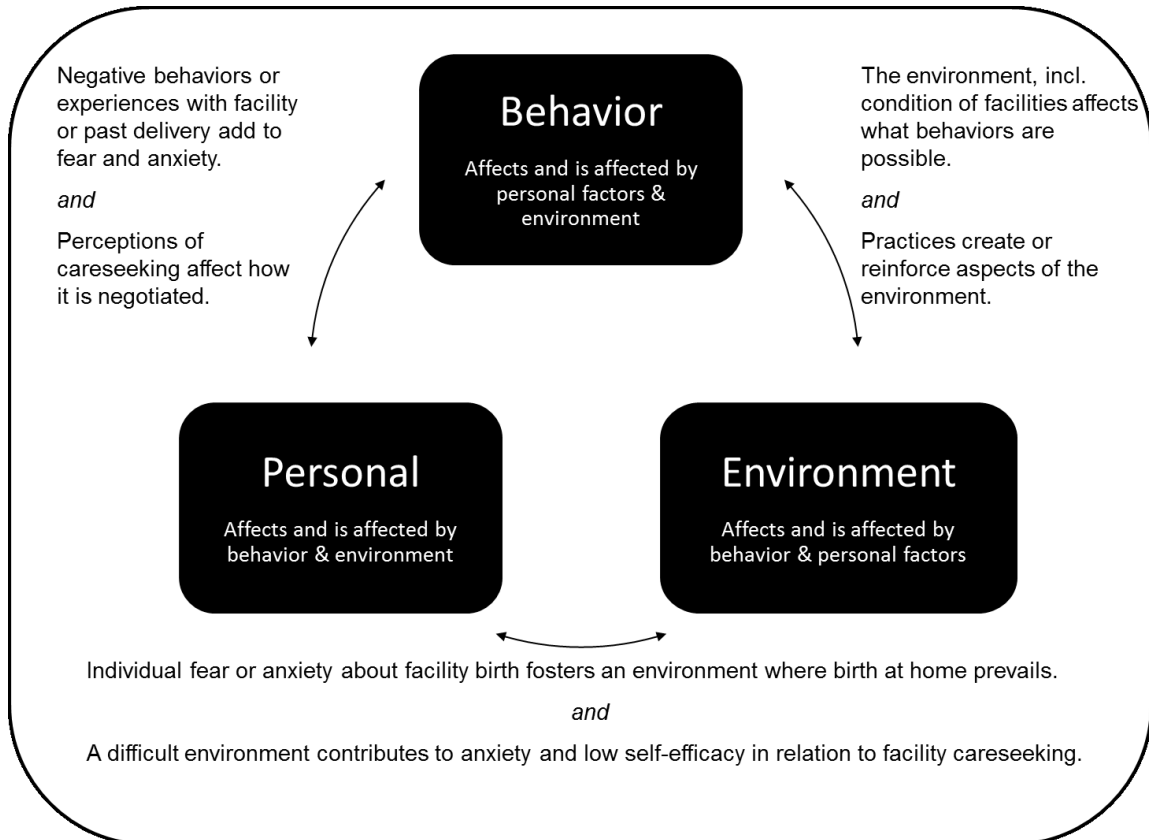
Specific models that informed my research include the Social-Ecological Model¹⁰⁶ and Social Cognitive Theory¹⁰⁷. Sweat and Denison's Social-Ecological Model identifies factors at the Intrapersonal (individual), Interpersonal (spouse, family, friends, peers), Organizational, Community and Policy levels that affect health-related behaviors¹⁰⁸. Bandura's Social Cognitive Theory emphasizes three groups of inter-related factors including personal/individual characteristics, environmental/ surroundings and behavioral factors. To guide my thinking through issues of careseeking, I applied the theories to my research question (See Figure 4.1 for Social Cognitive Theory and Careseeking; See Table 4.5 for the Social Ecological Model and Careseeking).

4.5.3 Social Cognitive Theory applied to careseeking for delivery

Social Cognitive Theory takes into consideration the reciprocal determinism which guides behavior¹⁰⁷. Personal factors about a woman affect and are affected by her behavior and environment. The environment affects and is affecting by individual and group behaviors as well as a woman's personal factors. Behaviors affect and are affected by personal factors and the environment. For instance, a difficult environment

for delivery (an environment such as Morogoro where no facility is categorized as capable of providing Quality Delivery Care as defined by the SPA 2007) creates anxiety in women and their escorts regarding facility-based delivery. The nature and existence of roads and transport dictates which behaviors are feasible. Negative previous experiences or previous behaviors inform personal attitudes toward future behaviors. More details of the interactive nature of the individual and behavior are highlighted in Figure 4.1.

Figure 4.1. Social Cognitive Theory and Careseeking



4.5.4 Social Ecological Model applied to careseeking for delivery

Of particular importance is the Social Ecological Model (see Table 4.5). The model emphasizes several levels that impact health: superstructural, structural, environmental, relational, individual and technological ¹⁰⁶. At the “upstream” end of the model, we see how macro level variables such as language, politics, history and ethnicity influence variables at the structural level and so on all the way down to the individual level. In continuing the cascade, we see that environmental factors (such the physical environment of the facility and whether it is harvesting season) can ultimately decide whether, when or where a woman will go for delivery. Among the most helpful aspects of the model is the way it forces researchers to think through personal relationships and how they affect behavior. Birth marks a moment when a new member is joining a society, and when women rely heavily on external factors and physical support. In this sense, it is essential to think of those who are around them at the moments leading up to and following birth and to consider the attitudes and preferences of these individuals. While the social ecological model emphasizes the ways that upstream factors influence downstream factors, individual characteristics such as a woman’s sense of autonomy or self-efficacy coupled with the availability of technological factors or the support of her spouse could play a large role in determining behavior – absent environmental, structural and even superstructural factors.

Table 4.5. Social ecological approach to careseeking for delivery

Superstructural	Ethnic politics, language, historical context, poverty/economic development, donor interests
Structural	Government policies, regulations that deter or dictate use, existence of roads and facilities
Environmental	Social environment, physical environment, seasonality, nighttime or daytime birth, infrastructure in facilities (incl. generators, electricity, water, access to privacy)
Relational/ Dyadic	Communication/orientation with/by spouse, in-laws, social pressure, control of funds, availability of escort, decision-making and sense of autonomy
Individual	Fear, confusion, feelings of disrespect from provider, self-efficacy, autonomy, concerns regarding HIV testing, lack of privacy
Technological	Availability (or lack) of safe birth supplies, access to cell phone or other device in the event of emergency

Chapter 5 “Experiences of and responses to disrespectful maternity care and abuse during childbirth; a qualitative study with women and men in Morogoro Region, Tanzania”

5.1 Abstract

5.1.1 Background

Interventions to reduce maternal mortality have focused on delivery in facilities, yet in many low-resource settings rates of facility-based birth have remained persistently low. In Tanzania, rates of facility delivery have remained static for more than 20 years. With an aim to advance research and inform policy changes, this paper builds on a growing body of work that explores dimensions of and responses to disrespectful maternity care and abuse during childbirth in facilities across Morogoro Region, Tanzania.

5.1.2 Methods

This research drew on in-depth interviews with 112 respondents including women who delivered in the preceding 14 months, their male partners, public opinion leaders and community health workers to understand experiences with and responses to abuse during childbirth. All interviews were recorded, transcribed, translated and coded using Atlas.ti. Analysis drew on the principles of Grounded Theory.

5.1.3 Results

When initially describing birth experiences, women portrayed encounters with providers in a neutral or satisfactory light. Upon probing, women recounted events or circumstances that are described as abusive in maternal health literature: feeling ignored or neglected; monetary demands or discriminatory treatment; verbal abuse; and in rare instances physical abuse. Findings were consistent across respondent groups and districts. As a response to abuse, women described acquiescence or non-confrontational strategies: resigning oneself to abuse, returning home, or bypassing certain facilities or providers. Male respondents described more assertive approaches: requesting better care, paying a bribe, lodging a complaint and in one case assaulting a provider.

5.1.4 Conclusions

Many Tanzanian women included in this study experienced unfavorable conditions when delivering in facilities. Providers, women and their families must be made aware of women's rights to respectful care. Recommendations for further research include investigations of the prevalence and dimensions of disrespectful care and abuse, on mechanisms for women and their families to effectively report and redress such events and on interventions that could mitigate neglect or isolation among delivering women. Respectful care is a critical component to improve maternal health.

5.1.5 Keywords

Maternal Health, Abuse, Respectful Maternity Care, Tanzania, Male Involvement,
Childbirth

5.2 Background

Pregnancy and childbirth continues to place women at risk of significant morbidity and mortality, particularly in sub-Saharan Africa. Globally, in 2010, of 287,000 maternal deaths, 162,000 occurred in sub-Saharan Africa²⁰. For every woman who dies of pregnancy-related causes, 20 to 30 others experience acute or chronic morbidity^{14,103}. Efforts to reduce maternal morbidity and mortality emphasize facility-based childbirth and skilled attendance at birth with timely referral for emergency obstetric care if complications occur¹⁰⁹. This priority is echoed in Millennium Development Goal 5 to improve maternal health, which measures success by tracking the proportion of births conducted with a skilled attendant¹¹⁰.

Despite decades of efforts to encourage facility births, many women continue to deliver at home. Investigation regarding the barriers that women face in accessing and receiving quality care has long been on the research agenda and emphasized delays particularly related to cost and distance^{97,111}. A more recent emphasis has centered on quality of care and, more specifically, women's experience of disrespectful care and abuse related directly to provider actions^{2,4,112}.

As a concept, disrespect or abuse toward patients in health facilities has proven multidimensional and challenging to define. Similar to concepts such as quality of care or patient satisfaction, the meaning of abuse is subject to variation based on setting, time, birth outcome and personal expectations or opinions. As recently as 10 years ago, nearly no literature addressed the topic ¹; and abuse during childbirth was described as an “emerging problem” ². Since then the topic has garnered broader attention with studies in South Africa ¹¹³, Ghana ^{114,115}, Malawi ¹¹⁶, Nicaragua ¹¹⁷, Guatemala ¹¹⁸ and Denmark ¹¹⁹.

In Tanzania, several studies highlight the importance of quality of care during childbirth ^{6,7,27-30,120}, however the experience of abuse, its manifestations and responses to it in non-complicated births has been less explored. An anthropological study by Spangler on embodied inequality – or how social and material status unevenly affects the process of seeking and receiving obstetric care – described how poorer Tanzanian women were more likely to deliver alone or with minimal support, to be scolded, berated or discriminated against, and to be subjected to unpredictable fees ⁶. In case studies presented in the study, women paid bribes or moved to the floor during delivery ⁶.

The relevance of health provider abuse within the spheres of maternal health and human rights is crystallized in the 2011 Universal Rights of Childbearing Women ⁵, which states:

“Because motherhood is specific to women, issues of gender equity and gender violence are also at the core of maternity care. Thus, the notion of safe motherhood must be expanded beyond the prevention of morbidity or mortality to encompass respect for women’s basic human rights, including respect for women’s autonomy, dignity, feelings, choices, and preferences, including choice of companionship wherever possible.”

Proposed domains of abuse have been highlighted in two seminal articles. D’Oliveira’s work divides violence or abuse in health care into four dimensions: neglect; verbal violence, including rough treatment, threats, scolding, shouting, and intentional humiliation; physical violence, including denial of pain-relief when technically indicated; and sexual violence ². Bowser’s review outlines a similar framework that includes: physical abuse, non-consented clinical care, non-confidential care, non-dignified care (including verbal abuse), discrimination of patients, abandonment of care, and detention in facilities ⁴.

Building on existing frameworks and literature, this study explores how rural Tanzanian women and their male partners describe disrespect and abuse experienced during childbirth in facilities and how they respond to abuse in the short or long-term.

5.3 Methods

5.3.1 Study setting

In Tanzania, the maternal mortality ratio is 454 deaths for 100,000 live births. One in 38 women have a lifetime risk of death due to maternal causes¹²¹ and for every 1,000 births, 4-5 women die from pregnancy-related causes²⁶. Nationwide, 50.2% of births are facility-based and 50.6% of all births are in the presence of a skilled attendant²⁶. Since the early 1990s, the national rate of facility-based birth has remained below 52.6%^{26,122}. In rural areas, less than half of births are facility-based (41.9%) and 42.3% of all rural births are in the presence of a skilled attendant²⁶.

This study was based in 16 villages across 4 districts of Morogoro Region, in eastern Tanzania. Compared to national averages, slightly more women in the region deliver in a facility (58%) and more births are attended by a skilled provider (60.6%)²⁶. Throughout the country's Eastern Zone, which encompasses the region, hospitals and health centers are ill equipped to provide basic or comprehensive emergency obstetric care (EmOC). Basic EmOC is available in 11% of facilities and comprehensive EmOC is available in 10% of facilities⁶⁴.

In terms of personnel, facilities in Morogoro Region are understaffed, which reflects national trends. The Region's density of doctors (0.2), assistant medical officers (0.3)

and clinical officers (2.1) per 10,000 people attests to severe human resource limitations⁶⁴. Less than half of all facilities in the Zone (47%) have at least 2 qualified providers assigned to a facility to support basic emergency services 24-hours⁶⁴. Supportive management practices, which are critical for supporting quality care, are also limited. While many facilities in the Eastern Zone receive an external supervisory visit (79%), 34% of facilities provide routine staff training and only 25% of facilities provide “supportive management practices” (an external supervisory visit, routine training and personal supervision)⁶⁴.

5.3.2 Study design

This qualitative, cross-sectional study employed in-depth interviews (IDIs) with women, their male partners, community health workers (CHWs) and community leaders. At eight health centers across four districts, health center staff were asked to identify one village with difficult access to the health center, yet within the center’s catchment area. The data collection team then presented the study to leaders in both the village encompassing the health center and the village described as having difficult access. In Tanzania, the long-standing policy has been for every village to have a village health committee, which appoints two CHWs. Leaders interviewed included religious leaders, as well as members of an elected village board and/or village health committee who identified CHWs. Leaders and CHWs were interviewed irrespective of gender, age,

education level, or length of service. Leaders as well as CHWs helped identify women in the village who had delivered in the preceding 14 months. In addition, data collectors canvassed the village and invited eligible mothers and fathers to participate. For a breakdown of respondent groups by distance to facility and district, see Table 5.1.

Table 5.1. Respondent groups by distance to facility and district

	Women*	Male Partners**	CHWs	Community Leaders	Religious Leaders	Total
Characteristic						
Near to facility (<3 km)	23	12	12	2	6	55
Far from facility (≥3 km)	26	15	8	3	5	57
Total	49	27	20	5	11	112
District						
Morogoro Rural	10	2	2	1	1	16
Kilosa	10	11	3	1	2	27
Mvomero	17	8	8	2	4	39
Ulanga	12	6	7	1	4	30
Total	49	27	20	5	11	112

* Women who delivered a child within the preceding 14 months.

** Includes any male partner regardless of legal marriage status

Women and their partners were eligible if they had delivered a baby within the preceding 14 months regardless of reports on quality of care, or experiences of disrespectful care. An emphasis was placed on identifying women who had non-complicated, normal deliveries. Women who reported severe vaginal bleeding, eclampsia, obstructed labor, retention of placenta, severe anemia or whose births required vacuum or forceps extraction, or cesarean section were not included with the rationale that such births alter not only careseeking behaviors (often necessitating referrals) but also entail a vastly different subjective sense of the birth experience. For discussion on how a birth experience alters later assessment of quality of care

(described as “fulfillment theory”), see Bramadat 1993¹²³. All women providing consent were interviewed, until 2 - 4 women had been interviewed for that site.

5.3.3 Data collection

Five Tanzanian research assistants fluent in Swahili with graduate-level training in education, public health, and social sciences were trained for five days to collect the data using instruments, which were pre-tested and revised before starting interviews. Training topics included maternal and newborn health, interview techniques, research ethics and qualitative methods. IDIs were recorded and conducted one-on-one, in a private place of the respondent’s choosing following verbal consent. IDIs focused on experiences related to care seeking during a most-recent pregnancy and birth. At the outset of data collection, the research team did not intend to explicitly investigate experiences of abuse, but rather to explore careseeking for birth in facilities. The abuse theme emerged in the earliest interviews, however, and was probed more explicitly as data collection progressed. A supervisor conducted daily debriefing sessions with data collectors to discuss and triangulate key findings, refine lines of inquiry, and identify saturation of themes. A main product of these debriefings were memos, first generated as a version of meeting notes from debriefings and later amplified by the data collection supervisor to incorporate reflexive notes, contextual information and emerging understandings that could be shared and commented upon by the wider research team. Data collection lasted approximately two months during July and August 2011.

5.3.4 Data analysis

In-country debriefings with national stakeholders following the close of data collection corroborated and refined the framework for thematic analysis. All interviews were recorded and transcribed into Swahili. An initial phase of open, inductive coding on a selection of rich, diverse and representative transcripts was conducted based in part on Grounded Theory¹²⁴. This resulted in the creation of a codebook that was validated by co-authors. A co-author fluent in Swahili and English applied these broad codes to remaining transcripts using ATLAS.ti⁹⁴. Coded data were then translated from Swahili to English and a second phase of detailed coding was undertaken by a social scientist. During the analysis process, a subset of co-authors discussed codes and themes, and drew comparisons across respondent groups and regions, and by distance to facility. This aided in triangulation of findings and provided texture and nuance to descriptions. Drawing on the principles of Grounded Theory, a literature review followed the completion of coding¹²⁴. The team found that the experiences described by women align with existing abuse frameworks presented by Bowser and d'Oliveira^{2,4}.

The study received ethical approval from the Muhimbili University of Health and Allied Sciences and Johns Hopkins School of Public Health Institutional Review Boards. Names used in this paper are pseudonyms to protect the privacy of interviewees.

5.4 Results

At the outset of interviews, respondents across categories described facilities and providers in a positive light, with several women saying “nilihudumiwa vizuri” (I was attended well). Nearly all women, their partners, community leaders and community health workers (CHWs) living both near and far from facilities refer to providers as “experts” who “possess education”, and who know how to use “real medicine”.

Following rapport building, and upon probing for details of the delivery experience, respondents would typically qualify earlier assessments and elaborate on negative aspects of services related to childbirth. In other words, if an interviewer asked a woman if she felt she was mistreated during her delivery, she was likely to say no, but she may later provide a vivid account of a provider shouting at her. Language proved especially critical in terms of probing on this topic. The Swahili word for “to abuse” is “kunyanyaswa”, but no woman said kunyanyaswa when describing her experience. Instead, women described how providers lacked valued qualities such as “kunyenyekaa” (to act humbly), “kubembeleza” (to soothe) or “ukarimu” (hospitality). Negative experiences were categorized as ‘abuse’ and ‘disrespect’ in the analysis by the researchers. Findings did not vary by distance to facility.

Presented in Table 5.2 are types of harsh or abusive treatment outlined by respondent groups, and arranged into categories as informed by existing frameworks of Bowser⁴ and d’Oliveira²: feeling ignored or neglected; monetary demands or discriminatory

treatment; verbal abuse; and physical abuse. Examples of resource constraints at the facility-level (including an absence of birth supplies, which was mentioned by all respondent groups), and infrastructure limitations (an absence of electricity or sterilization equipment, emphasized by fathers only) are well documented⁶⁴ and will not be elaborated in this paper. Following details on types of abuse, we present responses to abuse as described by women and their partners, categorized on a scale from acquiescent to assertive measures (see Table 5.3).

5.4.1 Types of abuse

The most common negative experience described across respondents entailed feeling ignored or neglected. Verbal abuse was also common, but appeared to be less disconcerting among respondents. Physical abuse was rarely mentioned, was discussed by women only and was identified as insufficiently probed during data analysis. In one case, a woman recalled being forced to deliver in an uncomfortable position. In two other instances, women described fears of being slapped during delivery based on reports from others in their communities. Finally, respondents across categories described monetary demands and discriminatory treatment toward those lacking money, which appeared to upset women and their partners equally. For a comprehensive presentation of types of abuse outlined across respondent groups, see Table 5.3.

Table 5.2. Types of harsh or abusive behavior preceding, during or after childbirth as defined by mothers, fathers, CHWs and leaders					
Feeling Ignored, Neglected or Mistreated		Mother	Father	CHW	Leader
Family feared delivering alone		X	X	X	
Delivery began or completed in absence of any provider or helper		X	X	X	X
Women felt ignored post delivery (no counseling, no help bathing, walking, removing soiled clothes)		X			
Provider turned family away; told to find a local TBA			X		
Provider routinely absent		X			
Provider routinely ignores women (“they told me I should not interrupt their lunch”)		X	X	X	X
Provider refused to awake for a night delivery		X	X	X	X
Provider had no time to explain a concern		X	X		X
Provider told woman to clean delivery room, mattress and/or table on which a woman delivered		X			
Provider delayed referral until it becomes dangerous for mother or difficult for a family to travel			X		
Provider demonstrated favoritism (toward those who are “connected”)		X	X		X
Provider said “there’s nothing to do” during a complicated delivery (belated referral for c-section)		X			
Unpredictable Financial Demands/ Concerns About Money		Mother	Father	CHW	Leader
Feeling overcharged (see others pay less or paid less previously); bothered by inconsistent pricing		X	X	X	
Being charged a fine for delivering at home		X			
Being forced to wait longer while those with more money are seen first		X	X		
Being charged for a child’s clinic card		X	X		
Feeling pressured or coerced to pay a bribe (“facility entrance fee” “bed charge” “recognition fee”)			X		X
Being required to pay for medicines bought from a nearby pharmacy or from a nurse (referred to as “going the illegal way” <i>ukaenda ukapita njia</i> or “doing business” <i>kufanya kama biashara</i>)		X	X	X	X
Verbal Abuse		Mother	Father	CHW	Leader
Reports of “being shouted at” or “scolded” for:		X	X	X	X
<ul style="list-style-type: none"> • Being too tired; “not pushing hard enough” • Having too many children; “ruining” one’s body • Arriving too early or too late during labor • Taking traditional herbs • Seeking or heeding advice from a TBA • Wearing old or dirty clothes 	<ul style="list-style-type: none"> • Having a TBA as an escort to a facility • Making a special case of oneself or “requesting too much attention” • Delivering at home in the past • Delivering at home and then bringing baby to be registered 				
Physical Abuse		Mother	Father	CHW	Leader
A nurse refuses to remove a drip because a woman is complaining too much		X			
A nurse slaps a delivering woman		X			
A nurse forces a woman to deliver in a “bad” position (“like kneeling with my head down”)		X			

5.4.1.1 *Feeling ignored or neglected*

Several women described fear of arriving at a facility and being ignored or delivering without the assistance of the provider. In instances of night deliveries, some providers were described as being at home on the hospital premises, but unwilling or unable to come out to help.

A woman recalled how a group of providers were in her immediate vicinity but unavailable to her until the moment she yelled that the baby “was coming out”. In this case, a nurse arrived, but not in time to put on gloves.

I was calling ‘ Nurse, Nurse!’ she reached there and ... the baby came out and she ran to catch her. After catching her she held her and then found gloves to wear before continuing with other services. What I see is that providers should be very close (in proximity) to mothers. A laboring mother can deliver at any time.

– Woman, Kilosa District

A majority of women, but none of their partners, rationalized why over-worked providers were unable to provide ideal care. A woman in Ulanga delivered alone (in the absence of any provider or family member), but rather than feeling frustrated or angry, she sympathized with nurses’ difficult working conditions.

The nurse doesn't allow anyone to enter inside the room. She is usually alone or maybe with another nurse. I never saw any help (during delivery). You must prepare yourself and just go [Laughing] ... you can't blame anyone. That nurse's condition is hard... My sister-in-law escorted me but could not be in and could not help me. She could just sit and see me how I'm getting into trouble (Laughing). Beyond that, what could she do? She could only hear me screaming and crying "Aiiii!?! Mama help me!" It was... impossible.

– Woman, Ulanga District

CHWs described listening to women recount neglect during delivery and how the experience of neglect undermines their ability to encourage facility-based deliveries.

There is one mother who I have spoken with quite often. At the hospital, she says she delivered by herself. She says she called the nurse to come, but the nurse said, "Don't disturb me so much." So the mother stayed and delivered by herself. ... that mother will not go back to the hospital next time.

- CHW, Mvomero District

I advise women that they should deliver at the hospital because if you deliver at home, a baby can get infections. But women deliver at home anyway. At our

hospital, with so few nurses, women don't want to reach a facility and then start searching for nurses. So a mother decides to just stay home and call the TBA.

- CHW, Ulanga District

CHWs and religious leaders expanded on the theme of being ignored and elaborated on versions of verbal abuse. While a CHW used the term "wanaharasiwa," – forcing an English verb "to harass" into Swahili - this term did not emerge in interviews with women. This CHW described how neglect in facilities reinforces women's desires to deliver at home.

When the community goes to the center, to go and deliver there, they may find that there is no nurse. The family can go to the nurse's home and say, "We have brought a laboring woman" but the nurse will delay. She stays in her home until it reaches a very late stage and by the time the nurse comes, that woman has delivered by herself. ...Mothers and fathers have complained a lot to us, ... They say when they go to the health center they are wanaharasiwa (harassed).... So then when they are just shouting at the pregnant mother ... Women say, 'It's better if I just go to the TBA. Even if it's not safe.'

- CHW, Mvomero District

Families devise solutions to contend with being ignored during delivery – namely shifting oneself from a bed to the floor to prevent a baby from “falling down to the ground”, or sending escorts to find a TBA living near a facility to assist with delivery. No respondent described bringing a relative into the labor room and one woman described that option as a violation of hospital policy.

5.4.1.2 *Discriminatory treatment, unpredictable financial charges and fear of detention*

Women and men described situations where they were expected to bring supplies to facilities for delivery and, less often, situations where they pay a “thank you” to providers following a delivery or pay a fine for home delivery. A few respondents across districts and particularly in more remote areas described how certain women could more easily access supplies or services at facilities. These women had a higher social status, knew someone working within the facility or were somehow, for unknown reasons, favored by providers. Women described how nurses could decide “upon seeing a woman coming to the facility” whether they would provide prompt services to her. One woman said she was asked whether she had money, and upon answering ‘no’ she was instructed to sit outside where she watched “the women with money” walk past her to receive services (it is unclear in the transcript if this was an antenatal visit or for childbirth). Another woman described how her sister-in-law was told by providers to pay 15,000 shillings (approximately \$9 USD) after a complicated delivery but once at the

cashier she was told to pay 40,000 shillings (approximately \$25 USD) (it is unclear if this occurred at a public or private facility). That experience invoked confusion and frustration in the woman who feared that she may one day experience a similar situation and be forbidden to leave the facility until she had paid (a practice described by two women). The application of fines and fees was recounted for both maternity and other health facility services.

They are very often saying that medicines are available or not available. When someone tells you they aren't, it's her siri (secret). She is the only one who knows. She decides when she sees you coming. ... This really upsets us.... The obstacles are like these ones of medicines even if there are no medicines what makes me feel bad is the game.

- Woman, Morogoro Rural District

One religious leader described how young women, first-time mothers and those coming from remote or rural areas are especially prone to discriminatory treatment.

I have myself heard many examples especially for the first mothers who are on their first pregnancy. It is frightening for them to be alone. I hear people say, "If you take her to the hospital, no one will attend her because we are rural, so nurses don't need to wait on us-- we should be waiting on them. The nurses

think it is fine to say to us 'I feel like sleeping' or to work however they want to work.

- Religious leader, Morogoro Rural District

Male partners, more so than women, complained about collusion between providers and pharmacists, and complained about supplies being unavailable at facilities, but available in a provider's home or at a provider-owned pharmacy. While this was described as inappropriate and unfair, a factor that made it particularly problematic was that men could not be certain how much a syringe or a drip would cost from one day to the next and whether a provider would be compelled to charge a "nice price" or a "high price". Men lamented their struggle to provide funds to cover delivery costs.

The obstacles I face are so big. I have children and they have a mother. The thing that makes us cry so hard is that there is treatment but without money you can't get it. It is a big problem, the money.

- Male Partner, Morogoro Rural District

5.4.1.3 Verbal abuse

Verbal abuse took the form of criticism levied against women. It entailed outright shouting or harsh remarks. Similar to the preferential treatment domain, verbal abuse was discriminatory in nature. Women who were not following the "rules" or were not

presenting themselves as “modern women” were more likely to be berated. While some women reported being scolded for not pushing hard enough, making too many demands during labor or arriving too late or too early for delivery, more common criticisms included critiques of a woman’s economic status (such as wearing old or dirty clothes), critiques of her use of traditional remedies (such as drinking herbal teas and medicines, some of which cause uterine contractions) or her history of home delivery.

A woman was yelled at, during her delivery, for having too many children.

The nurse gets angry. She tells you, ‘You have already delivered many children. This is enough! Look at the others who have delivered only twice or thrice and stopped!’ You will (be in the middle of labor) and hear the nurse saying ‘Come and stop having children!’

- Woman, Ulanga District

Several women were either scolded or witnessed scolding of others for engaging in practices such as visiting a TBA or consuming herbal medicines. Being interviewed about the nature of one’s reliance on traditional ways is part of an admission process at one facility where women reported being first ignored and then harangued until they would “admit” to a practice. Consumption of teas with uterotonic properties is disconcerting for providers (likely due to the possibility of precipitous labor and more difficult

management of labor); nevertheless women participants perceived tea consumption as a criticism of their status or home situation.

When you reach there they have the habit of asking what local medicines have you used or... there is one sister ... she arrived they started asking her, 'Have you ever used local medicines?' and she replied 'No.' But then they just left her there. She tried to follow after them... They went again at her 'Haven't you ever drunk local medicines?'. She said, 'Speaking the truth I drank two cups.' They said, 'So you like hurting yourselves, but then you come here you give us trouble.'

- Woman, Mvomero District

Several women interpreted being yelled at as a sign that they were disliked. In this case, a woman felt disliked due to her low economic status.

I don't know why are they shouting. They just shout at us...they don't like us. Like with our clothes! They give you a bad face. They take a look at you and when your clothes are like this and this they chase you away. Yes, they say, 'You are supposed to have special clothes for pregnancy!'

- Woman, Mvomero District

Women who delivered at home almost uniformly reported expecting to be yelled at or somehow scolded upon presenting their newborn at a facility. In some cases, they also expected to be charged to receive their baby's registration card or denied a card altogether. One woman described being treated like a "bad child" for delivering at home.

5.4.1.4 *Physical abuse*

Physical abuse was scarcely mentioned and entailed a fear of abuse rather than enacted violence. One woman described fearing that she would get hit or beaten during labor if she yelled too much or "talked back" to a provider. She reported witnessing this behavior among others, but did not experience it herself. Another woman described being told she had to deliver while lying down with her knees pulled "up", which she found uncomfortable and frightening. One woman described a nurse refusing to remove her drip because she had made a "special case" of herself. Similar to other dimensions of abuse, in the instance of a woman wanting to deliver in a standing position, she was berated for not adjusting her preferences to a "modern" mold. Another woman who was scolded for requesting that her drip be removed, felt certain that "if I was staying with influential people in a place near the facility" the nurses would not have felt emboldened to deny services.

5.4.2 Responses to abuse

Responses to abuse stretched across a continuum from acquiescent to assertive measures (see Table 5.3). Women were more likely than men to describe how they empathized with over-worked providers. Several women described how they watched exasperated nurses rush from ward to ward.

I am not angry... Because you can see that one nurse, she is at the parent's ward, then at the children's ward, then at the men's ward. She may be giving injections from 11 in the morning to 11 at night.... (from) the labor ward, you can see that the nurse has more (people needing) injections waiting for her.

- Woman, Ulanga District

Acquiescent or non-confrontational measures to address abuse during childbirth included: resigning oneself to the experience, returning home, rejecting facilities altogether, or bypassing 'bad' facilities or 'bad' providers. Among these measures, the preferred option described by women and men was to reject facilities in favor of home birth. Men and women alike described doing nothing or circumventing bad facilities.

Assertive or confrontational measures to address abuse during childbirth included: finding a TBA to assist in a facility delivery, paying a bribe, confronting a provider,

reporting an event to an oversight committee or physically assaulting a provider. While women living in remote areas described finding a TBA to assist in a delivery, only men described the remaining active measures to address abuse.

Table 5.3. Responses to disrespectful care as reported by mothers and fathers

		Mothers	Fathers
Acquiescent	Do nothing (“I have no choice”)	✓	✓
Measures	Return home	✓	
	Reject facilities in favor of home delivery	✓	✓
	Bypass “bad” facilities for “nice” facilities	✓	✓
	Bypass “bad” nurses within a facility	✓	✓
	Find a TBA in village to assist in facility delivery	✓	✓
	Pay the provider (a bribe, “extra money”, “facility entrance fee”)		✓
	Tell a provider directly to be nicer, to respect patients		✓
	Report the event to an oversight body (seek reprimand or provider transfer)		✓
Assertive	Physically assault a provider		✓

5.4.2.1 Resigning oneself to the experience

When probed on reasons for not confronting or addressing abuse, respondents reported fear of retaliation during later visits coupled with uncertainty about what precisely to do to effectively address abuse. One male partner described an inability to complain.

You cannot complain, you need to say thank you. Because they give us drugs, so we can't complain. And we don't know who would be accountable to rescue us.

- Male partner, Ulanga District

A fear of repercussions, in particular future denial of care or services were particularly powerful forces working against women's desires to speak out against abuse.

There is no place you can go, you must keep quiet. ... They can hurt you... The routine is set. I'm afraid that if I say anything to anyone, I could get reported or not get treatments.

- Woman, Mvomero District

Women also feared that complaints to higher levels of government may lead to facility closures, which would further undercut their access to care.

Some people are saying that if we find the situation is like this, we should make a call to our councilor and go to our regional offices and tell them we are oppressed. But we see a concern if we do this. ... what if they close our hospital?

- Woman, Morogoro Rural District

5.4.2.2 Delivering at home or bypassing

TBAs were described as having a calming presence during a birth or "removing the fear" of giving birth in spite of what several respondents described as TBAs "lack of real medicine". Going to a TBA's home or delivering in one's own home in the presence of a TBA was mentioned by women and their male partners – regardless of distance to a facility – as a means to avoid unpleasant experiences at facilities.

When the TBA is there you can't be afraid.

- Woman, Mvomero District

In terms of bypassing within a facility, women described a need to be careful in how they frame a preference for a particular provider over another. Some women said that if they see a certain provider offering services, they return home. Others try to avoid eye contact when a disliked provider calls their name. Nevertheless, this mother said that while she has a distinct preference for one provider, she is not able to avoid the provider's disliked colleague.

It's better you get attended by a certain person. But you can't reach there and say, 'I don't like you. I would like you instead to attend me.' That I can't say. But I know it's better when I go to this other person. She is much more polite.

- Woman, Morogoro Rural District

5.4.2.3 Payments, lodging a complaint, assaulting a provider

Only men described paying bribes or fees. A few men considered bribes a necessary process in order to "be seen" by providers.

If you don't have money, they look at you as if you are not there. They leave you like that. So we prepare. As you know it's just about money so we prepare and then go.

- Male partner, Ulanga District

While reporting abusive behavior was seen by women and men as an “official” path, it was also deemed largely impractical (given a potential backlash) or ineffective (as it would likely remain ignored). Nonetheless, in one village, community leaders described how a problematic provider was transferred from her post following a series of complaints lodged on behalf of the community via a village health committee.

The most extreme response to abuse was described by one male partner, who witnessed a man attacking a provider for insisting on a bribe before treating his laboring wife.

That doctor was beaten by one man. He said to the doctor, “I do not have that money. But she needs those services”. The doctor said, “Go get some money.” He went home and found some money. Then he gave the doctor the money. When that doctor took his money, the man just ... hit him. He beat him hard. That man said to the doctor, “It is your job to be our doctor. Not to take bribes.” And then he just started beating. On the neck. On the face. He was beating him. ... This was a beating from our community. People are tired of this. Investigators came after the beating and the doctor was transferred. After that beating the services got better... that doctor left and a lot of the problems with bribing left too.

- Male partner, Morogoro Rural District

5.5 Discussion

This study explored, in detail, across a wide range of respondents how women and their families experience and respond to abuse during childbirth in rural Tanzanian health facilities. We found that all respondent groups regardless of gender, distance to facility or district reported negative experiences that align with existing classifications of abuse or disrespectful care^{2,4,5}. The domains of abuse described in our paper align with several domains outlined by Bowser including: non-dignified care (including verbal abuse), discrimination, abandonment of care and detention in facilities. Bowser's categories of physical abuse, non-consented care, non-confidential care and outright physical violence did not emerge as strongly in this study. Our study also found that abuse can be ambiguous, difficult for respondents to articulate and subject to "personal yardsticks" or pre-conceived expectations¹²³. Many respondents in this study report satisfaction with facility-based childbirth while at the same time describe being discriminated against, ignored or verbally abused. This paradoxical finding is echoed in quality of care literature, which highlights that satisfaction (as a feeling or affect) does not necessarily align with perception (a cognition), and that patients whose expectations barely extend beyond a provider's physical attendance at birth can often assess a low quality experience as satisfactory¹²³.

This study draws together and is corroborated by several studies in Tanzania that describe poor quality of care, and to a lesser extent abuse, as factors guiding delivery

preference. Kruk's discrete choice experiment found that a provider's attitude and the availability of drugs were the most important characteristics influencing choice of a facility delivery and that improving these characteristics would lead to a 43-88% increase in facility delivery ²⁷. Mrisho's research found that staff attitudes including abusive language, denial of service, and an absence of compassion represent one among many barriers to facility-based care, which drives women to deliver at home ²⁹. Several studies, in particular the work of Spangler, have highlighted how women recognize and internalize feelings of discrimination because they are under-dressed, rural, cannot afford a bribe or lack political or social influence ^{6,28,125}. Reports of being charged fees (also called "under-the-table," or "asante" charges) even in facilities that are officially exempt from payment, has also been detailed ^{6,125,126}. Being charged fines for home deliveries has been instituted as an unofficial practice in some communities as a means to compel facility delivery, however no respondent was aware of such by-laws and instead view fines as a form of discrimination. Most recently, Mselle's qualitative study in Dar es Salaam and Dodoma regions found that poor quality care and poor working environments contributed to "bad birth experiences" which "undermine the reputation of the health care system, lower community expectations of facility birth, and sustain high rates of home deliveries" ⁷. While each study has described an attribute or component of disrespect, Mselle was among the first to explicitly examine abuse and its dimensions in this context. That study, however, drew on data from women with negative birth outcomes (obstetric fistula). Negative outcomes portend over-reporting

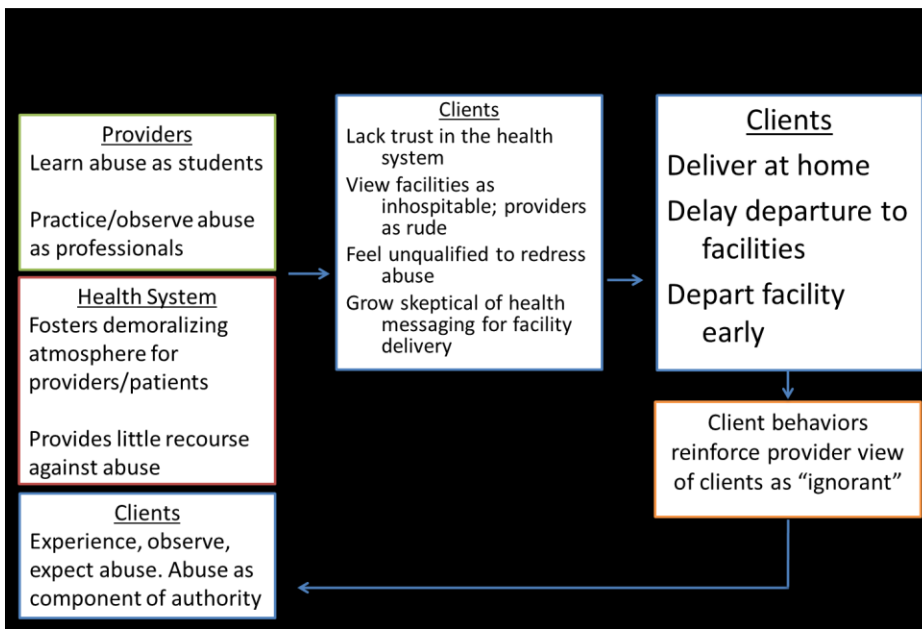
of negative experiences (also termed “fulfillment theory”¹²³), which highlights a need for data that draws on experiences in non-complicated, healthy, vaginal deliveries.

Responses to abuse highlighted in this study range from acquiescent to assertive measures. Women tend to report preferring non-confrontational approaches and expressed empathy toward over-worked providers. Men may not have reported such empathy as they spend relatively little time in health facilities. Our findings correspond with other articles that emphasize that a woman or family’s “delay” in seeking care in facilities is not always an oversight borne of lack of knowledge or education, but an active decision made by her and in cooperation with others in her community based on previous experience and an effort to take a course of action deemed to be in the best interest of her and her baby¹²⁷.

Our findings, when placed within the context of existing literature, illustrate a cyclical nature of abuse (see Figure 5.1) - how abuse becomes normalized and expected, how its existence undermines patients’ views of facilities and providers and how these negative attitudes weaken efforts to encourage careseeking in facilities for birth. As described in leading abuse literature and frameworks^{1,2} providers may engage in disrespectful care because they learned or observed this during pre-service training, because they are faced with severe human resource or supply limitations (and are contending with resultant poor motivation) or because they have “internalised dominant cultural values

and beliefs regarding gender and gender-based violence”¹²⁸. Clients, including many respondents in this study, then perceive facilities as harsh environments and either reject them altogether or attempt to minimize engagement with the formal health system by delivering at home, departing late for facilities, or leaving facilities very early after delivery.

Figure 5.1. Pathways from disrespectful care to dangerous delivery practices



Using Figure 5.1 as a guide, we prioritize interventions that address the normalized nature of abuse. Providers, women and their families must be made aware of women’s rights to respectful care. Existing documents including a Code Of Professional Conduct For Nurses And Midwives In Tanzania outline principles of dignity, respect, consent, professionalism, accountability and honesty¹²⁹. For providers, we view participatory trainings (that ideally draw from carefully crafted professional codes) as opportunities to

reflect on biases and to work together to resolve existing problems. Trainings must be supported by management and other levels of the health system in order to be effective in enacting a zero tolerance policy toward abuse ¹³⁰. For women and their husbands, we found that limitations related to reporting concerns in a private, safe and effective manner fostered a sense that providers were beyond redress ¹³¹⁻¹³³. Research on how to improve respectful care, responsiveness and accountability is warranted.

At the facility level, efforts to improve the working environment of providers must be made in terms of general infrastructure improvements, addressing human resource shortages and remedying deficiencies in supervision and skills training ¹³⁴. Providers often want to provide quality care, but lack the resources to make this possible ¹³⁴. A key finding from this study revealed that women feel neglected or ignored during birth. Facilities need to revisit the inclusion of family members or birth companions during labor or delivery. As labor wards are open, one reason companions are currently excluded relates to privacy considerations for other laboring women. However, Shimpuku's qualitative study concluded that in the midst of crowded facilities staffed by overworked nurses, families play a critical role in advocating for "invisible" laboring women ³⁰. Respondents in this study discussed how escorts and companions assist women and advocate for them as providers are often absent. If it is possible for families to be with women, while maintaining privacy and respect for others, we view this as a critical opportunity to minimize women's fear and enhance their comfort. Promoting

birth companions is not without challenges and further studies on how to do this in a manner that is feasible, acceptable and appropriate are necessary ¹³⁵.

5.6 Limitations and opportunities for future research

Due to the nature of qualitative research, abuse was not evenly probed in each interview. This limited our ability to systematically assess the relative importance or value that husband-wife pairs place on a particular aspect of abuse. Second, this study relied on reported experiences rather than direct observation. Third, this study captured insights from women who, in some cases, delivered several months earlier and may therefore have a recall bias.

We recognize several opportunities for future research. First, this study did not reach saturation on covariates that could have informed analysis of data on women including: age, parity, socioeconomic status, relationship and gender of facility escort, and how a woman would characterize her (or her family's) relationship to or previous experience within a facility. Second, we did not interview providers, who could have shared a critical understanding of whether, how and why they engaged in disrespectful care or abuse. Providers in this context experience severe professional and personal constraints themselves, which can affect whether and how they interact with patients ¹³⁶. Lacking adequate personnel and equipment, and working without payment in facilities that lack basic necessities, providers may pass their frustrations onto their patients ². Third, we

did not purposively identify and interview facility escorts (mothers, sisters, or in-laws who accompany women to facilities), who could have provided more extensive information about the periods preceding and during delivery, as several women have difficulty recalling the time period before, during and after delivery. Fourth, looking ahead, we recommend further research that can better capture nuances and terminology related to quality of care and respectful maternity care and following this we recommend incorporation of questions related to quality of care into population-level surveys such as the Tanzania Demographic and Health Survey, which aims to assess barriers related to accessing health care for delivery.

5.7 Conclusions

Tanzania is not on the path to realizing MDG 5¹³⁷. Tanzania's health care system is facing a critical dilemma as it tries to balance demands to increase facility deliveries, while also contending with severe staffing shortages and infrastructure constraints. The Government must address constraints in facilities in order to improve the environment for providers delivering services and women receiving care. We recommend implementation research on health system strengthening strategies that bolster the provision of respectful quality care by supporting synergies across provider training and supportive supervision, problem solving for health system constraints, community and client awareness building regarding patient rights and venues to seek redress, and the inclusion of escorts during labor and delivery could all be considered as opportunities to

build trust in facilities. At present, many Tanzanian women experience highly unfavorable births in facilities, which may play a critical role in the stagnation of facility-based births in recent decades, particularly in rural areas. Respectful care is a vital component to addressing Millennium Development Goals to improve maternal health.

5.8 Competing interests

The authors declare no competing interests.

5.9 Authors' contributions

SAM contributed to study design, engaged in data collection and data analysis, and drafted the manuscript. ASG contributed to the interpretation of data and revised the manuscript in a manner critical for intellectual content. JJC, IHM and RNM contributed to the acquisition, analysis and interpretation of data and provided edits to the manuscript. PJW contributed to study conception and design, data collection, data analysis and interpretation, and provided edits to the manuscript. All authors read and approved the final manuscript.

Chapter 6 “Poverty, Partner Discord, and Divergent Accounts: Births Before Arrival to Health Facilities in Morogoro Region, Tanzania ”

6.1 Abstract

Births before arrival to health care facilities are associated with higher rates of perinatal morbidity and mortality compared to facility deliveries or planned home births.

Research on such births has been conducted in several high-income countries, but there are almost no studies from low-income settings where the majority of maternal and newborn deaths occur. Drawing on a household survey of women and in-depth interviews with women and their partners, we examined the experience of births before arrival (BBA) in rural districts of Morogoro Region, Tanzania. Among survey respondents, 59 births (4%) were classified as BBAs. Most of these births occurred in the presence of a family member (47%) or traditional birth attendant (24%). In a matched pairs analysis, low socioeconomic status was the strongest predictor of BBA, with high parity and low number of ANC visits retaining statistical significance after controlling for wealth via matching. While these variables are useful indicators of which women are at greater risk of BBA, their predictive power is limited in a context where many women are poor, multiparous, and make multiple ANC visits. In qualitative interviews, stories of BBAs included themes of partner disagreement regarding when to depart for facilities and

financial or logistical constraints that underpinned departure delays. Women described wanting to depart earlier to facilities than partners. As efforts continue to promote facility birth, we urge policy makers, researchers, clinicians and relevant stakeholders to consider the financial demands associated with facility delivery and the potential for these deliveries to exclude the poorest of the poor or put them at heightened risk for BBAs.

6.2 Research highlights

Births before arrival (BBAs) are understudied globally, including in Tanzania

Quantitatively, low socioeconomic status was the strongest predictor of a BBA

Qualitative narratives highlighted partner discord in when to go to facilities

Economic hardship and gendered expectations led to careseeking delays

BBA narratives reveal complexities in how stories are shaped by social contexts

6.3 Keywords

Tanzania, Birth Before Arrival, Maternal Health, Newborn Health, Spouses, Poverty, Social Class, Delivery

6.4 Background and introduction

Deliveries that occur before arrival at a health care facility (birth before arrival or BBA) – also called accidental, unplanned or out-of-hospital births or deliveries – are associated with higher rates of perinatal morbidity and mortality compared to facility deliveries or planned home births¹³⁸⁻¹⁴⁰. Maternal outcomes highlighted in a recent review include increased complications and higher morbidity including more frequent tearing, increased blood loss and increased risk of longer third stage of labour¹³⁸. Neonatal complications associated with BBAs include low-body temperature and low blood glucose¹⁴¹ as well as low birth weight^{138,139,142,143}. Across several studies, neonatal mortality following BBAs has been reported as 6 to 11 times greater than hospital births¹³⁸, and BBAs constitute an outsized proportion of death given the relative rarity of a BBA event¹⁴⁴. Only one study has qualitatively examined BBAs; it concluded that a BBA leads to heightened feelings of anxiety and fear among mothers¹⁴⁵.

BBAs are uncommon globally with reported rates across high-income countries ranging from 0.08%¹⁴³ to 1.99%¹⁴¹. Temporal trends reveal a rise in BBAs in some wealthy nations¹⁴⁶, including Finland¹⁴⁷ and Ireland¹⁴⁸. Increases have been attributed to closures of remote maternity wards and subsequent transport barriers for rural women^{139,147}, a larger migrant population¹⁴⁸ and delayed departure to facilities among labouring women¹⁴⁰ including those living near a facility¹⁴².

In high-income settings, the most widely agreed upon predisposing factor for BBAs is poor antenatal care attendance^{140,141,144,147,149-153}, although this trend has not been universal¹⁴². Groups found to be at increased risk for BBA include young women¹⁵², single women^{139,144,150}, women from disadvantaged socio-economic backgrounds^{148,154}, young primigravida, as well as older, multigravida women¹⁵⁵. Two distinct groups of women described in the literature who appear predisposed to BBA are: women who are older, multiparous and with shorter labours^{140,142,147,150,155,156}, or women, typically of a young age, who are attempting to conceal their pregnancy^{139,144,150}.

Quantitative research on trends and patterns in BBAs has been conducted in Australia¹³⁸, England^{139,142,150}, Finland¹⁴⁷, France^{149,152}, Hong Kong¹⁵⁴, Ireland^{144,148}, Israel¹⁵⁷, Italy¹⁴³, Japan¹⁵³, Scotland¹⁴⁰ and the United States^{141,158}. A majority of these studies report on BBAs that occurred in the presence of a woman's partner, without a medical professional and within a woman's home, but also in ambulances, emergency rooms, hospital entrances, taxis, parking lots and public bathrooms.

To our knowledge, two studies have addressed BBAs in Africa. In a prospective one-to-one matching study in South Africa, BBAs were associated with distance to obstetric wards, parity, complications during pregnancy, shorter duration of labor and a previous home delivery¹⁵⁹. In a descriptive study from Nigeria, a majority of BBAs were attended

by a traditional birth attendant and a majority of BBA births required follow-up in facilities due to retained placenta with bleeding¹⁶⁰. Within East Africa (including Tanzania) we are not aware of any existing research on BBAs.

Limitations within the existing BBA literature confine our understanding of the issue.

First, there is limited qualitative literature on the experience of BBAs¹⁴⁵. Second, there is a paucity of literature on BBAs in low-income countries. Finally, we are not aware of literature that incorporates perspectives of male partners.

6.5 Methods

This research was conducted as part of a larger program evaluation of a maternal and neonatal health program designed to encourage uptake of facility-based services related to pregnancy and childbirth in Morogoro Region. Drawing on a household survey and in-depth interviews conducted in Morogoro Region, Tanzania, this study presents quantitative and qualitative data on BBAs across four rural districts (Morogoro Rural, Kilosa, Ulanga, and Mvomero District Council). Women were eligible if they had given birth within the preceding 14 months to reduce recall bias. We define a BBA as the occurrence of a birth prior to arrival at a health facility when that birth was intended to occur in a health facility. This mirrors a BBA definition employed by Tanzanian health facilities for record-keeping, although in some facilities practitioners also require that a

mother present physical evidence of a recent birth (such as a placenta or other birth remnants), which is considered a means to verify place-of-delivery intent.

6.5.1 Study location

In Tanzania home and facility births occur in relatively even proportions. As of 2010, 50.1% of births occur in a facility, which approximates the rate of facility births reported in 1991-2^{67,122}. Maternal mortality is high with 454 deaths per 100,000 live births⁶⁷. One in 38 women will die due to maternal causes in her lifetime¹²¹. For every 1,000 births, four to five women die from pregnancy-related causes and 26 neonates die⁶⁷. Tanzania is among ten countries that account for a majority of the world's "first-day deaths," or death on the first day of life¹²¹. In Morogoro region, nearly one quarter of women have no education, 34.3% have had some primary education and 32.8% have completed primary school. While most women can read a whole sentence, 26% of women cannot read at all⁶⁷.

6.5.2 Study design

6.5.2.1 Training

Research managers trained teams of five qualitative and 16 quantitative research assistants on research methods, ethics and maternal and neonatal health. Trainings were followed by pilot testing and tool revision. Research assistants were multi-lingual,

college-educated Tanzanians trained as teachers, health practitioners and social sciences or public health graduate students.

6.5.3 Quantitative design and sampling

The household survey was designed as a multistage cluster sampling survey. Data were collected for three months beginning in August, 2011. Sixty clusters were identified via probability proportional to size (PPS) sampling methods and 30-35 women were surveyed in each cluster. In each cluster, the survey team visited all households to identify eligible women. If a household had more than one eligible woman, the interviewer compiled a list of the eligible women in the household and randomly selected one from the list.

6.5.4 Quantitative analysis

Quantitative analyses were conducted with Stata (Version 13.1, College Station, TX). Data points for 59 births before arrival and 1,267 facility births were processed by a coarsened exact matching procedure using the Stata command “cem”, which maximizes number of matches while retaining a meaningful level of precision in matches¹⁶¹. Due to the rarity of the outcome, few parameters could be estimated with logistic regression, and the effects of multicollinearity could have been easily amplified¹⁶². To avoid estimation errors, we matched on key variables and estimated effects on a limited

number of remaining variables. To determine key variables, we conducted logistic regressions to assess for risk factors associated with the outcome variable (BBA). We then used linear regression to assess the relationship of the strongest predictors of BBAs with all other predictors. Finally, we assessed candidate key variables for matching potential, that is, whether enough matches existed in the data to use a key variable as a matching variable. For example, socio-economic status was considered a key variable because it was the strongest predictor of BBA, it was highly correlated with other predictors, and it offered multiple matches among the 1,267 facility births and the 59 BBAs. Our identification of key variables was also informed by existing BBA and maternal health literature, which highlights the importance of age at delivery, age at first pregnancy, parity, wealth, number of ANC visits, maternal education and partner education. We report unadjusted odds ratios for each predictor variable (Table 6.3, Column 1). At each stage of matching, unadjusted odds ratios were reported for all remaining variables, and those with p-values <0.10 were included in a multiple logistic regression model from which adjusted odds ratios were reported.

6.5.5 Qualitative design and sampling

In-depth interviews with women and partners who experienced BBAs were selected from a larger study on careseeking during pregnancy and childbirth among women (n=49) and their partners (n=27) living near (<3 km) and far (≥3 km) from facilities. Data

were collected for two months beginning in July 2011. Researchers identified women for the larger study through engagement with village health committees and canvassing villages to invite eligible mothers to participate. Women for the larger study were not recruited based on their experience of a BBA. The BBA experience was identified as salient during data collection and concurrent qualitative analysis, leading to increased probing regarding BBA during initial and follow-up interviews. All interviews indicating a BBA experience were selected for this analysis, yielding 13 interviews (including follow-up interviews) with four woman and three partners, with one woman per district.

All respondents were interviewed one-on-one, in a private location of their choosing following verbal consent. A field supervisor led daily debriefing sessions with the qualitative team throughout data collection to triangulate findings, strengthen probing, build field notes, identify topics to address in future interviews and develop themes for a codebook that would later be applied to transcripts.

6.5.6 Qualitative analysis

Qualitative analysis drew upon 13 in-depth interviews (IDI), including six follow-up interviews, from four husband-wife pairs who experienced a BBA. In one instance, interviews with a husband had to be cancelled due to his intoxication. All interviews were recorded, transcribed and quality controlled. A case study approach was used to analyze and present the qualitative data¹⁶³⁻¹⁶⁵. Cases were first assembled from raw

case data drawn from interviews with women and their partners. In line with Patton 2002, narratives were written in a manner intended to present a “highly readable,” “descriptive picture” of the experience of a BBA in a chronological fashion¹⁶⁴. Case study researchers emphasize that “the analyst's first and foremost responsibility consists of doing justice to each individual case”¹⁶⁴. Due to space limitations, we could not include narratives as holistic entities within this article; however narratives can be read as supplementary data. Results of a cross-case analysis, which was conducted to inductively identify themes across narratives, are detailed in the results section.

6.5.7 Ethics statement

Ethical clearances were obtained from the ethical review boards of Johns Hopkins University School of Public Health in Baltimore, USA (IRB No. 00003296) and Muhimbili University of Health and Allied Sciences in Dar-es-Salaam, Tanzania. All names used in this article are pseudonyms. Since the respondents were drawn from communities with low literacy rates - particularly among women - written consent was not feasible. The interviewer obtained and documented verbal consent on a written consent form prior to collecting data. This procedure was approved by the ethics committees of Johns Hopkins University School of Public Health and Muhimbili University of Health and Allied Sciences.

6.6 Results

6.6.1 Household survey data

Table 6.1 provides characteristics of BBA (n=59) and facility (n=1,267) births. During delivery, most women who experienced a BBA were attended by a traditional birth attendant (TBA) (27%) or a family member (46%). A majority of newborns born en route cried at birth (86%), and most were still alive at the time of the survey (93%). Table 6.2 provides respondent characteristics that were used in the matched pairs' analysis.

Women who experienced a BBA were generally married (81%), lived in male-partner headed households (73%), had four or more children (51%), and had their first child by age 19 (84%). A majority of women who experienced a BBA (51%) and their husbands (88%) had completed primary education, but 37% reported having no education. All 59 women who experienced a BBA reported at least one ANC visit and most (63%) reported attending four or more visits.

6.6.2 Matched pairs analysis

The predictor variables included in the matched pairs analysis are presented in Table 6.3 (Column 1). In the process of identifying key variables, wealth - as represented by asset index quintile - was the strongest predictor of BBA and was significantly associated with every predictor except number of ANC visits. After matching BBAs with facility births on wealth, most bivariate relationships with BBA were weakened, although parity, age at

first pregnancy, and number of ANC visits remained significant (Table 6.3, Column 3) and were included in an adjusted, matched analysis. In the adjusted matched analysis (Table 6.3, Column 4), parity and ANC visits remained significant. In a second round of matching, BBAs were matched with facility births on both wealth and age at first pregnancy, and unadjusted odds ratios for all remaining predictors were again estimated (Table 6.3, Column 5). Only parity and ANC visits were statistically significant and retained for the final model (Table 6.3, Column 6). Having had a previous birth was associated with an increased risk of BBA, while attending 3 or more ANC visits was associated with a reduced risk of BBA after controlling for wealth and age at first pregnancy. We did not find evidence of an association with age or education.

Lower quintiles of wealth were the strongest predictors of BBA in this study, with higher parity and fewer ANC visits continuing to significantly predict higher odds of BBAs once wealth was controlled for via matching. These predictors were associated with age at first pregnancy, but the strength of the relationship between the predictors and BBA was not attenuated by controlling for age at first pregnancy via matching (as we did in the second round of matching).

Taken as a whole, these variables serve as a useful indicator of which women may be at greatest risk for BBA. However, in a context where many women are poor, multiparous,

and make multiple ANC visits, their predictive power is limited. It is therefore valuable to qualitatively understand the process by which these and other indicators may inform our understanding of BBAs.

6.6.3 Qualitative case studies

The qualitative cases draw from four BBA experiences detailed by Neema, Aisha, Subira and Mwajuma with their husbands Abasi, Jamil and Mosi (see Appendices 6.10.1 - 4). Mwajuma's husband was unavailable for an interview. In all BBA experiences within the qualitative study, all women were married, had experienced at least three previous deliveries and had made multiple ANC visits. Three women reported that at the outset of labor, they began searching for their husbands who were unavailable as they were farming, socializing or running errands; one woman said she was on a bicycle outside her home village when labor began and it was unclear in the interview if she sought her husband. These four BBA deliveries occurred on a bus, in a roadside field, at the home of a stranger and at the home of relative who lived en route to a facility. All four women described in detail their desire to deliver in a facility because they had either experienced a difficult pregnancy, viewed home births or TBAs as "dangerous" or "old fashioned", or learned from a provider during pregnancy that they were at risk for complications during delivery. Three of the women (and each of their spouses) hesitated at the outset of the interview to state that they delivered en route and instead said they delivered at a facility or at home. Only upon probing in an open-ended format did fuller

details of the birth - including its true location - emerge. All case study respondents described BBAs in a straightforward, factual manner and, at some point in the interview, described birth as a potentially dangerous fact of life that requires placing life in the hands of God. In each case, women lived relatively far from a health facility (three women lived roughly 15 kilometers from a functioning health facility, while one woman lived three kilometers from a facility). Assessment of geographic access to care is complex, however, as not only distance but also rainfall and river levels, road conditions and transport availability or cost can affect geographic access and travel times.

The cross-cutting theme or “core consistency”¹⁶⁴ that emerged most strongly across BBAs was the experience of husband-wife discord regarding when and whether to depart at the onset of labor; wives were keen to depart, but their spouses were unreachable or were delayed due to a struggle to prepare financially for the birth (e.g. to procure money for transport, birth equipment or to cover facility fees) or to arrange logistics (e.g. fixing bicycles for departure). A second core consistency involved divergent accounts that emerged in the re-telling of the BBA experience comparing husband and wife narratives.

6.6.3.1 Core Consistency 1. Partner negotiation and delays due to economic hardship

Mwajuma, Aisha and Neema each described a need to notify their husbands at the onset of labor pains and to coordinate with husbands in order to reach a facility. This reliance contributed to a substantial delay, which women highlighted in re-telling their stories. Mwajuma (whose husband was at a neighboring brewery) waited in vain for his return, and eventually left for the hospital without him (but only after the decision was sanctioned by his family). Aisha waited at least one hour before she could successfully notify her husband, Jamil, of labor's onset and then begin walking to a bus stand where she waited several hours for him to arrive with transport funds. Neema tried on at least two occasions to press her husband, Abasi, on the urgency to leave, but was met with his resistance. In each example, an element of the gendered dynamics of decision making for childbirth emerged wherein an activity that involved expense and/or leaving the household required not only permission, but also partner collaboration and financial or logistical scrambling¹⁶⁶. Husbands shared several reasons for delaying departure. Jamil needed time to request and receive loans from friends, neighbors and family members. Abasi needed to prepare the bicycle for transport and was skeptical of the urgency to leave given the long labors of previous births and a sense that a home-based birth was an equally viable option. Mosi described how poverty constrained every aspect of his and Subira's lives including decisions on whether to deliver in facilities. Mwajuma's husband was unavailable for an interview.

Neema and Abasi's discord regarding when to depart is illuminating in several respects. Neema described frustration with Abasi for not sharing her conviction regarding the superiority of services available in a facility. Careful evaluation (informed by two antenatal visits during this pregnancy and the experiences of three previous, facility-based births) led Neema to prefer biomedical health care. She spoke dismissively of TBAs as "those who should not exist in these modern times." She described how TBAs lack sterilization equipment, or what Whittaker (1999) termed "technologies of birthing," and lacking these technologies they represented the antithesis of what she wanted for herself and her baby during birth¹⁶⁷. By comparison, Neema conferred admiration, power and status on clinical health officers and nurses. Throughout the interview she used the phrase "real medicine" to describe them. Neema's husband, however, preferred local practices and knowledge, which he viewed as acceptable, affordable and feasible. He wanted to avoid waiting for several hours at a facility during his wife's labor.

Where discord between Neema and Abasi centered on preference for place of delivery based largely on opinions of health care providers, economic constraints proved to be of central importance in delaying departure for Aisha. Aisha awoke in the morning knowing she was in labor, but at least six hours passed before she procured requisite funds to

board a bus that could take her to a health facility; she eventually delivered aboard the bus. Jamil lamented the memory of his wife standing by the road watching busses pass and being unable to board. He placed blame on himself. “They left her,” he said, “because I hadn’t collected enough money.” Jamil described how as a subsistence farmer and father of six children, his financial status had eroded to a point where he had no savings, “not even a shilling.” Jamil’s feverish, hours-long search for funds and later success securing a loan from a shopkeeper were too late to prevent a birth that was witnessed by many curious bus commuters (to Aisha’s embarrassment), but not by a health professional or TBA. Financial desperation was equally strong in the BBA account of Subira and Mosi. While details of the BBA remained unclear despite follow-up interviews and probing, Mosi consistently described his sadness at his wife’s non-facility delivery. He described feeling “humiliated” at the situation in which his family was living and their inability to access adequate health care. “We came here to look for a better life,” he said, referring to their work as migrant farmers. “I don’t like having to tell you about (this delivery). I feel ashamed. With money, I could send Subira to a (maternal waiting facility), or rent a house and find a person living close to nurses and doctors who could help her deliver. ... we are so ashamed.”

6.6.3.2 Core Consistency 2. Contradictory Remarks

At the outset of the interviews, three women in this study stated that their birth occurred in a health facility, as instructed by providers during ANC visits. Aisha described

how, during antenatal care, she was referred to deliver in a higher-level facility due to concerns about her age (42) and parity (7). Mwajuma noted that she needed to deliver in a facility due to anemia, while Subira said her provider discussed her history of pre-term births and the subsequent necessity of facility delivery. Only upon probing for details of their experience did the BBA nature of each birth emerge, which was then coupled with women's explanations regarding their *intention* to deliver in a facility due to the superiority of biomedicine. Neema was forthright in describing her birth as a birth en route, but clarified this statement by noting that all three of her previous births were in a facility.

Across husband and wife pairs, accounts of BBAs could not be easily reconciled. Jamil first described Aisha's delivery as occurring at a hospital with him nearby. In a follow-up interview, he described the delivery as occurring aboard a bus in his presence. Aisha first described the birth as occurring in a hospital with a sister-in-law present. In the same interview she revised her account to describe the birth aboard a bus, again with her sister-in-law present. Similar to Jamil and Aisha, Neema did not describe Abasi as being present during the birth, while he described himself as present in both interviews.

Subira and Mosi described highly divergent birth accounts wherein Subira described a BBA, which occurred in the house of a stranger while en route to a facility, while Mosi described a home birth.

6.7 Discussion

Drawing on quantitative and qualitative methods, this study explored the experience of BBA among women living in rural areas across Morogoro Region in Tanzania.

A factor that emerged as critically important in both surveys and interviews and which correlates with a wide body of anthropological and epidemiological literature - as well as some BBA literature - was the role of poverty and the ways in which husband-wife pairs of a low socio-economic status are at a disproportionately higher risk of experiencing a BBA^{6,125,148,154,159,168}. In this study, economic constraints amplified discord on delivery location. Husbands in this study described concerns related to user fees and reservations regarding quality of care, factors that have been described in several studies conducted in Tanzania^{6,8,27,29,30,125,126}. Partner disagreement on delivery location preference in Tanzania has been significantly associated with reduced rates of facility births; when both partners rated the skills of government doctors and nurses as higher than that of TBAs, women were twice as likely to deliver at a health facility than in the home, even after controlling for confounders including age, wealth, and education¹⁶⁶. Women's delayed departure illuminates how, in a context of not only unequal power relations but also severely constrained economic resources, it is largely beyond the control of laboring mothers to determine when they will depart and how they will reach

a facility. It is also largely beyond the control of husbands to fulfill their socially-expected breadwinner role and provide funds for transport and birth supplies (such as razors, gloves, a plastic sheet and a new kanga or cloth)¹⁶⁹.

Quantitatively, once wealth was controlled for via matching, higher parity and fewer ANC visits continued to significantly predict higher odds of BBA. The protective effect of multiple ANC visits has been consistently highlighted in both BBA literature^{140,141,144,147,150-152} and maternal health literature as a means to monitor health, promote health-seeking behavior and devise birth preparedness plans¹⁸. Our qualitative interviews highlighted potential causes of this relationship: exposure to formal care through ANC visits offered educational opportunities to women regarding facility births and provided women with experiences that increased their sense of trust in and value of facility-based care. The role of parity has also been highlighted in previous BBA studies^{138,140} that offer both biological and behavioral explanations for the relationship of parity to BBA. In the cases presented here, we see women and especially husbands making care-seeking decisions based on prior experiences, with one husband describing how he delayed care to avoid the long wait times experienced during previous deliveries. Unlike earlier studies¹⁷⁰, this study did not find trends by educational level.

Multiple birth narratives were elicited during in-depth interviews. Because the research design allowed for follow-up interviews, interviewers sought to probe on divergent accounts of births, particularly in instances where birth accounts appeared contradictory within or across respondents. In the interest of building trust, maintaining confidentiality, and not causing undue strain between husband-wife pairs, extensive probing in the name of triangulation was not undertaken and several inconsistencies remain unexplored. The context of this study involved social spheres and spaces wherein respondents likely placed themselves within a different “social location”¹⁷¹ than interviewers and may have therefore felt compelled to adjust accounts. This has been referred to in the literature as “a performance of identity” with an understanding that respondents may sometimes engage in presenting “what I think might make me valued by others” or by revealing a “preferred self” rather than an “essential self”¹⁷¹.

Interviewers – all urban, multi-lingual, college graduates – likely drew upon their own subjectivity during interviews, thereby influencing the production of knowledge as it related to BBA account. In analyzing and presenting these narratives, rather than seeking an objective truth, we sought to engage in a “dialogue with the transcripts, listening to them and asking questions of them” to determine a “contextual truth”¹⁷².

While reading for a contextual truth does not lead to a single, objective truth, we argue that it does illuminate how women and men reshape the story of their lives in an adaptive, socially desirable manner. In viewing the data this way, we recognize potential

social pressures women may feel to tell researchers that they delivered in health facilities. We also appreciate the pressure men may feel to present themselves as physically present alongside women throughout labor and delivery, and as financially capable of providing for women before and during childbirth. Given this understanding, we suspect that our survey and other surveys related to careseeking for childbirth underestimate the number of BBAs and overestimate the number of facility-based births (and potentially also the number of home births).

While it would be impossible to prevent all BBAs, strategies have been proposed to minimize incidence¹³⁸. Interventions could consider re-affirming the importance of birth preparedness plans (with preparedness messaging directed at women *and* their husbands), expanding or improving the capacity of maternal waiting homes, and instructing families during ANC visits on a minimum amount of care required in the event of a BBA (such as keeping a baby warm, cutting a cord with a clean razor and ensuring delivery of a placenta)^{144,150,155}.

This study was strengthened by the use of both qualitative and quantitative methods. Qualitative methods highlighted the reality of BBAs to the research team, which informed the decision to include a measure of births en route in the survey. Quantitative measures allowed us to examine generalizable trends in the data and

assess statistical trends in light of narrative themes. The uniqueness of this study stems from not only presentation of BBA data in an East African context, but also from the presentation of a male perspective on BBAs. As partners to women and fathers to children, men exert positive and negative influences over maternal health¹⁷³. The influence of men's intentions and practices on childbirth has been "little studied"¹⁷³ and in contexts such as Tanzania we urge that more attention be paid toward examining the role of men in care-seeking for childbirth. We hope this research sparks more interest in the topic of BBAs and birth preparedness in low-income settings.

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6.9 Tables for Chapter 6

Table 6.1. Assistance at delivery and newborn outcomes

	Births before arrival (%)	Facility births (%)
Who assisted at birth		
Brother/sister/friend/neighbor	27 (46%)	36 (3%)
Traditional Birth Attendant	16 (27%)	17 (1%)
Another person (unstated)	13 (22%)	18 (1%)
Community Health volunteer	3 (5%)	34 (3%)
Traditional Healer	3 (5%)	1 (0%)
Health worker at dispensary	2 (3%)	562 (44%)
Health worker at health center	0 (0%)	363 (29%)
Health worker at hospital	0 (0%)	293 (23%)
None of the above	5 (8%)	95 (7%)
Newborn cry at birth		
Yes	51 (86%)	1,068 (84%)
No	4 (7%)	151 (12%)
No response	4 (7%)	48 (4%)
Newborn still alive		
Yes	55 (93%)	1,218 (96%)
No	2 (3%)	34 (3%)
No response	2 (3%)	15 (1%)

Table 6.2. Sample description from household survey

	Birth before arrival (%)	Birth in facility (%)
Indicator (BBA n; facility delivery n)	59	1,267
Age (59; 1,266)		
Under 19 years	6 (10%)	203 (16%)
20 to 33 years	40 (68%)	858 (68%)
More than 34 years	13 (22%)	205 (16%)
Age at first pregnancy (59; 1,258)		
Under 16 years	12 (20%)	140 (11%)
16 to 19 years	38 (64%)	755 (60%)
More than 19 years	9 (15%)	363 (29%)
Parity (59; 1,263)		
1	4 (7%)	312 (25%)
2-3	25 (42%)	496 (39%)
4+	30 (51%)	455 (36%)
Woman's Education (59; 1,246)		
None	22 (37%)	280 (22%)
Some Primary	6 (10%)	135 (11%)
Primary Complete	30 (51%)	749 (60%)
Secondary or Higher	1 (2%)	82 (7%)
Partner's Education (42; 951)		
None	0 (0%)	20 (2%)
Some Primary	4 (10%)	68 (7%)
Primary Complete	37 (88%)	757 (80%)
Secondary or Higher	1 (2%)	106 (11%)
Asset index† quintile (59; 1,267)		
Lowest	18 (31%)	231 (18%)
Second	20 (34%)	179 (14%)
Middle	11 (19%)	232 (18%)
Fourth	7 (12%)	291 (23%)
Highest	3 (5%)	334 (26%)
Number of ANC visits (57; 1,243)		
1	3 (5%)	13 (1%)
2	6 (11%)	69 (6%)
3	12 (21%)	294 (24%)
4 or more	36 (63%)	867 (70%)
Relationship to Head of Household (59;1,261)		
Self	7 (12%)	111 (9%)
Wife	43 (73%)	892 (71%)
Daughter	5 (8%)	155 (12%)
Other	4 (7%)	103 (8%)
Marital Status (59; 1,266)		
Married	48 (81%)	1,017 (80%)
Divorced, Separated, or Widowed	5 (8%)	97 (8%)
Never Married	6 (10%)	152 (12%)
†Asset index estimated using the first component of principal components analysis of asset ownership.		

Table 6.3. Factors associated with birth before arrival at a facility

	No matching Unadjusted OR (CI)	No matching Adjusted OR (CI)	Matching* Unadjusted OR (CI)	Matching* Adjusted OR (CI)	Matching** Unadjusted OR (CI)	Matching** Adjusted OR (CI)
Age	COLUMN 1 <i>p=0.228</i>	COLUMN 2 <i>p=0.931</i>	COLUMN 3 <i>p=0.307</i>	COLUMN 4 NA	COLUMN 5 <i>p=0.217</i>	COLUMN 6 NA
< 19 years	1	1	1		1	
20 to 33 years	1.58 (0.67,3.71)	1.07 (0.31, 3.70)	1.77 (0.76, 4.10)		1.82 (0.80, 4.17)	
> 33 years	2.15 (0.89,5.19)	1.28 (0.32, 5.22)	1.96 (0.82, 4.72)		2.19 (0.90, 5.33)	
Age at first pregnancy	<i>p=0.008</i>	<i>p=0.074</i>	<i>p=0.040</i>	<i>p=0.063</i>	NA	NA
< 16 years	1	1	1	1		
16 to 19 years	0.59 (0.27,1.26)	0.79 (0.33, 1.86)	0.65 (0.30, 1.38)	0.68 (0.31, 1.46)		
> 19 years	0.29 (0.13,0.65)	0.48 (0.18, 1.27)	0.35 (0.16, 0.80)	0.38 (0.16, 0.87)		
Parity	<i>p=0.009</i>	<i>p=0.108</i>	<i>p=0.019</i>	<i>p=0.023</i>	<i>p=0.027</i>	<i>p=0.024</i>
1	1	1	1	1	1	1
2-3	3.93 (1.36,11.36)	4.79 (0.94, 24.5)	4.01 (1.41, 11.4)	3.88 (1.33, 11.3)	3.98 (1.39, 11.4)	4.05 (1.37, 11.9)
4+	5.14 (1.82,14.56)	4.65 (0.74, 29.1)	4.22 (1.52, 11.8)	4.47 (1.53, 13.1)	3.90 (1.40, 10.8)	4.30 (1.49, 12.4)
Woman's Education	<i>p=0.108</i>	<i>p=0.896</i>	<i>p=0.735</i>	NA	<i>p=0.661</i>	NA
None	1	1	1		1	
Some Primary	0.57 (0.19,1.68)	0.87 (0.24, 3.11)	0.71 (0.23, 2.18)		0.51 (0.14,1.84)	
Primary	0.51 (0.27,0.96)	0.91 (0.37, 2.26)	0.76 (0.40, 1.45)		0.82 (0.42,1.60)	
≥ Secondary	0.16 (0.02,1.22)	0.87 (0.10, 7.55)	0.37 (0.04, 3.07)		0.39 (0.05,3.19)	
Partner's Education	<i>p=0.425</i>	<i>p=0.583</i>	<i>p=0.773</i>	NA	<i>p=0.794</i>	NA
< Primary	1	1	1		1	
Primary	1.08 (0.31,3.70)	2.59 (0.54,12.4)	1.43 (0.40,5.05)		1.53 (0.44,5.41)	
≥ Secondary	0.21 (0.02,2.13)	1.25 (0.11,14.4)	0.56 (0.05,5.84)		0.69 (0.06,7.42)	
None Reported	1.18 (0.30,4.72)	4.01 (0.72,22.5)	1.48 (0.37,5.96)		1.60 (0.39,6.50)	
Asset index quintile	<i>p<0.001</i>	<i>p<0.001</i>	NA	NA	NA	NA
Lowest	1	1				
Second	1.43 (0.80,2.57)	1.08 (0.48, 2.47)				
Middle	0.61 (0.26,1.43)	0.80 (0.31, 2.07)				
Fourth	0.31 (0.13,0.74)	0.36 (0.15, 0.91)				
Highest	0.12 (0.03,0.38)	0.15 (0.04, 0.58)				
ANC visits	<i>p=0.009</i>	<i>p=0.006</i>	<i>p=0.010</i>	<i>p=0.006</i>	<i>p=0.051</i>	<i>p=0.015</i>
2 or fewer	1	1	1	1	1	1
3 visits	0.37 (0.17,0.82)	0.34 (0.14, 0.81)	0.33 (0.14, 0.80)	0.32 (0.13, 0.27)	0.36 (0.14, 0.89)	0.32 (0.13, 0.78)
4 or more	0.38 (0.20,0.72)	0.34 (0.16, 0.71)	0.35 (0.17, 0.71)	0.33 (0.17, 0.66)	0.40 (0.18, 0.88)	0.33 (0.15, 0.72)
Relationship to Household Head	<i>p=0.506</i>	<i>p=0.866</i>	<i>p=0.646</i>	NA	<i>p=0.579</i>	NA
Self	1	1	1		1	
Wife	0.76 (0.33,1.77)	1.07 (0.38, 3.03)	0.84 (0.36, 1.93)		0.80 (0.34, 1.87)	
Other	0.55 (0.20,1.51)	0.76 (0.26, 2.20)	0.63 (0.23, 1.71)		0.59 (0.21, 1.62)	

^ P-values are based on a Wald joint significance test
* For these odds ratio (OR) estimates, 1,111 facility births were matched to 59 BBAs on asset index prior to analysis.
** For these odds ratio (OR) estimates, 876 facility births were matched to 58 BBAs on asset index & age at first pregnancy before analysis.

Table 6.4. Characteristics of qualitative birth before arrival

Case	Case 1. Neema (+Abasi)	Case 2. Aisha (+Jamil)	Case 3. Subira (+Mosi)	Case 4. Mwajuma
Characteristics				
Maternal				
Parity	4	7	4	4
Age	35	42	35	29
Marital Status	Married	Married	Married	Married
Education level	Primary complete	Some primary	Some primary	None
Husband education	Primary complete	None	Some primary	None
Place of previous deliveries	Health facility	Health facility	Disputed <i>Subira</i> : Two BBAs; 1 home delivery <i>Mosi</i> : Home	Home
Distance to facility (km)	≤3	≤15	>15	>15
Pregnancy				
Antenatal visits (#)	2	>4	2-3 (unclear)	4
Referral for delivery	No	Yes	No	No
Birth				
Time between woman's statement of desire to depart and departure	1-2 hours	2-4 hours	Disputed <i>Subira</i> : left for facility before labor started <i>Mosi</i> : reports home delivery	1-2 hours
Mode of transport to facility	Bicycle	Foot, Bus	Bicycle	Foot
Escort to facility	Husband	Disputed <i>Aisha</i> : Sister-in-Law <i>Jamil</i> : himself and his sister	Disputed <i>Subira</i> : other pregnant woman <i>Mosi</i> : n/a	Mother-in-law, Sister
Who was present at birth	Disputed <i>Neema</i> : alone <i>Abasi</i> : husband present	Disputed <i>Aisha</i> : sister-in-law, bus riders <i>Jamil</i> : self, sister-in-law, bus riders	Disputed <i>Subira</i> : a pregnant friend <i>Mosi</i> : their teenage daughter	Mother-in-law, Sister, Sister-in-Law
Birth Location	On the side of a dirt road, near thorny bushes	Public bus	Disputed <i>Subira</i> : stranger's house <i>Mosi</i> : own house	Sister-in-law's house
Delivery Complications	Mother fell unconscious	Vaginal tearing	None mentioned	None mentioned

6.10 Appendices for Chapter 4

6.10.1 Case Study 1. Neema & Abasi Mvomero District

Neema, 35, has delivered 3 children and experienced 1 miscarriage. Neema's 4-month-old daughter Pili was delivered among thorny bushes by the side of a road. This marked the first non-facility birth for Neema, who views home births and traditional birth attendants as outdated. Neema's husband, Abasi, age 40, played a critical role in both seeking emergency care en route but also delaying Neema's time to departure for a facility. Neema lost consciousness during her delivery, which occurred while she was alone.

Four months ago, Neema woke early, grabbed her hoe and headed to the farm. Upon arrival, she felt a tight cramping at her waist and returned home to resume less strenuous work. As the cramping built, she grew suspicious, "I thought to myself, these are labor pains." This was confirmed when she went to relieve herself and discovered spotting. She began packing a bag of her nicest clothes – clothes that she described as fit for facility delivery – and awaited the return of her husband who was running an errand. Upon his return, she told him they needed to start walking to the facility. He dismissed this, urging her to relax and recall how long her previous labors lasted. "It's true," she said, "with all my boys labor lasted upwards of 9 hours." Nevertheless, this

time something felt different and Neema was concerned. The thought of delivering at home, while reasonable to Abasi, was anathema to Neema. She had never delivered a child at home and dismissed those who did. "TBAs should not exist in these modern times. I don't trust them. We're told not to go to them. The same instruments that they use on you, they could have used on 10 other women. For them, sterilization is just laying instruments in the sun. I prefer the facility." Feeling her cramps coming stronger and faster, Neema insisted that she needed to leave now. But Abasi insisted that he needed to run errands (related to departing for the facility and to household needs generally). He first went to a repairman to fix their bicycle. He then greeted a friend at a nearby shop. "Without him, I may have made it on time," Neema said. At around 8:30 am –1-2 hours after she asked that they depart – Abasi grabbed his bicycle, tied her bag of clothes to it, eased her onto a seat and began peddling to the facility. Not a quarter mile into the 2-mile journey, Neema was overcome with pain and told Mdume to stop. "I told him, 'I'm having real difficulty here.' We were right there on the road, just the two of us and thorns everywhere. But what can we do?" Abasi stopped and helped ease Neema onto the sandy ground. He was nervous. "We were alone in the bush," he said. He felt ill-prepared in case the birth was happening and asked Neema if he should fetch some women he had seen farming a few fields back. Neema agreed to this plan. In his absence, to Neema's surprise, her water broke. With her previous children, her water broke and hours later she delivered. This time her water broke and she felt a desperate

need to push. “I was alone, by myself. I laid back, grabbed my leg and started pushing,” she said. In the midst of the delivery, Neema began feeling faint, like she needed to “doze off”. She felt like she was coming in and out of a sleep when she briefly awoke and saw a baby lying on the ground near her feet. She remembered thinking that the baby looked cold, “So I covered her in cloth, but I didn’t have the strength to hold her.” Instead, she laid the wrapped baby on the sand and fell back asleep. Some time later (she was unsure of how long) she snapped back into consciousness, saw a baby girl on the ground and pulled her close to her chest.

In her recollection, Neema delivered alone. In Abasi’s account, he says he was with her at the delivery. Neema recalls that Abasi returned with a group of women post-delivery as she was rubbing sand and dust off of herself and her baby. The women scolded her and said, “You have rested enough. Now get up and go to the facility.” As a response, Neema unfolded the cloth to reveal her newborn who was “looking healthy, already sucking on her fingers”. When the women realized that she had already delivered, they ordered Abasi to leave in search of a TBA. In Abasi’s memory, there was already an attendant within the group. Neema said the placenta had not yet delivered and nobody was sure what to do. Within minutes, Abasi returned with a TBA who had a razor blade. She immediately cut the umbilical cord, wrapped the newborn and handed her to a woman to hold. She then instructed Neema, who was standing, to crouch and squeeze

(*mbavi*) while she massaged and pressed her in order to deliver the placenta. The placenta came out roughly 30 minutes after the delivery, within moments of the TBA's massaging. About two hours after the delivery, the TBA advised Neema and Abasi to resume their journey to the facility, but Neema declined. "My stomach was hurting a lot and the distance felt very far." The baby appeared healthy to all and Neema and Abasi returned home. They registered and immunized the baby the following day, after Neema was scolded by a provider for delivering on the way. "They told me, 'Why did you not deliver here at the facility?' and I said, 'Because God brought me a blessing while on the way.'"

6.10.2 Case Study 2. Aisha & Jamil in Kilosa District

Aisha, 42, has delivered 7 children, 6 of whom are living and 1 who has died. Aisha's 4-month-old daughter Zaina was delivered among numerous onlookers on a crowded bus en route to a referral facility. In the past, Aisha delivered all of her children at a facility. Because of Aisha's age and parity, providers at her closest health center referred her to the larger district hospital during pregnancy. Aisha's husband, Jamil, age 53, struggled to find funds to cover transport to the hospital and to purchase supplies required for facility deliveries, including a basin and gloves. In a first round of interviews, Jamil described Aisha's delivery as a routine event that occurred in a health facility. Upon follow-up interviews, he elaborated on the birth aboard a bus. While Jamil places

himself at the delivery, Aisha said she was escorted only by her sister-in-law. Aisha tried to stall the delivery of her baby; she suffered extensive blood loss and vaginal tearing.

Aisha recalls awaking one recent morning with labor pains. As a self-described “mature mother”, she knew these marked the start of labor, thoughts that were confirmed when she noticed spotting. At around 7 am, she sent a child to fetch her husband, Jamil, at their farm. When her husband returned, he told her they had no money and he would need to seek funds from friends and neighbors. He was already in debt to several neighbors. Aisha decided to get a head start on the journey, accompanied by a sister-in-law, with an expectation that her husband could catch up. After 2-3 hours of walking, they arrived at a town that had a routine inter-village bus. At around 11 am, Aisha watched as first a bus and later a car drove past en route to the town where her hospital was located. Without any money, she couldn’t board either vehicle. “They left her standing there,” her husband Jamil said with regret, “because I hadn’t collected any money.” When her husband arrived to the bus station, around noon, he was empty-handed. “So then he was there with me, but where could he borrow money right there on the road? He went here and there, but they were all refusing him.” Aisha began feeling desperate. “I was praying to God, praying to God,” she said. Jamil described a frustrating search for funds: “I just did not have money. None at all, not even a shilling. I had to go around. I went down there to that guy and asked. Then I found another guy. I

found the chairman of the village government. Finally, I found a guy who lives down that way... he called another guy who is a petrol vendor and that young man gave me 30,000 shillings (~\$18). I gave it to my wife and we left for Kilosa.” The next bus came at 2pm. While Jamil says that he traveled with her to the facility, Aisha says that she boarded with only her sister-in-law. Once aboard, Aisha was “overwhelmed (*kabiliwa*)” and “struggling, really struggling.” She had wanted to either get off the bus or to ask the driver to go directly, without stopping, to the final city where her hospital was located. “An ambulance that carries sick people would go straight to a hospital. But this is a bus that has to pick up passengers. So you can’t say, ‘Please rush me to the hospital.’ They go according to their own schedule.” At the bus’ terminal point, as passengers began disembarking, Aisha could not stand. Once the passenger sitting next to her stood, Aisha felt her lower body tighten. Her legs grew heavy and tight. Her escort urged Aisha to try to disembark, but “I could not. I just could not come out.” Instead, Aisha re-positioned herself to lay prone on the bus bench. Despite efforts to delay the birth, Aisha’s daughter “came into the world with force.” Her sister-in-law, a teenager, caught the baby while men, women and children stared through windows and peered over nearby bus seats. Aisha tried to cover her baby and herself with her dress. The driver repeated that all passengers must disembark so that he could drive directly to the facility. Upon arrival at the hospital, around 4 pm, the conductor ran into the facility to alert providers that a delivery occurred on his bus. Two nurses rushed out; one cut the umbilical cord

and wrapped the baby while another delivered the placenta, which was expelled around 30 minutes after delivery. Aisha praised the providers. “Those nurses did not shout at me, they didn’t tell me that I was old nor did they ask me about delivering at home...They held me by the hand and helped me get into the ward,” she said. Once in the ward, providers began stitching tears in Aisha’s vaginal wall. “I was surprised they were so bad because I couldn’t feel it,” she said. As Aisha and Jamil describe it, transport costs were a major barrier leading to BBA. “If I had money and got on the 11am bus, I would have delivered in the [hospital labor] ward. I did not get on the first bus, I had to get on the later bus.” Aisha laughed while summing up her experience. “So that’s how it was on the day of fools,” she said. “April 1st is when I delivered.”

6.10.3 Case Study 3. Subira & Mosi in Ulanga District

Subira, 35, has delivered 4 children. She and her husband Mosi, 37, presented divergent accounts of her birth experience with their daughter, who was born 2 weeks earlier.

Mosi said the child was delivered at home; Subira said the child was delivered on the way. Husband and wife agreed that Subira experienced at least 1 BBA several years ago as well as at least 2 home deliveries. The couple also agreed that the journey from their village to a facility takes 4-5 hours by bicycle. Motorcycles are prohibitively expensive at 30-40,000 shillings (~\$18-24 USD). As recent migrants to the region they felt heightened uncertainty about how and where to access care.

Subira said that at around 7am two weeks ago, she and several friends who were also pregnant began bicycling to a facility to attend a routine antenatal care visit. One hour into the journey, she felt a jolt of pain and began peddling faster, fearing that this could be labor pain. Eventually she could no longer peddle. She tried to sit on the back of her friend's bicycle, but her legs started buckling in pain and she had to get off the bicycle. By that time, she was in a neighboring village. Her friends escorted her to a stranger's house, explained that she had a "stomach ache", and she was given a room where she delivered with her friend's assistance at 9am. It is unclear who cut the umbilical cord and what supplies were used. The placenta came out immediately following the delivery. She rested for an uncertain amount of time, then hired a motorcycle for 5,000 shillings to bring her, her baby and her friends back to the village. While there is a maternal waiting home near the facility she was intending to reach, she could not access it for two reasons. First, she did not know her delivery date. Second, she did not want to leave her children at home with their father. "You know men," she said. "The children cannot stay with him. What would they eat?" When probed on risks associated with a father watching over his children versus a mother delivering on the way, she said, "Death can come anytime. Death can even come in a facility."

Mosi recalled that at around 3am Subira began feeling labor pain, and because neither she nor Mosi knew how to get her to a facility, she gave birth in their home at around 9

am aided by their adolescent daughter who had delivered three of Subira's previous children and who Subira instructed throughout the delivery process by explaining how to catch the baby and how to cut the umbilical cord using a new razor. Her daughter was not wearing gloves. Mosi said he was standing outside, praying to God and listening to his wife during the delivery. He described feeling "humiliated" at the situation he and his family live in, as it results in experiences such as home deliveries." We came here to look for better life...I don't like having to tell you about (this delivery). I feel ashamed. With money, I could send Subira to a (maternal waiting facility), or rent a house and find a person living close to nurses and doctors who could help her deliver. But we are so ashamed."

Mosi and Subira both said the baby has not been taken to a facility since birth, but Subira said a vaccine truck passed through on the day of the interview and a nurse vaccinated and weighed the baby. When Subira explained the BBA to the nurse, she thought she may get yelled at for being unprepared. Instead, the nurse comforted her and said, "This was God's plan."

6.10.4 Case Study 4. Mwajuma Ulanga District

Mwajuma, 29, has delivered 4 children. Mwajuma's daughter Neema was delivered in the presence of her mother, sister and sister-in-law in her sister-in-law's house hours

before the interview. In the past, Mwajuma delivered her children at home. Her recent experiences with anemia coupled with repeated warnings from her providers regarding home delivery made Mwajuma feel determined to deliver in a facility. During the middle of the night, while en route to the facility, Mwajuma intended to briefly stop in a village where her sister-in-law lived and her husband was socializing. While there, she delivered. She was still recovering from the birth at the time of this interview.

In previous births, Mwajuma felt comfortable delivering at home. But this time, throughout her pregnancy, she felt weak and providers told her that due to risks associated with anemia a facility delivery was necessary. Mwajuma was determined to deliver at a facility despite living several hours from the nearest health center. The day before this interview at around 4 or 5 pm, she began to feel intense cramping. She waited for her husband to return home, in order for them to depart together. Later, as it appeared that he may not return, waiting felt impractical. Mwajuma decided (following consent from her mother-in-law and sister-in-law) to begin the journey, and hoped to find her husband en route. During this 1-hour walk, they had to stop several times, but eventually they reached a village brewery where her husband was drinking. This was still several miles from the facility and it was dark outside. Mwajuma and her family decided to rest at a sister-in-law's house, in the same village. Mwajuma waited while her mother-in-law gathered supplies necessary for deliveries including gloves, a plastic

sheet and a clean razor. It is unclear where Mwajuma's husband was at this time. As Mwajuma's cramps began to intensify, around midnight, her sister decided to seek out a local TBA who could either serve as an escort in the morning or help with a home delivery. Soon after the arrival of the TBA, Mwajuma's mother-in-law laid out a sheet of plastic and the baby was born. The TBA wore gloves. She tied the umbilical cord with a thread of dress fabric ("kanga") before Mwajuma's mother-in-law cut the cord with a new, 100 shilling (\$0.05) razor. The placenta was expelled almost immediately after delivery. Mother and baby were washed after delivery. Mwajuma insisted several times during the interview that she "wanted to deliver in a facility" particularly as evidenced by her frequent facility visits but "the cramps were strong and fast" and eventually, she simply "could not walk." Sometime in the near future she said she will take her daughter to a facility, where she expects to receive good care despite some concerns that she may be reprimanded for not delivering in a facility.

Chapter 7 “Early discharge and post-delivery experiences among women in Morogoro Region, Tanzania: an exploratory study”

7.1 Abstract

7.1.1 Background

Tanzania is among ten countries that account for a majority of the world’s newborn deaths. However, data on time-to-discharge after facility delivery, receipt of post-partum messaging by time to discharge and women’s experiences in the time preceding discharge from a facility after childbirth is limited.

7.1.2 Methods

Household survey of 1267 women who delivered in the preceding 2-14 months; in-depth interviews with 24 women, 12 husbands, and 5 community elders.

7.1.3 Result

Quantitative and qualitative data highlight the importance of type of facility and facility amenities in determining time to discharge. In multiple logistic regression, level of facility (hospital, health center, dispensary) was the only significant predictor of early discharge ($p=0.001$). However across all types of facilities a majority of women depart before 24 hours ranging from hospitals (54%) to health centers (64%) to dispensaries (74%). Most women who experienced a delivery complication (56%) or gave birth by

caesarean section (90%) or gave birth to a pre-term baby (70%) stayed longer than 24 hours. Reasons for early discharge include: facility practices, including discharge routines and working hours, and facility-based discomforts for women and those who accompany them to facilities. Provision of postpartum counseling was inadequate regardless of time to discharge.

7.1.4 Conclusion

Our quantitative and qualitative findings indicate that the level of facility care and comforts existing or lacking in a facility have the greatest effect on time to discharge. This suggests that individual or interpersonal characteristics play a limited role in deciding whether a woman would stay for shorter or longer periods. Implementation of a policy of longer stay must incorporate enhanced post-partum counseling and should be sensitive to women's perceptions that it is safe and beneficial to leave hospitals soon after birth.

7.1.5 Keywords

Early discharge, Tanzania, maternal health, neonatal health, length of stay

7.2 Background

Time to discharge after childbirth in a health facility has been debated in medical journals and popular media for more than 50 years¹⁷⁴. Perceptions of an “early” discharge vary across countries and can range from 48 hours up to 4 days¹⁷⁵. While consensus has been reached on objectives of a postpartum stay – to monitor maternal and newborn health, and to provide counseling on breastfeeding and danger signs – no global standards have been reached on a number of hours or days sufficient to achieve these objectives¹⁷⁶. A technical consultation by the World Health Organization recommended that for an uncomplicated delivery of a healthy, term baby, mother-baby pairs should stay under observation for 24 to 48 hours; in cases of an earlier departure, a qualified professional should assess the dyad within 2 days of discharge¹⁷⁶.

Two systematic reviews, drawing largely on data from high-income settings, have failed to demonstrate a link between early discharge and maternal or neonatal morbidity or mortality^{177,178}. A Cochrane review, updated in 2008, found that if early discharge was paired with a home visit, there was no adverse impact on breastfeeding or maternal depression¹⁷⁵. In low-resource settings, early discharge data is limited. In searches of PubMed and Scopus, we found no studies on time to discharge from low-income countries.

In low-income countries, an early discharge represents a missed opportunity to observe maternal and newborn health and to provide critical counseling messages to families. On the first day of life - described as “the most dangerous day for mothers and babies”¹²¹ - an estimated 45% of maternal deaths¹⁷⁹ and 24-45% of neonatal deaths^{180,181} occur. More than 98% of all maternal and newborn deaths occur in low-income settings^{33,182}, nearly half in Sub-Saharan Africa.

Tanzania is the fifth most populous country in Sub-Saharan Africa, and is among 10 countries that account for a majority of the world’s newborn deaths¹²¹. For every 1,000 live births, 68 deaths occur before age 5; 40% within the first 28 days and 14% within the first 24 hours of life¹⁸³. One in 38 Tanzanian women die due to complications in pregnancy or childbirth¹²¹, and for every 100,000 live births, 454 maternal deaths occur¹⁸⁴. While receipt of at least one antenatal care session is nearly universal (96%), only half of deliveries occur in health facilities¹⁸⁴. There is a paucity of data on time to discharge. While the country’s National Postnatal Care Guidelines do not explicitly require a duration of stay, emphasis is placed on “assessment and close monitoring” of mother-baby pairs for 24 hours¹⁸⁵.

This research presents data on time to discharge, receipt of post-partum messaging and factors that affect duration of stay as described by Tanzanian women and their husbands.

7.3 Materials and Methods

7.3.1 Setting

This research was conducted in four districts of rural Morogoro Region, Tanzania: Morogoro Rural, Mvomero, Kilosa and Ulanga districts. These districts were chosen based on their inclusion in an integrated maternal and newborn health program that this research seeks to inform. In the region, nearly one quarter of women have no formal education, about a third (34%) have incomplete primary education, another third (33%) have completed primary school, 8% have some secondary education and less than 1% have completed secondary school ¹⁸⁶. While a majority of women can read a whole sentence, 26% of women cannot read ¹⁸⁶. More than 60% of men and women are engaged in agriculture as their primary occupation ¹⁸⁶. First-level health facilities in Tanzania are dispensaries, followed in ascending order by health centers, district and regional hospitals. Nationwide, cesarean sections are performed in most hospitals (92%), few health centers (13%) and no dispensaries ⁶⁴. More than half of hospitals have needles and syringes, intravenous solutions, injectable oxytocics, anticonvulsants and oral or injectable antibiotics in the delivery room compared with less than 20% of health

centers and less than 10% of dispensaries⁶⁴. Blood transfusion services are available at a majority of hospitals (90%), few health centers (9%) and no dispensaries⁶⁴.

7.3.2 Sampling

A household survey was administered to 1,968 recently-delivered women - women who gave birth, irrespective of outcome, within the past 14 months but not within the previous two months - across 4 districts. These women represent roughly 4% of all pregnant women in the target districts. The survey was designed as a multistage cluster sampling survey, with the intention to collect baseline data on health indicators for a larger maternal health evaluation. Sixty clusters were selected through probability proportional to size (PPS) sampling methods and in each cluster, 30-35 recently-delivered women were interviewed. The survey team visited all households in each selected cluster to identify eligible women. If a household had more than 1 eligible woman, the interviewer compiled a list of the eligible women in the household and randomly selected one from the list.

The qualitative study sample included in-depth interviews with women who delivered in a facility in the past 14 months (n=24), their husbands (n=12) and community leaders (n=5) across four districts in areas receiving additional health system inputs from an NGO and comparison arms. Researchers engaged with village health committees to identify eligible participants. Interviews focused on capturing narratives related to the

careseeking experience during antenatal, delivery and postnatal periods. Qualitative methods were used to understand how women described their discharge and the decisions surrounding time to discharge; quantitative methods were employed in order to identify generalizable trends in time to discharge, predictors of an early discharge and messaging received prior to discharge. All data collectors obtained informed written consent from respondents before conducting interviews or surveys.

7.3.3 Analysis

For quantitative analysis, data from 1267 women who delivered at facilities were included. For all variables of interest, proportions and confidence intervals were calculated using the survey commands of Stata 13, adjusted for clustering¹⁸⁷. Statistical significance was tested using bivariate logistic regression with p-values of less than 0.05 taken to be significant and incorporated into a multiple logistic regression model. In choosing a parsimonious model, we sought to include variables significant at alpha of 0.05 in either bivariate logistic analysis or in a full multiple logistic regression that included all variables of interest. We also conducted forward selection and backwards elimination stepwise regression using a cutoff value of $p=0.10$ in both directions to further inform our final model selection. Using a chi-squared test, we assessed whether women received more post-partum care messages by staying the recommended 24 hours or more. We restricted our multivariate analysis to women who experienced non-complicated vaginal deliveries. Women who delivered via cesarean section, vacuum

extraction, reported a delivery complication or experienced a pre-term birth were analyzed separately for duration of stay due to sample size limitations and inherent differences across the two populations.

For qualitative analysis, a field supervisor led daily debriefing sessions with interviewers to triangulate findings, improve lines of inquiry for future interviews, build field notes and inform early drafts of a codebook. All qualitative interviews were recorded, transcribed, translated and coded using Atlas.ti¹⁸⁸. Codes were applied and checked by a qualitative supervisor. Qualitative analysis was informed by the five stages of the framework approach: familiarization, theme identification, indexing, charting and interpretation¹⁸⁹. A theoretical perspective guiding all analysis was the Social Ecological Model, which emphasizes levels of influence on behavior (individual, dyadic, environmental and structural)¹⁰⁶.

The study received ethical approval from the Muhimbili University of Health and Allied Sciences and Johns Hopkins School of Public Health Institutional Review Boards. Names used in this paper are pseudonyms to protect the confidentiality of interviewees.

7.4 Results

7.4.1 Household survey: Patterns of discharge after facility delivery

Among women who delivered in a facility (n=1205), 1152 (90.9%) experienced normal, non-complicated vaginal births, 102 (8%) had caesarean sections, and 5 (0.4%) had forceps / suction assisted deliveries. Unlike women who did not experience a complication during delivery, a majority of women (64.5%) who underwent a Cesarean section or suffered a delivery complication while giving birth in a facility were discharged more than 24 hours after giving birth (see Table 7.1). Among these women, 120 (45%) delivered in a hospital, 82 (31%) in a health center and 65 (24%) in a dispensary. While the study did not have enough power to examine factors that contribute to length of stay, even with a small sample the effect of higher level of facility care was strong.

Table 7.1. Post delivery stay by delivery characteristics

		Stayed <24 hours n(%)	Stayed ≥24 hours n(%)	p-value
Delivery Type	Normal Vaginal Delivery	692 (62.7)	413 (37.3)	<0.000
	Cesarean Section	10 (10.5)	85 (89.5)	
	Assisted vaginal delivery	2(40.0)	3 (60.0)	
Delivery Complications* *	No	620 (61.2)	393 (38.8)	<0.000
	Yes	83 (44.2)	105 (55.9)	
Birth Timing	Preterm birth	9 (30.0)	21 (70)	0.001
	Term	700 (59.5)	477 (40.5)	
**severe vaginal bleeding, eclampsia, obstructed labor, retention of placenta, severe anemia and loss of consciousness				

Among women who experienced a vaginal, non-complicated delivery in a health facility, a majority (65.7%) were discharged within 24 hours (See Table 7.2). In bivariate analysis, variables found to be significantly associated with a longer stay ($p < 0.05$) included delivering at a higher-level health facility (longer stay at hospital vs. health center, and at health center vs. dispensary), younger maternal age, any maternal education and lower parity. In the full multiple logistic regression model, delivery at a higher-level facility and younger maternal age remained significant. Based on these results, we chose to retain level of facility, maternal age, maternal education, and parity in our final model. Both forward selection and backward elimination stepwise regression agreed on a slightly more parsimonious model nested within our own that omitted parity as a predictor.

Women were more likely to stay 24 hours if they delivered at a higher-level facility in all three types of analyses (including the single, full and final models). In terms of education, in the bivariate logistic regression there appeared to be a dose-response between increasing education and delayed discharge, but there were not significant differences comparing women at the highest level of education with women possessing no education. Education was not a significant predictor of time to discharge in the full or final models and a dose response was not observed in point estimates. Age was significant in bivariate logistic regression, significant in the full model but no longer

significant in the final model ($p=0.07$). In all models, it appeared that women younger than 19 are more likely to depart after 24 hours compared to women older than 20. In terms of parity, the bivariate model showed that as women have more children, they are less likely to stay 24 hours. However this finding was not statistically significant in the full or final models.

Table 7.2. Post delivery discharge from facility

[^] Factors associated with stays of greater than 24 hours among women who experienced a normal, full-term delivery* and had no complications during birth ($N=907$). Only predictors that were significant ($p < 0.05$) in either bivariate analysis or the full model** were included in the final model.

	Stayed < 24 hours Frequency (%)	Stayed ≥ 24 hours Frequency (%)	Crude Odds Ratio*** (95% CI), bivariate logistic regression	Adjusted Odds Ratio (95% CI), final multiple logistic regression model
	596 (65.7)	311 (34.3)		
Place of delivery				
			$p < 0.001$	$p < 0.001$
Hospital	124 (53.9)	106 (46.1)	1	1
Health Center	186 (63.7)	106 (36.3)	0.67 (0.42-1.05)	0.70 (0.45-1.10)
Dispensary	286 (74.3)	99 (25.7)	0.40 (0.27-0.61)	0.43 (0.29-0.65)
Education[°]				
			$p = 0.013$	$p = 0.070$
None	153 (73.2)	56 (26.8)	1	1
Some Primary	58 (63.7)	33 (36.3)	1.55 (0.95-2.55)	1.40 (0.84-2.33)
Primary Complete	344 (63.1)	201 (36.9)	1.60 (1.21-2.11)	1.47 (1.11-1.96)
Secondary or Higher	32 (65.3)	17 (34.7)	1.45 (0.84-2.51)	1.26 (0.72-2.19)
Age				
			$p = 0.015$	$p = 0.140$
≤19	74 (54.8)	61 (45.2)	1	1
20-33	414 (67.1)	203 (32.9)	0.59 (0.42-0.85)	0.61 (0.38-0.99)
34-49	107 (69.5)	47 (30.5)	0.53 (0.32-0.88)	0.64 (0.33-1.23)
Parity				
			$p = 0.064$	$p = 0.154$
1	123 (61.2)	78 (38.8)	1	1
2-3	236 (63.1)	138 (36.9)	0.92 (0.66-1.29)	1.37 (0.89-2.10)
4+	236 (71.7)	93 (28.3)	0.62 (0.41-0.94)	0.93 (0.52-1.65)
[^] P-values are based on a Wald joint significance test * Excludes Cesarean, suction and pre-term births **Not shown in the table, the full model controlled for ethnicity, religion, occupation of household head, relationship to household head, age at first pregnancy, marital status, maternal occupation, wealth, source of trust for pregnancy-related questions, knowing a CHW, problems during ANC and number of ANC visits. *** In each bivariate analysis: place of delivery ($n=907$), education ($n=894$), age ($n=906$), parity ($n=904$). [°] When analyzed as a binary coefficient (none versus any), education is significant in the multiple regression ($p=0.01$)				

In the bivariate and full models, time to discharge did not differ significantly by ethnicity, religion, occupation of household head, partner education, marital status, knowing a community health worker, wealth, occupation, age at first pregnancy, problems during pregnancy and number of antenatal visits. Being visited by a CHW during pregnancy was significant in bivariate analysis ($p=0.02$), but could not be included in the full model due to a low response rate ($n=312$).

In the final model, only higher level of facility care continued to remain significantly associated with duration of stay.

In terms of receipt of post-partum care messaging, women staying 24 hours or more at hospitals (60.4%) and health care centers (56.6%) appeared more likely than women who left sooner (54.8% and 47.3%, respectively) to receive at least one post-partum message on family planning, breastfeeding, or danger signs. However, after applying a Bonferroni correction, none of these differences were significant. In dispensaries, the trend in messaging was reversed among women who stayed longer than 24 hours (29.3%) versus less than 24 hours (36%), but again there were no statistically significant differences.

7.4.2 Qualitative interviews: Patterns of discharge after facility delivery

In 24 qualitative interviews with women who had delivered in a health center, 21 (87.5%) reported leaving the facilities within 24 hours. The qualitative study was unable to capture an adequate number of women who discharged later than 24 hours; of the 3 women who stayed longer than 24 hours, two women delayed departure to take advantage of a health center's vaccine day, and one was required to stay until her family paid outstanding fees. Women described their discharge time as primarily determined by providers. Women were content to leave before 24 hours due to discomfort associated with maternity wards and a desire to return home. Women and their husbands frequently mentioned 24 hours as a recommended time to stay, but this was viewed as necessary only in the event of a delivery complication. However, two women who reported experiencing "extra bleeding" during delivery said that they stayed for shorter periods (4 hours and 20 hours respectively), and said their blood loss was not serious enough to merit a longer stay. No respondent highlighted issues related to observation of newborns as a factor that influenced time to discharge or duration of stay. For a breakdown of qualitative factors influencing early discharge, see Table 7.3.

Table 7.3. The role of facilities in influencing time to discharge

From interviews with women (n=24), husbands (n=15), and village leaders (n=5)

1. Facility-based limitations and routines	
<ul style="list-style-type: none"> 1) Pressure to discharge healthy mothers to accommodate others <ul style="list-style-type: none"> a) Limited supply of beds 2) Mass discharges regardless of delivery time <ul style="list-style-type: none"> a) "I left when the doctor was doing his rounds" 3) Discharges correspond with operating hours <ul style="list-style-type: none"> a) "I left when the dispensary was closing (for the day)" 	
2. Facility factors' effect on those who accompany women	
<ul style="list-style-type: none"> 1) The facility is uncomfortable for companions; no place to cook, sleep or do laundry 2) A shortage or lack of beds for companions leaves them sleeping outside or on floors 	
3. Facility factors' effect on women*	
Discomfort-Physical	<p>"Hospitals are uncomfortable"</p> <ul style="list-style-type: none"> 1) Crowding and Noise <ul style="list-style-type: none"> a) Lack of beds, women doubling up on beds b) Constant noise from babies, fellow patients c) No space 2) Lack of cleanliness <ul style="list-style-type: none"> a) "There is dirtiness everywhere" b) "The hospital's mosquito nets stink" c) "Hospitals are full of illness and disease" 3) Wanting water or food <ul style="list-style-type: none"> a) No water, insufficient water, long queues to fetch water, no access to hot water (for a post-birth hot water massage) b) No food nearby, food nearby is too costly, nowhere to prepare food, nobody to prepare food
Discomfort-Mental	<p>"I could not be at ease"</p> <ul style="list-style-type: none"> 1) Not enough attendants, adequate number of attendants but attendants are rude 2) "I feel bad taking beds from women who really need it" 3) Nearby patients are ill, unconscious or dying; their families are grieving
<p>*To a lesser extent, women described other factors not related to facilities that compel departure: needing to care for children at home or leaving when transport was available</p>	

7.4.2.1 Facility-based limitations and routines

The main reason for early discharge, reported by women in all districts as well as their husbands and local community leaders, involved personal expectations, implied provider encouragement to leave and an understanding that an early discharge frees space for others and is more comfortable for mother-baby pairs. The following quote illustrates pressure that women feel.

“Many pregnant mothers are waiting. When you leave, another woman gets the bed. Our wards are few and we are many. Like if you were to continue staying you would bring trouble for others... and the nurses tell us, ‘Now the time has come. You should go so that others can come.’”

Woman in Ulanga District

Emphasizing bed limitations, mothers became forceful in describing a pressure to leave.

“Look! The space is not enough. And others are still there so you have to sleep two in one bed. One mother with a big stomach on this side and you with your baby on that side. It’s better you just go home.”

Woman in Ulanga District

“Our hospital needs beds! Many people are just sleeping on the floors. Other people are sleeping two per bed. Some have had operations and others have delivered safely. Those with operations are given priority to lie in beds.”

Woman in Kilosa District

At least 1 woman in each district described leaving once a doctor or other discharging authority made rounds or providers departed for the day. Women describe being discharged when rounds are conducted - regardless of time of delivery.

Difficulties reported across districts related to facility infrastructure include an inability to obtain water to prepare foods as well as excessive noise. Mothers detailed how a lack of water inhibited cooking or laundering, bathing (to remove “the stink of birth”) and hot water massages (cleansing the lower back and groin area, which all women said they needed). Food was also a concern, namely a lack of food at facilities or cooks to prepare food (unless a mother had an able-bodied friend or family member to assist her).

Mothers also noted that they feel guilty if those who accompany them feel uncomfortable because they have no place to sleep or food to eat. One mother, who left on her husband’s bicycle 1.5 hours after birth, said she would have liked to rest longer but the facility was under construction and the doctor ordered her to leave. Four

women discussed noise at facilities in detail and underscored how peaceful their homes felt compared to a facility.

“You stay there and that baby is crying, this one is crying ... you cannot sleep. ... I said if I have problems I will just return (to the facility) My home is home.”

Woman in Kilosa

Less often, women described concerns about a lack of cleanliness, describing one facility as “a place with just no cleanliness at all”. Two mothers described a fear of contracting an illness at a facility with one woman describing how torn bed nets can lead to malaria and another describing how congestion and crowded rooms can cause disease.

One mother described sadness about facilities, which she associated with death and dying.

“I personally ... just don’t like to be there. It makes me feel bad when I see a patient ... unmoving or unconscious. To see people who are sick. It’s like that for me. If I’m safe, I go.”

Woman in Ulanga

Three mothers mentioned a need to care for children or elderly family members at home. Four women described leaving when transportation (bicycle or bus) was available.

7.4.2.2 Suggestions for promoting longer stays

Mothers most often suggested that providers should be educated on optimal stays after facility delivery, and that conditions and services in facilities should be improved. Less often, women suggested increasing the facility staff and encouraging compassion on the part of health professionals. On this point regarding respectful maternity care, community leaders were more forceful. A leader in Mvomero District said nurses berated women during delivery, which compelled them to leave early. A leader in Ulunga District emphasized the importance of medical authority and the need for providers themselves to be educated on the benefit of longer stays, “Once they tell a woman to stay, she will stay. The provider must learn first that she should stay. If the family knows it’s for the best interest of the mother, they’ll support it.” Medical authority proved very strong across respondent groups. When asked what would happen if a mother or her husband requested to stay longer (such as 24 hours), mothers and husbands regarded this as an insult to the authority of medical professionals.

“Stay longer ... if you have delivered safely you can’t stay. The only time they say you stay for 24 hours is if you have problems. We know the rules.”

- Woman in Ulanga

“...it is the doctor who has that decision...He is the one who says when she can go. I don't have the decision to say, 'Wait.'”

- Husband in Morogoro Rural

7.5 Discussion

7.5.1 Main findings

Within the first 24 hours of facility delivery, 65.7% of women with a normal, vaginal delivery interviewed as part of a cross-sectional quantitative survey reported being discharged. Among the study population, discharge within 24 hours of facility delivery was described as a social norm and routine facility practice. Women expect to leave early unless they have undergone a cesarean section or experienced a complication, although even under these circumstances 10.5% and 44.2% of women left before 24 hours, respectively. Our quantitative and qualitative findings indicate that the level of facility care and comforts existing or lacking in a facility have the greatest effect on time to discharge. This suggests that individual or interpersonal characteristics play a limited role in deciding whether a woman should stay for shorter or longer periods. Rather a woman is more likely to be discharged (or to feel disinclined to stay) if the facility does

not support a longer stay. Our study has also highlighted that post-partum counseling – a critical feature of the immediate post-partum period – is limited in this setting regardless of time to discharge and that considerations related to newborn health are not at the forefront of a family’s mind when considering whether or when to leave. A discharge that occurs too soon represents a missed opportunity to assess the physical, psychological, and social wellbeing of the mother and newborn and to introduce and reinforce healthy practices during a highly vulnerable moment of life. Nevertheless, mothers expect an early discharge and can vividly describe how physical or emotional discomforts, coupled with provider or family-escort expectations compel an earlier departure.

7.5.2 Interpretation

Fifty years ago, proponents of early discharge in high-income countries described shorter stays as a way to re-focus birth toward a family’s needs and away from a model considered hyper-technical, patriarchal and illness-based¹⁹⁰⁻¹⁹⁴. Under this model, an earlier return home fostered increased maternal confidence, family bonding and early sibling involvement, and served as an opportunity for mother-baby pairs to adapt to the rhythms of their family life rather than the routine of a hospital^{174,191,194}. Studies in high-income countries have questioned the safety of early discharge particularly as it relates to increased maternal and infant readmissions^{178,190}, breastfeeding problems and early breastfeeding cessation^{195,196}, and a compromised ability to identify problems such as

jaundice or sepsis in newborns ^{197,198}, or depression, fear, stress, constipation and insomnia in mothers ^{199,200}.

Our findings indicate that early discharge, as practiced in Tanzania, is routine and linked to family and provider expectations, which are guided by pragmatic limitations. Unlike studies in wealthy nations that uncovered social patterns in facility discharge with younger ^{193,199,201}, less educated ¹⁹³, or poorer ^{202,203} women leaving earlier, this study found that early discharge is a norm which has little or no association with socio-demographic factors. Women described stays of longer than 24 hours as necessary only for those who experienced major delivery complications or underwent surgery. The role of medical providers in deciding when a woman should depart was strong, which is reflected in other research on the power of medical authority ^{193,204,205}. The role of education in determining time to discharge was somewhat ambiguous though generally positive. The importance of monitoring newborn health was not discussed by mothers as a factor that compelled a longer stay, which may be linked to limitations in facility infrastructure related to newborn health. According to the country's most recent Service Provision Assessment, just 16% of facilities offering delivery services have an emergency respiratory support system (an infant-sized ambu bag) for the newborn and only 3% have an external heat source for newborns (14).

At least three studies in Tanzania have highlighted concerns of ill-health and social disharmony among women in the postpartum period including: maternal depression, nervousness, fatigue, questions about infant health and infant crying, family or partner tensions, breastfeeding concerns and stress related to balancing one's workload in light of new demands²⁰⁶⁻²⁰⁸. Studies have also documented how Tanzanian mothers and fathers are eager for more medical guidance as it relates to maternal and newborn health, particularly concerning timing of sexual resumption, safety and appropriateness of contraception and conflicting messages they receive on this topic^{208,209}. We found that post-partum messaging was limited across all facility types, but especially in dispensaries. We also found no evidence that staying longer than 24 hours increased the probability that women would receive postpartum care messages regarding breastfeeding, maternal or newborn danger signs, or family planning.

We present two options to address the situation of early discharge. A first proposed course of action would be to view early discharge as highly problematic and worthy of significant investment. This approach would entail policy-level reiterations of a minimum required number of hours of stay, clarification of these policies to health providers and, most importantly, massive investments in facility resources and infrastructure including increases in human resources, beds and access to food and running water (including heated water) and /or the mobilization of skilled personnel

who can follow-up with women and their newborns in communities during the early postpartum period. Following these investments, behavior change communication campaigns to promote longer postpartum stays and encourage family uptake of longer stays could be undertaken.

A second proposed course of action would view the current situation as sub-optimal, but would stop short of broad changes in favor of a targeted focus on most-critical concerns. In this case, the status quo for women with normal deliveries would be maintained, but all women who have experienced a complication, given birth via cesarean section or given birth to a preterm or low birth-weight baby would be supported in postpartum stays of *at least* 24 hours.

Under either course of action, we strongly support WHO and UNICEF joint statements promoting early postnatal home visits as a complementary strategy to improve coverage of care and newborn survival¹⁸¹. We also encourage investments in pre-discharge, post-partum counseling on breastfeeding, danger signs and family planning.

Until more research is conducted in this and similar low-income settings, we view a targeted, selective approach as necessary. We, however, caution against enforcement

of policies on a minimum number of hours that all women must stay in the absence of improvements to infrastructure and provider deployment and training.

7.5.3 Strengths and limitations

This study is strengthened by the fact that it drew upon both a survey and in-depth interviews. Due to the cross-sectional design of the quantitative survey, it demonstrates association without the ability to attribute direction or causality. It is limited in terms of recall bias as respondents may have difficulty remembering details in the postpartum period, or from an event that may have occurred several months ago. It would have also been helpful to capture provider perspectives on early discharge in order to understand the clinical knowledge and decision-making processes that guide times to discharge. Due to an inability to capture an adequate number of women who discharged late, this study did not reach saturation on qualitative findings related to reasons for discharging after 24 hours. Finally, as the qualitative interviews focused on problems identified as most important by women, the specific issue of postpartum stay was not explored in equal depth across all interviews.

7.5.4 Conclusions

In the short-term, findings from this study call for targeted emphasis on the need for longer stays among women who have experienced complications during delivery or cesarean section or have given birth to a pre-term or low birth-weight baby. In the

longer term, investments in human resources, infrastructure and critical supplies – such as beds and water – coupled with education among providers and mother-escort pairs on the importance of 24-hour stays could foster delayed facility discharge and improve maternal and child health. Implementation and enforcement of any policy promoting longer stay must consider women’s and providers’ existing perceptions and experience of early discharge as a desirable practice.

7.5.5 Competing Interests

The authors declare no competing interests

7.5.6 Authors’ contributions

SM conceived the study, carried out data collection, analyzed the data and wrote the paper. DM carried out data collection, assisted in data analysis and edited the paper.

IM, RM assisted in data collection and analysis, and edited the paper. RC assisted in data analysis and edited the paper. AL, AB and PW conceived the study, assisted in data analysis and edited the paper.

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Chapter 8 Conclusions

8.1 Summary of results

Results for each paper are highlighted in Chapters 5- 7. Taken as a whole, this study sought to understand how families experienced the moments leading up to and during childbirth in order to understand what factors influenced their decision regarding where to give birth. Mother-partner pairs described experiencing abuse or disrespect while in facilities, which compelled them to forgo facility deliveries altogether, or to limit their interaction with the formal health system during the highly-vulnerable window surrounding childbirth. This research joins a growing body of literature on disrespect and abuse, which argues that “quality is not the last step in a chronological sequence of actions to expand coverage of clinical interventions²¹⁰” as the Three Delays model would suggest. Rather, quality is of primary, utmost importance as efforts seek to reduce maternal morbidity and mortality.

Beyond delivery care, this study linked poor quality of care to other facets of the careseeking experience and highlighted how women and their partners – particularly those who are very poor – postpone departure for facilities during labor, which poses a heightened risk for a BBA, and how those who deliver in a facility depart very early after birth and most often do not receive essential postpartum counseling. BBAs represent a

worst-case scenario wherein the lives of mothers and babies are needlessly held in peril as mothers deliver in ditches, busses and cornfields. Early post-delivery discharges represent a missed opportunity for providers to undertake services and share lifesaving information with a captive audience of mothers, partners and babies.

This dissertation sheds light on the experience of careseeking for childbirth within a health system that is broken. Facilities in this region are understaffed, poorly equipped, lacking necessary obstetric supplies and viewed as hostile toward highly vulnerable clients (laboring or delivering mothers, and their unborn or newborn babies). Facilities and the providers within them are also seen as beyond reproach by their clients. This research therefore speaks to broader issues regarding the accountability of facilities to their clients and the potential for future policies, interventions and evaluations to consider the role of gender, power and human rights in work related to careseeking for childbirth.

8.2 Strengths and limitations

Strengths and limitations for each paper are highlighted in Chapters 5- 7. A major strength of this work was that it drew on both quantitative and qualitative methods, and that the qualitative data was collected in a truly iterative manner, allowing the

research team to shift focus as issues that emerged in the earliest interviews guided later lines of probing in in-depth interviews.

A major limitation of this work is that it failed to capture insights from health providers who are themselves working within severely constrained settings and oftentimes without regular remuneration, basic equipment and supportive supervision. Gathering insights from providers would have greatly enhanced our understanding of disrespect in this setting. I also regret that I did not include an observational or ethnographic component in this study, which could have allowed me to triangulate reported accounts, to provide more texture and nuance to descriptions of abuse and to observe how abuse affects other facets of the maternity ward experience.

8.3 Reception of the study

The first Chapter of this dissertation was published in August and received 1900 hits in the first weeks it was available online. It is now denoted as "highly-accessed" in the BMC system. I've received positive feedback from faculty at Johns Hopkins, midwives and researchers studying abuse in low-income settings. I have also presented on the study for the White Ribbon Alliance (a maternal health advocacy group based in Washington DC) and at a German conference on Gender, Governance and Global Health held at

Heidelberg University. The WHO is undertaking a systematic review of studies emphasizing abuse, and this paper emerged just in time to be included in that review.

The remaining two papers are currently under review.

Chapter 9 Appendices

9.1 Data collection instruments

9.1.1 Qualitative IDI - Women

Qualitative interviews comparing people with different patterns of service utilization among Recently-Delivered Women, users versus non-users or infrequent users

Location of household where user lives

101. Region/Mkoa	
102. District/Wilaya	
103. Town or village/Mji au Kijiji	
104. Ward/kata	
105. Neighbourhood/Kitongoji	
106. Ten cell leader/Balozi	
107. Head of household	
108. Nearest Health Centre/Kituo cha Afya	
109. Nearest Dispensary/Zahanati	

User Demographic Information and Career

- 201. Name
- 202. Respondent ID:
- 203. District:
- 204. Age:
- 205. Number of Children:
- 206. Age in days or months of newborn:
- 207. Gender of newborn:
- 208. Marital Status:
- 209. What language do you speak at home?
- 210. What is the highest level that you have studied?
- 211. How well do you read and write Swahili?
- 212. What other languages can you read and write?

I would now like to speak with you about your experiences as a mother of a newborn baby seeking health care services for you or your baby. The program I am working for is trying to improve services for women so it is important for me to learn from you. Your opinions represent many women across Tanzania. I want to say again that there are no right or wrong answers to any of my questions and you may choose not to respond. I respect you and respect your opinions.

Pregnancy

I would like to for you to share with me the experiences you had during your last pregnancy. Starting from the moment you knew you were pregnant to the time before delivery please tell me about this experience.

Probes: Pregnancy care-seeking

301 During your **last pregnancy** did you seek care in a health facility for any reason – either to prevent any problems or to cure any problems?

- a. Probe 1: From where did you seek care? Why did you go to this person or place? Did you go to another place before this or after this?
 - i. I know there are many traditional birth attendants in Tanzania who provide care to pregnant women. If you sought care from a traditional birth attendant, can you tell me why you went to her for care?
- b. Probe 2: If you sought care in a health facility, can you please tell me more about why you sought care. If no, can you tell me more about why you did not seek care there?
- c. Probe 3: Can you tell me more about your experience seeking care from this provider (either a facility-based health provider or a TBA)? How would you compare the services you receive from the two?
- d. Probe 4: Can you tell me more about the people or traditional understandings that influence why, when and from whom you choose to seek care?
- e. Probe 5: Who in your family makes the ultimate decision about where you should go for care? Why this person? What would happen if you made a decision without consulting this person?

Delivery

I would like you to share with me the experiences you had during delivery. Starting from the moment you knew the baby was coming.

401 When and where did your last delivery occur?

402 Can you please tell me more about the people who attended your last delivery.

- a. Probe 1: Please share with me a few of the reasons why you decided to deliver in the place you mentioned?
 - i. Personal opinions
 - ii. Opinions of those in your household
 - iii. Opinions in the community

- b. Probe 2: What would make you want to deliver in a facility? What makes you *not* want to deliver in a facility?
- c. Probe 3: Can you tell me more about your delivery experience. I know it is important for mothers to feel comfortable when they are delivering a baby. Were you comfortable in the place where you delivered? Why or why not?
- d. Probe 4: If you delivered in a facility, how did the health facility employee treat you? Did she answer your questions? Please tell me about this.

403 HIV-related: If you went for HIV counselling and testing after delivery did you also seek the test results? Was the baby tested and did you seek those results? Please tell me about this experience.

- a. Probe 1: (For HIV-positive women only): Immediately preceding delivery and during delivery did you take any precautions to prevent transmission to your baby? Please tell me about this.
 - i. Probe on Neviripine for mother (immediately preceding) *and* baby (within 72 hours post delivery)

Postpartum

I would like to for you to share with me your experiences after delivery. Starting from the moment the baby was in the world. Please tell me about this experience.

501 After delivery, about how long did you wait before leaving the place of the delivery to go home? (If less than 10 hours) Can you tell me more about why you decided to leave the place of your delivery and go home?

Support from family and community for MNCH care-seeking

I would like to make sure I have gathered your opinions about the support you receive related to maternal, newborn and child health.

701 What support was provided to you by your family during

- a. Your pregnancy
- b. During you delivery
- c. To you during the first 42 days post-delivery
- d. To your newborn baby with the first 28 days of life.

702 What are the barriers you face to seeking preventative care for MNCH?

- a. Probe: Cost
- b. Probe: Distance
- c. Probe: Opinions of health providers formal and informal

703 What are the barriers you face to seeking curative care for MNCH?

704 Please compare the MNCH services provided in government facilities with the services provided in your community?

705 Are there any critical services that you think are necessary but are not available? If yes, please describe. How do you think they could be better provided to mothers such as you?

9.1.2 Qualitative IDI – Partners of Women

Location of household where user lives

User Demographic Information and Career

Name

Age:

Marital Status:

What language do you speak at home?

What is the highest level that you have studied?

How well do you read and write Swahili?

What other languages can you read and write?

User experience in the current health sector

I would now like to speak with you about your thoughts on your wife seeking or not seeking health care services in Morogoro. Specifically, I would like to talk about your impressions about the importance or unimportance of seeking health care services for women who are pregnant, new mothers and newborns.

Pregnancy care-seeking

During your wife's **last pregnancy** did she seek medical care for any reason – preventative or curative?

- a. Probe 1: If yes, can you please tell me more about it. Do you know why she sought care? If no, can you tell me more about why not.
- b. Probe 2: From where did she seek care?
- c. Probe 3: From whom did she seek care and why?
- d. Probe 4: Did you accompany her to a health facility? Can you tell me more about her experience seeking care from this provider?
 - i. Quality of care
 - ii. Was the provider courteous and responsive to your wife's needs?
 - iii. Did the provider answer all of your wife's questions or your own questions to your satisfaction?
 - iv. Medicines/ drugs received
 - v. Timeliness of service
- e. Probe 5: Can you tell me more about the factors that influence why, when and from whom your wife chooses to seek care?
 - i. Probe: Whom in your family makes the ultimate decision on seeking care? Why this person? How is a decision made?

Delivery care

Where did your wife's last delivery occur?

Can you please tell me more about the people who attended your wife's last delivery.

f. Probe 1: Was a trained / skilled provider in attendance? If yes, can you please tell me more about why. If no, can you tell me more about why not.

g. Probe 2: What factors influenced your wife's decision to deliver in the place you mentioned?

h. Probe 3: How do you view the difference between have a skilled provider in attendance versus not having a skilled provider in attendance?

How soon (in hours) after delivery did you wife return home and did you encourage her to come back home? Why

User experience with health system

Can you tell me more about your perceptions of the maternal, newborn and child health services provided in government health facilities?

Can you tell me more about your perceptions of the maternal, newborn and child health services available at the community level?

How far away is the nearest government health facility from your home (round trip time in minutes/ hours)?

Probe 1: How would your wife travel to this health facility?

Probe 2: What are the average expenses your wife would likely incur?

Are there any private sector services available which your wife utilizes? If yes, which?

Are there any critical services which you feel to be required but which are presently not available to your wife? If yes, please describe.

Support from family and community for MNCH careseeking

We have talked about a lot of things, about child care, health care and careseeking. Now I would like to ask you about your opinions of health care and facility-based care seeking for your wife.

How do you feel about your wife going to health facility? Can you think of an example when your wife wanted to seek care, but you did not think it was necessary? Please tell me about this.

Can you think of an example when you wanted your wife to seek care in a facility but she did not want to? Please tell me about that.

How do your opinions today on formal health care compare with you opinions a few years ago?

How do your opinions on health care compare with the opinions of others in your community?

What are the barriers that you, as a family, face to seeking preventative care for your wife or child?

What are the barriers you, as a family, face to seeking curative care for your wife or child?

9.1.3 Qualitative IDI - Community Health Workers

Location of household where CHW lives

CHW Demographic Information and Career

Name

District:

Age:

Marital Status:

What language do you speak at home?

What is the highest level that you have studied?

How well do you read and write Swahili?

What other languages can you read and write?

As a CHW, have you ever been trained on how to provide care to pregnant women, recently-delivered women or newborns?

a. If so, which organization or group provided this training?

i. How long was the training (days) and what year did it take place?

I would like to talk to you about how you started your career as a CHW.

What year did you start your career as a CHW?

How were you selected?

CHW Career

What first motivated you to become a CHW?

a. Probe 1: status, money, educational opportunity, sense of responsibility, personal interest

Please describe for me all of the types of health care that you have received training for in your career?

b. Probe 1: When did you receive trainings and which organizations provided them?

c. Probe 2: How have these trainings affected your career or impacted the services you provide today?

d. Probe 3: How do these trainings impact your regular employment or workload (as a farmer, etc.)

- What exactly (really, truly, honestly) are you doing as a CHW on a regular basis and why?

e. Probe 1: You mentioned you work(ed) for several organizations, tell me more about how you manage your work for these organizations? How do you balance work and prioritize?

Are there CHW-related tasks/activities that you do only once per year?

f. What are they? Who organizes them? etc.

Are there CHW-related tasks/activities that you do only once per month?

g. What are they? Who organizes them? etc.

What are the tasks/activities that you do at least once every week? Is there a particular day you usually carry them out?

Take me through a typical week: What do you do on Monday, on Tuesday etc. I understand that many CHWs do not work every day on CHW-related work and that's ok. I just want to learn more.

When you go around to the people in the village, how do people react? (Do they welcome you into their house, or do they think you are troubling them?) Why do you think they react in this way?

- h. Probe 1: You mentioned in trainings that you are often encouraged to educate your community on behavior. In your opinion, how effective do you think education is in getting people to change their behavior?
 - i. What behaviors are hard to change?
 - ii. Why are those behaviors hard to change?

What factors make it difficult for you to provide care to this community?

- i. Probe 1: Distance, energy, community acceptance, knowledge, workload

Support from family and community for CHWs

We have talked about a lot of things, about your household visits, the supervisory visits. Now I would like to ask you about the support that you receive from your family members and community.

What is your family's reaction to the type of work that you are doing?

- a. How do they encourage you to do this work? What do they do to help you with your work?

We have seen that some CHWs do all of the work themselves, while others share some of the work with a family member or neighbor. Do you share any of the responsibilities with a family member or neighbor? What responsibilities do you share? What do you do and what does the other person do?

CHW experience with maternal health and newborn health

Earlier I was talking about your career as a CHW. Now I would like to talk the health of pregnant women, new mothers and newborns. I am here to learn from you and there is not a correct or wrong response.

What is your impression about the health of pregnant women, new mothers and newborns in your community?

What more could you do (if anything) to improve the care pregnant women and newborn babies receive in your community?

Have you ever given health education to pregnant women, recently-delivered women? How did women and their families respond to that health education?

Currently are you giving health education using to pregnant women, or recently delivered women and their families in order to improve the health of the mother and the child? How do women and their families respond to this health education?

What behaviors do you think pregnant women are willing to change? What behaviors are difficult to change among pregnant women?

- a. Probe 1: During pregnancy

- b. Probe 2: During delivery
- c. Probe 3: After delivery

What are your other roles and responsibilities with regard to improving the health of the mother and child?

What type of difficulties do you face in carrying out these responsibilities?

Supervision of CHWs

I would to talk about the visits made by health workers from the health facilities to support you and your work.

Please describe how you have been supervised by health workers from the health facilities.

- (probe: where do these supervision activities take place?)
- (probe: When was the last time a health worker visited you?)
- (probe: among these supervision activities, what is helpful and what is not helpful?)
- (probe: overall, how much do you like being supervised? Would you describe it as a helpful, positive experience, or something that is not helpful at all?)

What have your supervisors told you about your performance?

- (probe: positive feedback? Negative feedback?)

9.1.4 Qualitative Interview – Religious Leader

Introductory Script:

Good morning/afternoon, I would like to thank you for giving the time to speak with us in this interview in which we would like to learn more from you about maternal, newborn, and child health care in Tanzania. Firstly, let me introduce myself. I am [name] and my colleagues are [name] and [name]. We are a team of researchers engaged by Muhimbili University of Health and Applied Sciences (MUHAS) to conduct a study in collaboration with the Ministry of Health on maternal and child health in Morogoro. Our main focus is to hear your opinions about maternal and child health services in this area.

In the discussion we will be interested to hear your and opinions. As such there are no right or wrong answers because you are only expected to share your experiences. Your name will not be reported as a participant in the study.

Because this is a research study approved by the ethical review board at MUHAS, we need to ask for your informed consent before proceeding. I will read through the oral consent form now . . .

[Read out informed oral consent]

Is it okay to proceed?

Guiding Questions

1. Can you tell me about your role in the community?
2. How do members of this community access health care?
 - a. Is there anything that helps people access health care in this community compared to other communities?
 - b. What are the difficulties in accessing health care?
3. What do you think are the main health problems in this community?
4. What health care services do pregnant women in this community use? How are they accessed?
5. Do pregnant women usually see a doctor (attend antenatal care) during pregnancy?
 - a. Who provides antenatal care and where is it provided?
 - b. If women do not receive antenatal care, what are some of the reasons?
 - c. For women that do receive antenatal care, what are some of the reasons?
 - d. For women that do not receive antenatal care, is there anything that would make it easier or more appealing for them to attend antenatal care?
6. Where do women deliver their babies in this community?
 - a. Who assists the women during delivery?

- b. For women that don't go to the facility for delivery, what are the reasons?
 - c. For women that do go to the facility, what are the reasons?
 - d. For women that don't deliver at the facility, is there anything that would make it easier or more appealing for them to deliver at the facility?
- 7. After a baby is delivered, does a health worker or any other person in this community who concerns themselves with these issues check the baby?
 - a. Who usually checks the baby?
 - b. What do they do when they check the baby?
 - c. For women who don't take the baby to the health center, what are the reasons they don't go to the health center?
 - d. For women who don't take the baby to the health center, is there anything that would make it easier or more appealing for them to take the baby to the health center?
- 8. Do pregnant women with HIV receive the same health care as pregnant women without HIV?
 - a. Do they receive more or less?
 - b. How are pregnancy and health care needs different for women with HIV?
- 9. In summary, what do you think are the biggest challenges for health care for pregnant women and new babies in this community? How can these challenges be solved?
 - a. Please tell me about the major challenges and minor challenges

9.2 Codebook for qualitative analysis

MEP Qualitative Research Code Book		
Code	Description	Example
Facility		
Fac reasons	Reasons to go to facility, including reasons for choosing particular facility	Sisi hospitali yetu iliyokuwa karibu ni Mwaya. Kama tukisema tuende Mahenge ni kilimeta arobaini tunatumia nauli. Tulishindwa kwenda na hapa vipimo vyote vinapatikana huwa tunakuwa karibu kwa kuwa sisi tuko karibu na kituo cha afya tunakimbilia mara nyingi kituo cha afya
Facility/HCP	Facility experience/ description, including placenta management; Health care provider description/ tasks, community-facility relationship	Wahudumu wa afya? sisi wahudumu wa afya tunao lakini hawajatutosheleza ni wachache sana. Kuna wakati mhudumu yuko kule leba anamhudumia anayezaa, huku ana wodi ya watoto, wodi ya wazazi mmoja, wodi ya kina baba huyuhuyu mmoja hata uchungu ukikupata inakubidi uite sana uwafatilie kule na pengine unaweza kujifungua peke yako pasipokuwa na mhudumu. Wahudumu ni wachache.
Dis-charge	Reasons for early discharge post delivery & experience; pre-discharge counseling	Sisi huku tunaondoka kwa kuwa pale wodi zetu ni chache, wajawazito wengi wanajisubiria nao pale pale kwa hiyo unapotoka wewe, mwenzako ndo anapata kitanda. Hatujatosheleza wodi zetu bado ni ndogo sana. Yaani ukizidi kukaa pale kwa siku mbili tatu, hata wenzako wa nyuma wakija wanapata tabu pa kulala.
Home Birth		
Home birth reasons	Reasons for seeking care at home with TBA	Nilipokuwa pale ninaanzwa na uchungu maana ilikuwa saa saba ya usiku [ahaa] sasa kule mbali eeh, kule mbali ikabidi mkunga anisaidie anakua pale nesi hayupo basi kama pale nesi hayupo yule anakua anarudi sasa akirudi nji huku- labda njiani inakua amejifungua kwa hiyo huku yaani utakuta watu mtu wanajifungulia labda hospitalini, njiani, nyumbani kwa hiyo sehemu hizo zinatumika sana
Home birth	Home birth experience, including placenta management & hot water massage	Eeh [eeh] alipomaliza akatayarisha mpira wake [mmh] mpira wa mikononi, wembe [eeh] tayari na sikukaa muda. Unachukua ndugu zako tu [mmh] haya, kazi unayo wewe mwenyewe [eeh] eeh, wale kama wanakuangalia tu Nikishajifungua mgongo unaniuma sana basi najikanda maji ya moto. [vicheko] na mbavu zinauma unakanda, unajua sisi huku wakullima unashinda shambani unalima, sasa ukae nyumbani utakaa utakula nini?
TBA	TBA description/ tasks/training, accompanying to facility, relationship with facility	Mi wakunga wa jadi nawaona wapo tu lakini huduma zao sizioni. Kwa kitongoji changu sizioni huduma. Wakati hata nikipata uchungu nikimuendea pale naona huduma sipati
Postpartum Care/ Antenatal Care		
ANC	Description of ANC, reasons for seeking ANC	Wakati wa ujauzito tunavyopima mimba tunapewa vidonge SP tunameza ikiwa mimba inamiezi mingapi kidogo si unajua miezi mitano vile sijua halafu miezi saba, unapewa tena unameza tena [mm] na vidonge vidogo vidogo vile vyekundu tunaambiwa vya kuongeza damu. Nilivyofika nikaambiwa mnatakiwa kupima hivi [mm] mkojo, choo,

		wakapima damu ya hapa walitotoa wakatupimapima damu ya kwenye mshipa [Eee] wakatupima ndiyo nimejua huduma za kliniki ndo hizo.
PPC	Postpartum care for mother (description, support from family or community; reasons for seeking PPC, hot water massage)	Unaambiwa maji ya moto unaweza kufanya ndani kuwe na vidonda. Unaambiwa hivyo muwe mnatumia maji ya baridi. Wanatuzuia kabisa maji ya moto.
NB/Ch Care	Newborn or child care/health	Walimpima mtoto si mimi. Mimi sikupimwa tena kitu. Mtoto walimchoma sindano, kwanza pale pale kuna sindano ile anapozaliwa tu kuna sindano moja halafu baada ya mwezi mmoja anachomwa sindano na kuendelea.
Family Planning		
FP Methods	Modern & traditional; counseling	Nilikuwa nachoma sindano zikawa zinanisumbuaa, nikawa nablidi sana, nikaacha nikaanza kutumia vidonge. Vidonge nikarudi tena kwenye sindano kuja kuacha ndo hivyo nimepata mtoto.
FP Reasons/ barriers	FP reasons/opinions/ barriers (side effects, family size, birth spacing/ maternal recovery, and religious involvement)	Nilikuwa nachoma sindano zikawa zinanisumbuaa, nikawa nablidi sana, nikaacha nikaanza kutumia vidonge. Vidonge nikarudi tena kwenye sindano kuja kuacha ndo hivyo nimepata mtoto. kwa kusema ukweli uzazi wa mpango hamna kwasababu wale watoto unaozaa watakusaidia wewe mwenyewe kama Mungu akikuweka hai wakifika kwasababu mwanangu wa kwanza nimemzaa
HIV/AIDS		
HIV	HIV counseling & testing, sharing test results with others; knowledge about HIV & transmission	Wala hii tulikuwa tunaalezwa kwamba hali yako kama ikiwa nzuri usipende tena kutembea kuchanganya changanya wanaume wengine. Jali afya yako na ya mwenzako uliyekuwa naye siyo uone tena mwingine unarukua tena mwingine wakati umeshapima wewe afya yako iko hayo tunaambiwa. I: Na kuhusu ngono salama? R:Hatujaambiwa chochote
PMTCT	Knowledge, info, programs, treatment	Wanakuambia kama mtoto unapoza mtoto tofauti basi ugonjwa unao, eeh, wanakupa pale vidonge [ahaa] eeh.
Community Health Workers (CHWs)		
CHW Training	CHW Training	malaria tulifanya hiyo alafu tukaja mwaka elufumbili na nne CSPD Tulifanya siku ishiri na tisa tulifanya Duthumi tukaja tena mwezi waaaa mwaka elufumbili naaa sita tuu yaka tulifanyia morogoro soso pale siku sita- yaaani maa-tulifanya maa nanii- jinsi ya mama na mtoto pamoja na baba, tulifundishwa ya siku sita
CHW Work	CHW Work/tasks	kwaa wiki ile kwasababu tuna ju- kuna Jumatatu tunawaambia mwenyekiti wa kitongoji kwamba tunataka watu kidogo wakina mama waja na wakina wawazito tunakaanao tunaelimisha kwa siku ile, waa wajumatano tunaenda kitongoji kingine kwa hiyo ijumaa tunamalizia vitongoji vingine
CHW motivation and support	Motivation, i.e. respect from community, payment, professional development, help from family	Na mimi nilikua nataka labda nibahatike ndani ya wizara ya afya na bahati nzuri nimeingia kwa hiyo moja kwanza naifurahia nafasi hii nilikua naona kwambaaa niki mi mwenyewe kwa kua nitaa kuu kwa kua ni kazi ya kujitolea nilikua naipenda kwa hiyo ni mojawapo niliona bora niingie niweze kusaidia jamii ambayo jamii nyingi haielewi namna ya haki zaooo
CHW Challenges	CHW Challenges/barriers	pale mwanzoni ilikua sijaeleweka walikua bado wenginee.. kwa hiyo nilipata matatizo kidogo kwa mfano mtu unataka kuongea na mama mjamzot hapa au nataka kuongea na mkeo wanaa wengine wananiambia toka toka sasa hivi nisikuone

		Ugumu ninaokutana nao Kama nilivyosema mara ya mwanzo hivi nii mfuko unakaukaaaa
Other		
Integration	The receipt of more than one service at the same time	i.e. ANC and HIV testing; ANC and family planning counseling; newborn care and family planning
Continuum	Excellent quotes about continuum of care	Definition: "The continuum of care approach promotes care for mothers and children from pregnancy to delivery, the immediate postnatal period, and childhood, recognizing that safe childbirth is critical to the health of both the woman and the newborn child—and that a healthy start in life is an essential step towards a sound childhood and a productive life. Another related continuum is required to link households to hospitals by improving homebased practices, mobilizing families to seek the care they need, and increasing access to and quality of care at health facilities" (Kerber et al., 2007)
Referral	From one service to another or from home to facility	i.e. from ANC to PMTCT; from routine delivery care to emergency obstetric care; from home delivery to emergency obstetric care wao wakunga wa jadi wanachokifanya wao wakishawazalisha wale wamama wanapozaa salama wanachokifanya wanawaambia sisikazi yetu tayari kinachoendelea ni ninyi wenyewe kwenda hospitali
Costs	Fees/costs, (supplies, cards, service fees, insurance; transport method/cost; TBA)	Sababu niko karibu na huduma ya afya siwezi kutoa tena nauli nikaenda mbali.
BF	Breastfeeding, including FP and postpartum	Ninaona tunavyozaa watoto wote huwa kama wanakaa kidogo halafu wananyonya. Ninajizuia mimi mwenyewe lakini kwenye mtoto kunyonya [eeh] kama hivi [eeh] sichomi Wengine bwana wanapitisha kiasi [eeh] mwanaume huyu, kesho mwanaume huyu, kesho mwanaume huyu basi mtoto ananyonya [eeh] anaponyonya naingia kuharisha, akisha harisha mtoto na afya yake inakuwa siyo kama mwanzo.
Dec making	For men & women, (delivery location, referral, care for child, ANC/PPC)	I: Kwa nini labda mlikaa mkajadili wote pamoja kwamba sasa tuanze huduma pale? R:Kwa kuwa tuko karibu na kituo cha afya. Kwa maeneo mengine unakuta kituo cha afya kiko mbali sasa hapa kituo cha afya kiko hapa zaidi ya hapa hospitali kubwa iko mahenge kilomita arobaini. Tunapata hapa ni karibu.
BBA	Birth before arrival at facility (reasons for and experience)	I-sawa sawa nashukuru kwa hiyo wewe mtoto wako ulijifungulia wapi R-nilijifungulia njiani
Meds	Traditional and modern	Tunaambiwa dawa hamna. Sasa inabidi ukanunue dawa, sasa hata zikiwepo labda hazitakaa pale, madokta wenyewe wana maduka ya madawa [kuna mikwaruzo sauti hazisikiki]
Local officials	Engagement of local officials, and community empowerment	Next Sunday, we will... remind mothers and parents that they should take their children to health facilities for vaccinations... It's not just meetings, it's the follow-up and knocking on door to door at each house. It's the attention to what we say in the meetings and to following up to ensure that we make the changes.
Capa-	Capacity of commun-	Established links between community & facility, ie outreach, using TBA &

city	ity systems to do PNC	CHW as referral points; positive relation-ship between TBA or CHW and facility, i.e. facility encouraging TBA to escort woman to facility; capacity of CHWs
Health	Views of most important health problem	matatizo makubwa ya afya kwenye kijiji hihi au wakazi wa kijiji hikimatatizo m\kubwa kwanza ugunjwa wa mlipuko
Quote	For very powerful or useful quotes	Note: also use the code that corresponds to the topic of the quote Mimi kwa waganga mimi huwa siwezi kukimbilia. Nakimbilia kwanza kwenye vipimo ambapo unagundulika hapa pana nini nisababishe nini nipate tiba siyo kwa mganga wa kienyeji nikienda kile kipimo hamna sasa si kuna vijiko tu zaidi ya hapo nitapoteza maisha

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Chapter 11 About the author

Biosketch

Shannon McMahon examines social, cultural and behavioral factors that affect disease prevention and control in low-income settings. As a social scientist, she studies the interplay between health interventions and local contexts in an effort to understand how an individual or family's immediate realities affect careseeking for maternal, newborn and child health. Methodologically, she uses qualitative approaches to inform the design and interpretation of quantitative work. Before embarking on a career in public health, Shannon was a journalist working in Washington, DC, and San Diego, California. She has received awards as a reporter and researcher including being named a "New Investigator in Global Health" from the Global Health Council for her [thesis work on menstrual management](#)²¹¹. Shannon has written hundreds of newspaper articles, including opinion pieces in Tanzanian and Kenyan newspapers where she highlighted findings from her public health research. She has also published for academic audiences in [peer-reviewed journals](#). Shannon has experience conducting studies in Sierra Leone, Kenya, Madagascar and Tanzania working on behalf of UNICEF, Emory University and Johns Hopkins University. Her PhD was funded with a grant from the National Institutes of Health. Shannon was born in Chicago on November 12, 1981. She lives with her husband in southwest Germany.

Curriculum Vitae Shannon McMahon

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QUALIFICATIONS SUMMARY

Seven years experience in international health research and communication for academic institutions and non-governmental organizations; Graduate of the Johns Hopkins School of Public Health, Department of International Health, Social and Behavioral Interventions Program; Designed, conducted and analyzed data for program evaluations and formative research in East and West Africa; Published in peer-reviewed journals; Experienced trainer on evaluation methods, qualitative/quantitative data analysis and advocacy; Grant and proposal writing experience; Former journalist; Intermediate French and German speaker.

WORK EXPERIENCE

Heidelberg University Institute of Public Health 6.2013 – ongoing

Germany

Guest lecturer: Courses on mixed-methods research and public health anthropology.

Johns Hopkins School of Public Health 3.2011 – 8.2011

Tanzania

Associate, Johns Hopkins Department of International Health: Built local presence and partnership for 3-year, USAID-funded research in Tanzania. Hired and trained staff; gained study

approvals from Tanzanian Ministry of Health officials, regional and local officials; drafted and edited data collection instruments; supervised field teams and data collection; presented findings to stakeholders; drafted reports for donor and partners; drafted manuscripts for academic publication.

UNICEF- Policy and Evidence Unit 3.2010 – 3.2011

Germany (home-based), Sierra Leone & New York

Research Consultant: Trained staff on research methods, data collection, analysis, dissemination to evaluate social and behavioral aspects of recognition and management of childhood illness in rural Sierra Leone. Provided recommendations for community case management for malaria, diarrhea and pneumonia to implementing partners. Completed UN certifications in basic and advanced security in the field.

Johns Hopkins School of Public Health 11.2009 – 03.2010

Tanzania, Baltimore (United States)

Health Researcher: Conducted research to create an institutional partnership between the Hopkins School of Public Health and the Primary Health Care Institute of Iringa, Tanzania (an entity of the Tanzanian Ministry of Health) to build PHCI's behavioral research capacity. In Baltimore, met with academic program directors to identify research opportunities and develop capacity among Tanzanian partners.

Emory University Center for Global Safe Water 5.2009 – 2.2010

Kenya, Madagascar

Health Research Consultant and Media Advisor: Developed qualitative interview instruments; trained staff on research methods; collected data; conducted presentations on preliminary findings; wrote stakeholder reports, academic publications and editorials in national newspapers.

Johns Hopkins Center for Communication Programs 8.2008 – 3.2009

Baltimore (United States)

Research Assistant to Executive Director: Edited portions of Project SEARCH proposal, a 5-year HIV/AIDS evaluation and research project awarded by US government; conducted literature reviews.

Save the Children 6.2007 – 3.2008

Jordan

Media advisor: Produced and wrote advocacy and press materials.

The San Diego Union-Tribune 8.2004 – 6.2006

California (United States)

Politics reporter: covered Chula Vista, a city on the US-Mexico border.

Business reporter: covered action sports and golf industries.

The Oregonian 5.2004 – 8.2004

Oregon (United States)

Business reporting intern: covered local businesses.

The Chicago Tribune 9.2003 – 12.2003

Washington, DC (United States)

Political reporting intern: covered Capitol Hill and local government.

Public Broadcasting Service (PBS) 5.2003 – 9.2003

Chicago, IL (United States)

Production Assistant: wrote grant proposals, scripts and website text.

American Forces Network (AFN) 6.2002 – 8.2002

Germany

Broadcasting intern: co-hosted traffic reports, produced and edited news stories.

EDUCATION

Johns Hopkins Bloomberg School of Public Health 8.2011 – 12.2014

Baltimore, MD

NIH-Funded Doctoral Student in International Health Department's Social and Behavioral Interventions Program; academic emphasis on qualitative theory and methods, social epidemiology, psychosocial statistics

Research assistant to Prof. Peter Winch, Director of Behavioral Sciences program

Teaching assistant for qualitative series

Supervisor to two Masters students

Johns Hopkins Bloomberg School of Public Health 8.2008 – 5.2010

Baltimore, MD

Master of Health Science in International Health

Academic emphasis on epidemiology, biostatistics, formative research, qualitative methods, program evaluation, behavioral sciences, medical anthropology, social marketing, theories of behavior change

Boğaziçi University 8.2006 – 5.2007

Istanbul, Turkey

Rotary Ambassadorial Scholar in International Relations and Islamic Studies

University of Illinois 9.1999 – 5.2004

Champaign-Urbana, IL

BS in Print Journalism

L'Institut d'études politiques, Sciences-Po 8.2001 – 5.2002

Strasbourg, France

CEPE in Political Science

LANGUAGES

French – advanced | **German** – intermediate | **Swahili** – beginner

VOLUNTEERING, AWARDS, RELATED EXPERIENCE

2012 – Recipient National Institutes of Health (NIH) National Research Service Award (NRSA)

to fund dissertation research and academic studies in the behavioral and health sciences field

2011 – Recipient of the New Investigator in Global Health Award from the Global Health

Council for research on Kenyan schoolgirls

2008 – Recipient Johns Hopkins John Snow Award in International Health for outstanding

academic achievement and demonstrated potential to enhance the effectiveness and quality of

public health programs

2008 – Recipient Johns Hopkins Framework Award in Global Health to fund independent,

qualitative research on mechanisms to improve training and retention of community health

workers in rural Tanzania

2007 – Volunteer English Teacher in Wadi Rum, Jordan

2006 – Rotary Foundation Awards including Recipient Rotary Ambassadorial scholarship to Turkey; Rotary Service Over Self Award; Rotary Paul Harris Fellow Award

2005 – Recipient Brody Award for excellence in feature writing

2004 – Dudley McAllister Award for excellence in public policy reporting

2003 – Washington DC Center for Politics and Journalism scholar

2003 – Recipient Nardine Scholarship for excellence in writing.

IN-COUNTRY EXPERIENCE

Tanzania (12 months), Sierra Leone (2 months), Kenya (6 months), Madagascar (1 month), Jordan (8 months), Turkey (10 months), France (18 months), Germany (resident)

COURSES GUEST LECTURED

Medical Anthropology (Johns Hopkins)

Qualitative Research Theory and Methods (Johns Hopkins)

Media Engagement and Public Health Evaluations (Johns Hopkins)

Mixed Methods Research (Heidelberg University)

Public Health Anthropology (Heidelberg University)

PUBLICATIONS PEER REVIEWED

McMahon, S.A., George, A.S., Chebet JJ, Mosha IH, Mpembeni RNM, Winch PJ (2014).

[Experiences of and responses to disrespectful maternity care and abuse during childbirth; a qualitative study with women and men in Morogoro Region, Tanzania](#) BMC

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Greenspan, JA., **McMahon SA**, Chebet, JJ., Mpunga, M., Urassa, DP., Winch, PJ. (2013).

[Sources of community health worker motivation: A qualitative study in Morogoro Region, Tanzania](#). Human resources for health, 11, 52.

Scott, K., **McMahon, S.**, Yumkella, F., Diaz, T., & George, A. (2013). [Navigating multiple options and social relationships in plural health systems: a qualitative study exploring healthcare seeking for sick children in Sierra Leone](#). Health policy and planning, 29 (3), 292-301.

McMahon, S.A., George, A.S., Yumkella, F., & Diaz, T. (2013). [Spoiled breastmilk and bad water; local understandings of diarrhea causes and prevention in rural Sierra Leone.](#)
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Bakshi S, **McMahon S**, George A, Yumkella F, Bangura P, Kabano A, Diaz T. (2013). [The Role of Traditional Treatment on Health Care Seeking by Caregivers for Sick Children in Sierra Leone.](#) Acta Tropica, Acta tropica 127 (1), 46-52.

Diaz, T., George, A. S., Rao, S. R., Bangura, P. S., Baimba, J. B., **McMahon, S. A.**, & Kabano, A. (2013). [Healthcare seeking for diarrhoea, malaria and pneumonia among children in four poor rural districts in Sierra Leone in the context of free health care: results of a cross-sectional survey.](#) BMC Public Health, 13(1), 157.

McMahon SA, Caruso BA, Obure AF, Okumu F, Rheingans RD. (2011). [Anal cleansing practices and fecal contamination: A preliminary investigation of behaviors and conditions in schools in rural Nyanza Province, Kenya.](#) Trop Med Int Health. Vol.16 (12): 1536–1540.

McMahon SA, Winch PJ, Caruso BA, Obure AF, Ogutu EA, Ochari IA, Rheingans RD.

(2011). ['The girl with her period is the one to hang her head' Reflections on menstrual management among schoolgirls in rural Kenya.](#) BMC Int Health Hum Rights. 11(1):7.

PUBLICATIONS NOT PEER REVIEWED

Selection of news editorial (opinion) pieces:

Ndawi, B, Winch P, **McMahon, S.** Expanding and Strengthening Health workers' Capacity in Tanzania. *Human Resources for Health, Letter of The United Republic of Tanzania Ministry of Health and Social Welfare.* May 2009.

Obure A, Abong'o B, Waka P *Ghost Written by McMahon S.* [Why Girls Drop Out of School.](#) *The Daily Nation of Kenya.* 1 Nov. 2009