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A thesis submitted in partial fulfillment of the requirements for the Master of Arts degree in Geography
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Mothers' Perceptions and Experiences of Accessing Maternal Health Care:
Exploring the Role of Community Health Workers and Continuing Professional Development in Rwanda

(Thesis Format: Monograph)

by

Germaine Tuyisenge

Graduate Program in Geography

A thesis submitted in partial fulfillment
of the Requirements for the Degree of
Master of Arts

The School of Graduate and Postdoctoral Studies
The University of Western Ontario
London, Ontario, Canada

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Abstract

Reducing barriers to accessing maternal healthcare and training health professionals in emergency maternal health care are critical components of improving overall maternal health. This study used a qualitative approach to understand mothers' perceptions and experiences of accessing maternal health in Rwanda and explored the potential of Community Health Workers (CHWs) and Continuing Professional Development (CPD) to improve maternal healthcare. Socio-economic and geographical factors were found to be the primary barriers to accessing maternal healthcare. The findings reveal the important role of CHWs to improving maternal health and health professionals who received CPD training indicated that they were more confident working as interdisciplinary teams, which is a major obstacle to providing quality maternal health care in Rwanda. Providing training and resources for CHWs and expanding CPD programs would help to improve the quality of care provided to mothers. CPD can also help to enhance the maternal health education which will encourage mothers to use health facilities.

Key words

Maternal health, maternal healthcare, barriers to access, health professionals, CPD, Rwanda

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List of Abbreviations

AIDS: Acquired Immune Deficiency Syndrome

ALSO: Advanced Life Support in Obstetrics

CCT: Cross-Cutting Themes

CHWs: Community Health Workers

CPD: Continuing Professional Development

ETAT: Emergency Triage Assessment and Treatment

FGD: Focus Group Discussions

GIS: Geographic Information Systems

HBB: Helping Babies Breathe

HIV: Human Immunodeficiency Virus

IDI: In-Depth Interviews

MMH: Maternal Mental Health

MMR: Maternal Mortality Rate

MNCH: Maternal, Newborn and Child Health

MNCHR: Maternal, Newborn and Child Health in Rwanda

MOH: Ministry of Health

NISR: National Institute of Statistics of Rwanda

UN: United Nations

UNICEF: United Nations International Children's Emergency Fund

UNFPA: United Nations Fund for Population Activities

WB: World Bank

WHO: World Health Organization

Chapter 1

1. Introduction

This thesis examines four interrelated objectives that together inform the challenges of improving maternal health care in Rwanda. This chapter provides a brief background to the dissertation, and outlines the main objectives. It also provides a brief community context and concludes with an explanation of the organization of this thesis.

1.0 Background

Maternal health remains one of the most prominent health challenges in the developing world. According to the World Health Organization (WHO, 2010), over 300 million women in the developing world experience significant maternal morbidity, and 99% of maternal deaths occur in developing countries (WHO, 2010). Estimates of maternal mortality rate (MMR) in Rwanda for the year 2010 fall between 340 (UNFPA, 2012) and 476 deaths per 100,000 live births (National Institute of Statistics of Rwanda, 2012). Despite the overall improvement in maternal mortality in Rwanda, the estimated rates remain quite high, implying that a lot needs to be done to improve maternal health in the country.

The WHO (2009) reports that among countries with less than adequate maternal health care, only 22% of them have near to sufficient number of health care workers with adequate training to provide appropriate care, and that only 18.5% maternal health providers are equipped to provide obstetrical emergencies. Meanwhile, it has been demonstrated that well-educated midwives working in a well-systematized health

system can offer up to 90% of needed maternal health care, thereby reducing maternal deaths by two-thirds (Campbell & Graham, 2006). Consequently, the WHO (2009) recognizes the importance of Continuing Professional Development (CPD) for health professionals as a strategy of supporting learning and advancement of professional competency in order to provide quality health care.

Invariably, in order to improve maternal health care and reduce mortality and morbidity, we must better understand the barriers that women face in the health care system. Although a number of studies have been conducted to examine barriers to accessing and utilizing maternal health care in Rwanda, most of these studies have relied on quantitative analysis using data from the demographic and health surveys (Fosu, 1994; Babalola & Fatusi, 2009), and Geographic Information Systems (GIS) data (Tanser, Gijsbertsen & Herbst, 2006) in the country. Studies designed to look beyond the percentages and proportions to gain an in-depth understanding of women's perceptions, experiences and viewpoints of the healthcare system are rare and therefore necessary.

Recognizing the need for improved maternal healthcare in Rwanda, the *Maternal, Newborn and Child Health in Rwanda* (MNCHR) as a larger project, was launched with the aim of implementing a CPD program focused on emergency Maternal, Newborn and Child Health (MNCH) training for in service health professionals. MNCHR is a 3-year (2012-2015) project funded by the Canadian Department of Foreign Affairs, Trade and Development as part of the Muskoka Initiative. CPD programs were implemented in all nine district hospitals in the Eastern

Province of Rwanda with the highest MMR in the country (National Institute of Statistics of Rwanda, 2012).

There were five modules taught in the CPD program. The first of these modules was Advanced Life Support in Obstetrics (ALSO). ALSO training aimed to equip health professionals with adequate knowledge and skills to effectively manage obstetrical emergencies. Health professionals (nurses, midwives, physicians) were trained in ALSO in all the nine hospitals in the Eastern Province. For each of the participating hospitals, nine health professionals were trained in a 'train the trainer' mentorship approach. Other CPD programs that were provided by the MNCHR project include: Helping Babies Breathe (HBB) for newborn care, Emergency Triage Assessment and Treatment (ETAT) for child health care, Maternal Mental Health (MMH), and Cross Cutting Themes (CCT) which included training in ethics, gender and inter-professional collaboration. The overall training program was aimed at improving maternal and child health care provision and thereby reducing negative health outcomes. This thesis focuses on maternal health aspects within the broader Rwandan context.

1.1 Research Questions and Objectives

This research aims to conduct an interpretative investigation of women's perceptions and experiences of accessing maternal health care; in the context of community level initiatives and continuing professional development programs that focus on improving maternal health care. The research seeks to answer three main questions:

1) What are the mothers' perceptions and experiences maternal health care?

2) What are the key gender-related and socio-economic access barriers to receiving maternal healthcare in Rwanda?

3) What are the perceptions of Community Health Workers (CHWs) and health professionals on the provision of maternal health care?

The specific objectives of the study are:

1) To assess women's perceptions and experiences with maternal care in Rwanda

2) To evaluate socio- economic and gender-related factors in relation to accessing care

3) To examine CHWs perceptions on maternal healthcare provision

4) To explore maternal health professionals' perceptions and experiences of CPD initiatives aimed at improving maternal health care provision.

These research questions are answered within the specific community context.

1.2 Community Context

In the past 20 years since the Rwandan Genocide, a socio-economic and political rebuilding process by the government of Rwanda made tremendous efforts to improve maternal health. One strategy that has been used to reduce maternal deaths in Rwanda

is training maternal health professionals such as midwives, nurses and community health workers. The emphasis has been to educate students during their pre-service education. Such strategies are impacting maternal health in Rwanda. The WHO (2010) states that the proportion of births assisted by formally educated healthcare providers in Rwanda has increased from 26.7% in 2000 to 38.6% in 2005 and to 69% in 2010. Additionally, there has been introduction of a postgraduate program in obstetrics-and gynecology at the School of Medicine and Health Sciences in 2005. This has resulted in an increase in the number of obstetrician-gynecologists to a total of 28 in 2011, as compared to the near zero immediately following the genocide (Rwandan and Expatriates).

The healthcare system in Rwanda has a four level of referral system: community, health center, district hospital and tertiary hospital. At the community level, Community Health Workers (CHWs) provide preventive and promotional maternal health services, such as basic family planning. Primary health care is provided at health centers by nurses. Secondary health care is provided at district hospitals by nurses and doctors, while specialty health care is managed at the tertiary referral hospitals. In the last decade, the number of health facilities has increased leading to an increase in the geographical access to health facilities. There were 35 health posts that provide preventive health care (immunization, family planning, basic primary health care) in 2009. This number increased to 125 in the year 2011. The number of health centers that provide primary health care including delivery rose from 378 in 2009 to 413 in 2011 (Ministry of Health , 2012 & National Institute of Statistics of Rwanda, 2012). For women who live far from health centers and where transportation is not available, there are

health posts that act as dispensaries, where basic primary health care can be provided. The health centers are the first points of contact of health system level where skilled birth attendants assist mothers with normal deliveries. In case of complications during pregnancy or deliveries, mothers are referred to district hospitals, where patients can further be referred to the tertiary hospital (Ministry of Health, 2012).

The scaling up of a community-based health insurance along with a performance based financing system for maternal health services have made some services more affordable and accessible and these have improved maternal health indicators over the last decade (Bucagu et al., 2012). Community based insurance and performance based financing in Rwanda have more than tripled antenatal care visits from 10.4% in 2000 to 35.4% in 2010. In the same context, the number of skilled birth attendants doubled from 31% to 69%, the number of home deliveries reduced from 74% to 31.1%, and the rate of contraceptive use increased from 4% to 45.1% all within a period of 10 years (Bucagu et al., 2012). Another program in Rwanda has provided incentives such as baby items and household materials to mothers who go for four standard antenatal care visits as encouragement to other women who go less than four times.

Despite the improvements over the last decades, maternal health care remains relatively inaccessible to much of the population in Rwanda and like many other health indicators, the burden of maternal mortality seems highest among the poor (Abou Zahr, 2003; Ronsmans & Graham, 2006; Magadi, Diamond & Madise, 2001). With many births frequently not attended by a skilled birth attendant, this increases the risks

of delivery complications. The proportion of women giving birth at home is estimated at 30 percent in rural areas compared with 16 percent in urban areas (Jayaraman, Chandrasekhar & Gebreselassie, 2008).

Apart from community based health insurance (Mutuelle de Santé) that aimed to reduce financial barriers to access health care, there was the scale up involvement of CHWs in maternal health. CHWs are the direct contact to mothers in the communities and provide maternal health education and information to mothers and members of the community. The maternal health information that CHWs provide to mothers is to promote the use of health care facilities and maternal health services. Such information includes the use of antenatal services, information and services on family planning, behaviour change, and delivery in health facilities as well as maternal mental health. These strategies, combined with other government initiatives were aimed to help Rwanda meet the 5th Millennium Development Goal on Maternal Health. However, the process to reduce maternal deaths in Rwanda is still far from complete. With this background, this thesis aims to examine mothers' perceptions and experiences in accessing maternal health and the role of CHWs and other staff in the context of CPD.

The rest of the thesis is organized into five chapters. Chapter two presents a literature review related to maternal health more generally and the access to maternal health care in developing countries. This chapter also covers literature on the role of CPD in improving maternal health care and a brief theoretical framework. Chapter three presents the methodology that was used for collecting and analyzing data for this study.

Chapter four presents the results. This is followed by Chapter five where a discussion of results is presented together with a conclusion and future directions for research.

Chapter 2

2. Literature Review

This chapter provides a review of the literature on maternal health and maternal mortality. It discusses the barriers to accessing maternal health care in developing countries. The chapter also reviews the literature on CPD in the broad context of maternal health in Sub Saharan Africa.

2.1 Maternal Health and Maternal Mortality

The WHO conceptualizes maternal health as the health of women during pregnancy, childbirth or during the postpartum period (WHO, 2010). Furthermore, maternal health combines the health status of women and how health services are adequate to provide the needs of women.

Giving birth can pose many risks to a woman's health, including physical, mental and social impacts. If these risks are not effectively managed in a timely manner these conditions can create serious health problems for both mother and child, can even result in death (WHO, 2010). Maternal deaths occur predominantly during labour, delivery, or in the immediate postpartum period, often due to anaemia, infections, or hypertensive disorders. Roughly half of maternal deaths take place within one day of childbirth (Hogan, Goreman & Naghavi, 2010). Most of these deaths are preventable (Jowett, 2000), but prevention hinges on women being able to access antenatal care skilled attendants at birth and immediately after labour. Prevention of maternal death is

also related to delivery in a health facility ensuring women are close to emergency services and sufficient skilled care should the need arise (Campbell and Graham, 2006). Despite international efforts to improve maternal health, this one remains one of the most threatening health challenges.

The geography of maternal mortality rates is varied across nations. For instance, according to the WHO (2010), Bangladesh, Nepal and Rwanda made remarkable progress in reducing maternal deaths by more than 30% during the last decade. In the same context there are however other countries like Burkina Faso and Chad where the average reduction hovers only around 0.8 % (WHO, 2012). In all cases, differences in the progress of maternal health are the result of multiple challenges that prohibit women from accessing adequate healthcare.

Differences in maternal mortality rates demonstrate the disparity in maternal health care between developed and developing countries (AbouZahr, 2003). There are many factors that contribute to the challenges faced in maternal health globally. Some of the main challenges include: political and poor health systems, socio-economic and gender inequalities, and limited access to quality care. Political initiatives and advocacy play a critical role in mobilizing and increasing resources allocation and in improving accessibility and affordability to maternal health services (Horton, 2010).

Despite the importance and impact on nations, maternal health issues seem to be low on the list of priorities for many developing countries. A number of studies (De Savigny, 2008; WHO, 2009 & Shiffman, 2007) discussed the lack of credible evidence that might have encouraged political leaders to consider maternal health as an issue in

need of attention. This happened in countries like Honduras, Nigeria, Guatemala, India and Indonesia where advocates of reproductive health failed to win political trusts in order for maternal health to be valued and considered as a hot issue for their national agenda (Shiffman, 2007).

Alongside poor political commitment comes the lack of comprehensive policy frameworks that addresses the costs of care as well as the inequalities in some health settings. For example, in some regions of Vietnam, the issue of informal costs in maternal health services particularly in settings with minority ethnic groups of people has delayed advancement to better maternal health in the past (Målqvist et al., 2012) . The same inferences are acknowledged by Johnson et al. (2012) whose findings advocate for addressing the problem of the hidden costs in maternal health care as this is one of the factors that have led to poor quality of care in Sub-Saharan African countries. Although there has been considerable progress in improving the lives of mothers around the World, there is a need to strengthen the health systems of numerous countries through political advocacy and the adoption of comprehensive policy frameworks that address the needs of care in all settings.

2.2 Barriers to Accessing Maternal Healthcare

Access to maternal healthcare translates into the affordability, physical accessibility and acceptability of maternal health care services (Gulliford et al., 2002). Poor access to maternal healthcare is usually associated with socio-economic and geographical barriers faced by mothers while accessing maternal health care services (Danforth et al., 2009). According to Kowalewski, Jahn & Kimatta, (2000), social barriers

may include pervasive gendered issues such as women's household demands and cultural barriers such as the use of traditional (unskilled) birth attendants. Gender inequalities and economic limitations of women in some select parts of the world continue to hinder the advancement of maternal health. It is well recognised that the participation of male partners in using family planning methods to limit and space the births of their children can contribute to a reduction in maternal mortality (Mustafa, Afreen & Hashmi, 2008 ; Ditekemana et al., 2012; Byamugisha et al., 2011, Shattuck et al., 2011;).

This approach can allow women to have better control of their own bodies, and subsequently engage in income generation activities, which can enable them to pay for health insurance for themselves and their children without depending solely on their husbands. Evidence also shows that in some countries the issue of financial constraints in many households have been largely associated with poor access to maternal health care services (Jehan et al., 2012). This challenge contributes to low levels of improvement in maternal health particularly in developing countries where income of households is largely dependent on the husband (Shattuck et al., 2011) and where maternal health issues are consistently regarded as the responsibility of women (Mustafa, Afreen & Hashmi, 2008) rather than a concern for both partners.

In her study in Rwanda, Umurungi (2011) found that birth order may influence a mother's decision to give birth in a health facility, whereby women were more likely to deliver in a health facility during their first pregnancy when compared to subsequent ones. This attitude may be due to the fear of pregnancy-related complications during the

first incident. The explanation here is that mothers who have more than one child may think they are more knowledgeable in childbirth and may rely on traditional birth attendants or relatives (especially their mother-in-law) for pregnancy-related services (Walraven, 2002). Also, a woman's education tends to influence her awareness of health services and decision-making in the utilization of available health services. Furthermore, education also influences the relationship between literacy and the use of family planning methods (Umurungi, 2011). Yet the National Institute of Statistics of Rwanda (2012) indicated that the literacy rate among female of age 15 and above was only 66 percent in 2010.

Joharifard et al. (2012) indicated that the possession of health insurance also increases a woman's access to maternal health care. The role of health insurance and financial autonomy is stressed by the same authors, who revealed that the combination of the two factors increases the likelihood to deliver in a health facility in Bugesera. Harrisson (1997) and Gazmararian, Adams and Pamuk (1996) emphasize the role of poverty in lack of access to maternal health services. Poverty is related to the cost of health care, the cost of transport and lost income while at the health facility (Addai, 2000; Thaddeus & Maine, 1994) and hence considered a major determinant of maternal health in many countries.

2.3 Geographical Barriers to Accessing Maternal Healthcare

Geographical access to health care focuses on location of health facilities and the time it takes to travel to facilities when in need. This therefore tends to be associated with the number of health care facilities available to the communities and/or

the availability of transport systems (Dixon et al., 2014). In Uganda, Kiwanuka et al. (2008) reported that geographical access to health care varies among regions but also varies among socio-economic status (the very poor, the poor and the rich). The World Bank (2012) also reports that 12 % of the population in the central region of Uganda encounter problems with geographical access to health, 15 % in the Western part, 21% in the North and 25 % in the Eastern region. Gage (2007) working in Mali also noted that the geography of the country and poor transportation infrastructure, affects the access to maternal health care facilities. Here, most of the population have to walk several kilometers to reach the health facility.

In Ghana, Gething et al. (2012) reveal that one out of three women live two hours (or more) away from a health facility that can provide primary obstetrical emergency care and half of these women live with a similar or longer distance to a health facility that can offer advanced obstetrical emergency care. Gething et al. (2012) also indicated that one-third of women are subject to maternal death due to delivery complications, as a result of living four hours away from a well-equipped health facility.

Transportation availability including the conditions of roads to be used to reach health facilities is an important geographic barrier to consider. For many places with unpaved roads, this is particularly important during the rainy season (Kitui, Lewis & Davey, 2003). In the case of Rwanda, the World Bank (2012) reported that 23 % of patients in Rwanda still walk more than one hour or five kilometres in order to reach the nearest health facility. These barriers cumulatively may be resulting in a high number of home-based deliveries, mainly assisted by non-skilled or traditional birth attendants.

In Rwanda, the number of home based-deliveries is still significant, with 30.1% in 2010 (Bucagu et al., 2012). When considering maternal health in Rwanda, there are many possible explanations for why women in Rwanda are not delivering in health facilities or why they may experience high rates of negative outcomes. One reason why pregnant women may not be using health facilities is the low number of skilled health professionals, which results in long hours of waiting (Kruk et al., 2010). Other studies have suggested that the perceptions of the quality of the local health system influence decisions to deliver in a health facility (Kruk et al., 2010; Thaddeus and Maine 1994). Similarly, other studies have suggested that poor treatment of women by the health care staff may be acting as a significant deterrent to seeking mainstream medical health care (D'Ambruoso, Abbey & Hussein, 2005; Yakong et al., 2010). These barriers and persistent challenges to accessing maternal health have led to some feminist geographers interrogating issues on maternal health and access to health care within feminist perspectives.

2.4 Feminist Perspectives on Maternal Health

A feminist philosophical approach provides a useful dimension to understanding maternal health issues in Rwanda. According to Bowlby et al. (1989), feminist geography tends to explore how gender relations and geographies are mutually structured and transformed. Feminist epistemology is based on gaining an understanding of gender diversity and complexities, with a recognition that these are socially constructed (Hooks, 1981). This study is best informed by the conceptualization

of feminism given by Maguire (1987) that women’s behavior and ability to respond to different life experiences are influenced by individual and social images, roles and place in the society at any given time. The feminist approach in this context will provide an understanding of the barriers to accessing maternal health care based on women’s perceptions and experiences. Feminists point to how gendered structuring of health care provision may translate into mothers’ inability to access and utilize maternal care (Dixon, Luginaah & Mkandawire 2014).

Rogers (2006) argues that feminist theory is associated with social economic status of the women. Women who live in good conditions are exposed to better health outcomes than women who live in poorly set conditions. His argument is based on equity issues in public health, where women are more exposed to poor health outcomes compared to men due to gender differentiations and associated factors. Rogers, therefore, calls for attention from public health actors and the society in general to take action for equitable health among men and women. Hesse-Biber (2012) suggests that there is an intersectionality of individuals considering their characteristics that may have an impact on health outcomes of individuals, and therefore needs to be taken into consideration.

On the other hand, Anderson (2000) stresses that gender is socially structured from the view of a feminist, and not biologically constructed. Persistent inequalities between men and women translate into different power dynamics, resource availability and use. These inequalities are disadvantageous to women and can lead to health disparities and poor health outcomes. Feminist approaches on maternal health underline such disparities and how they affect the maternal health outcomes. Feminist

theories suggest how gendered understanding must guide structures that aimed to shape maternal health care. The aim of this study is to understand different interactions of women's social life in regard to the access and utilization of maternal health care services. The study will seek to ascribe meanings to lived experiences and accounts on maternal health from the perspective of the adult woman of child-bearing age.

2.5 CPD and Maternal Healthcare

CPD in healthcare reflects an individual or team's engagement in a process of life-long learning in order to remain current in relation to professional knowledge and skills associated with practice standards and competencies in health care (DiMauro, 2000). Day and Sachs (2004) note that CPD learning opportunities must meet the needs of novice professionals and should also reflect an aspiration model, wherein participants can further improve upon their depth of expertise. Given the dynamic changes that occur in practice settings, leaders in health care work environments must recognize the value of CPD to enhance client care outcomes.

CPD strategies include formal education in online or face-to-face contexts, participation in workshops or conferences, in-service sessions, peer coaching or mentoring, and informal self-study or journal club involvement (Ridge, 2005). One of the goals of CPD is to improve the service that is provided to patients. For example, in South Africa, nurses believe that CPD needs to be embedded into professional practice at an organizational and personal level in order to address changing health issues within the country (Arunachallam, 2009).

In a number of African nations, CPD has been formalized and oversight is directed by medical, nursing, and midwifery councils (Arunachallam, 2009; Peterson, 2002). Yet the literature on CPD for health professionals in sub-Saharan Africa is limited, which might be attributed to factors such as limited resources to carry-out CPD related research. In Ghana, CPD has been cited as a factor in nurses` consideration of selecting staff positions in rural settings (Kwansah et al., 2012). In this case, CPD could be seen as an intervention to support a more equal distribution of human resources in a nation and hence improve health care quality. Providing adequate CPD to maternal health providers may help to increase the quality of maternal healthcare to mothers. This study explores the potential impact of CPD on maternal health outcomes from the perceptions of health care workers.

Chapter 3

3. Methodology

This chapter presents the study design, methods and procedures of data collection that were used in this study. The chapter also discusses the data analysis techniques that were utilized.

3.1 Study Design

The study is part of a larger study on maternal, newborn and child health in Rwanda. To achieve the research objectives, in-depth interviews (IDIs) and focus group discussions (FGDs), which are intrinsically qualitative, were used to provide a deeper understanding of how participants' experiences are linked to the broader social, political and economic contexts. Guided by a feminist approach, this method helped to provide rich data in the context of informing potential improvements to maternal health outcomes in Rwanda. Primary data were collected by the researcher.

Figure 1: Map of Study Area and Sites

Produced by the Cartographic Section, Department of Geography, Western University, 2015

This study was conducted in two provinces of Rwanda: The Eastern and Western Provinces. In the Eastern Province, data were collected in eight District Hospitals: Nyamata, Rwamagana, Kibungo, Kirehe, Gahini, Kiziguro, Ngarama and Nyagatare (Figure 1). In the Western Province, data were collected in four District Hospitals: Karongi, Rubavu, Kabaya and Mugonero. Mothers who have had babies within a one year period, which corresponds to the time CPD training was implemented, Community Health Workers (CHWs) as well as health professionals who take care of mothers

(nurses, midwives, medical doctors) provided information that was needed to answer the research questions. IDIs and FGDs were conducted with mothers who had their babies at a health facility, as well as mothers who experienced home-based delivery within one year. The involvement of mothers in FGDs was of great advantage since they were able to share their perceptions and experiences in a group environment. IDIs with mothers who gave birth in their homes explored reasons why mothers choose home-based delivery. Conducting IDI with these mothers ensured they could share their individual experiences and perceptions more openly than they would do in a FGD (Harding, 2004).

Community Health Workers (CHWs) from the Eastern and Western provinces also participated in the study. Focus group discussions were conducted with CHWs operating in Kibungo and Mugonero Districts Hospitals in the Eastern and Western Provinces respectively. Health professionals who participated in the study were also from the hospitals in the two provinces. For the Eastern Province, interviews were conducted with health professionals who participated in the CPD training on ALSO and MMH, these two programs were the ones targeting particularly maternal health, among others that were provided by the MNCHR in the hospitals of the Eastern Province. In the Western Province, interviews were conducted with nurses, midwives and medical doctors, who were working in maternity ward in each of the four hospitals, at the time of the interview.

The Semi-structured interview and focus group discussion guides included open ended questions to elicit views from women, CHWs and health professionals about: 1)

their understanding of maternal health; 2) the factors that affect women's health during pregnancy and after childbirth; 3) the factors that contribute to the use of maternal healthcare services; 4) Gaps and barriers in the implementation of CPD training and 5) suggestions for improved care during pregnancy and postpartum period. The interview guides were designed to gain information from participants, by giving them room to express themselves.

3.2 Reflexivity and Positionality

The issue of reflexivity and positionality are central to this study and to the choice of methods. At each step of the IDI and FGD research process, these two issues play out. If we engage in reflecting on ourselves (reflexivity) we need to make what May (2001) calls 'a consideration of the practice of research, our place within it and the construction of our fields of inquiry themselves'. Greenbank (2003) discusses the effects of different types of values and interests. He points, for example, to the potentially distorting effects on research of factors which are not often discussed such as the career aspirations of the researcher. He argues that users of both quantitative and qualitative methods need to recognize the influence of values on the research process. The inclusion of reflexive accounts and the acknowledgement that educational research cannot be value-free should be included in all forms of research and suggests that researchers who do not include a reflexive account should be criticized.

Greenbank (2003) also draws attention to potential conflicts between a researcher's values or morality and generally accepted social values and the values of those being researched. Halliday (2002) also discusses the values of the researched in

relation to those of the researcher. He argues that researchers should be open to the values and viewpoints of all concerned with the research and be willing to engage in dialogue. This should be done with the researcher acknowledging his/her own values and make sure the outcome judgment is not biased. In the context of this study, the researcher's values as female insider for the Rwandan society were taken into consideration in regard to their influence on the study. The emphasis was put on respecting the ideas shared by participants and taking them into consideration, whether they match with the researcher's values in the context of maternal health or not.

Considering the nature of the study topic, this research may be regarded as a sensitive one, where women had to share their experiences and perceptions of maternal healthcare. Hence, it was crucial to ensure a comfortable environment where they can express themselves. Researchers may combine data collection methods for triangulation (Olsen, 2004) or as a complementary method in a mixed method approach (Morgan and Kreuger 1993; Pope & Mays, 1995) like it was the case while gathering information from mothers. For CHWs and for health professionals, this study used both FGD and IDI to gain information that would help to answer the research questions. The following sections explain more about the nature of the methods that were used in this study.

3.3 Focus Group Discussions

A FGD is defined by Powell and Single (1996) as "a group of individuals selected and assembled by researchers to discuss and comment on, from personal experience, the topic that is the subject of the research". As pointed out by the same authors, focus

groups have been used since the 1920s, and since then, they have been expanded from market and political research techniques to data collection technique used in health, medical and social sciences research from a qualitative approach (Babbie, 2013).

In the study of perceptions and experiences of accessing maternal health care, FGDs were designed to explore the experiences of mothers who gave birth in a health facility and their perceptions of maternal healthcare along with the experiences and perceptions of CHWs who are involved in daily lives of mothers in the communities. In terms of time, FGDs help to gain more information from more participants at a specific time. For this study, the FGD was done in a social, organized and dynamic environment with about six to seven participants per group, as recommended by Krueger (1988) and Azzara (2010).

Kitzinger (1995) notes that the interactions and collectivity in focus groups discussions help to gain mothers insights on the issues they share about the maternity and delivery lived experiences in regard to the access and utilization of healthcare. At the same time, they also give their perceptions of the subject matter. This approach potentially provides a wide range of maternal health experiences and perspectives from the participants. In this regard, participants were placed to share more about their experiences, by reflecting the experiences from other participants and this led to the richness of data gained in a FGD (Powell and Single, 1996). The nature of focus group discussion where participants can express their opinions freely (Milena, Dainora & Alin 2008) also help participants to go deeper into the issues of maternal healthcare and its

roots, where mothers may raise points that have not been anticipated by the researcher and that could be tackled while conducting in-depth interviews (Gibbs, 1997).

Challenges associated with f FGD

FGD, as any other research method, has challenges. For FGD, the challenges are related to its nature, where different individuals are put together to discuss an issue. One of the major challenges is to bring all the participants together at an agreed location and time. The group dynamics and differences among participants can be of a challenge and the moderator of the discussion has less control on the FGD interactions (Krueger, 1988; Kitzinger, 1995). Another challenge of this technique lies in the fact that the researcher might not be able to distinguish between individual or shared opinion. These challenges were encountered during the conduct of this study.

Another crucial challenge of FGD is in regard to ethical issues, such as confidentiality and anonymity. In case of group discussions, it is hard to ensure that participants will keep the information from FGD confidential and anonymous, and having this in mind might lead some participants to be quiet or share less of their experiences, in the fear of sharing their own stories with strangers (Gibbs, 1997). Another challenge of FGD is that they are time-consuming, both while being conducted and for the analysis process (Morgan and Kreuger, 1993).

3.4 In-Depth Interviews

Babbie (2013) defines a qualitative interview as "an interaction between an interviewer and a respondent in which the interviewer has a general plan of inquiry, including the topics to be covered but not a set of questions that must be asked with particular words and in a particular order". Knowledge of the subject matter is important for the interviewee for a good process of the interview. Looking at the barriers to the access of maternal healthcare with mothers as well as the experiences of health professionals on the importance of CPD are sensitive issues that needed to be studied using an approach that ensures mothers and health professionals who participate in the study are comfortable enough to share their experiences and perceptions as they might not be comfortable to share such information in a group setting (Milena, Dainora & Alin, 2008).

The benefits of using IDI as highlighted by Hennink, Hutter & Bailey (2010) apply to this study because individual experiences and perceptions of maternal healthcare may be similar or different from a mother to another or from one health professional to another. Conducting IDI with mothers and health professionals helped to explore their experiences and perceptions that are related to the access of maternal healthcare in a deep and detailed fashion, as highlighted by Fitzpatrick & Boulton (1994) on the type of knowledge gained from IDI.

Challenges associated with IDI

Due to the nature of IDI of collecting information from different individuals, it is hard to compare the results, because each individual might have their own experiences

and due to the small sample size, such result cannot be considered to represent any particular population (DiCicco-Bloom & Crabtree, 2006). In-depth interview, similar to focus group discussion, are time-consuming, especially when it comes to transcription and analyses of the data (Boyce & Neale, 2006). In-depth interviews can also generate emotional feelings, especially for this kind of sensitive research that is not easy to handle by the researcher (Johnson, 2002). This last challenge was especially observed for mothers who have given birth at home and for single mothers, who claimed they lacked sufficient help during their pregnancy and childbirth period. In most cases, the help that was evoked in these conditions was financial help.

3.5 Selection of Study Participants

Hospitals in the Eastern province represent the first cohort of CPD interventions provided by MNCHR and data were collected in eight of those hospitals. To collect data in Rwinkwavu hospital, a research based institution, an additional ethical approval was needed and this could not be obtained in the time of data collection (June – September, 2014). The District Hospitals in the Western Province are not yet exposed to any formal CPD interventions (Binagwaho et al., 2012) and the four District Hospitals where this study was conducted are reported to be the ones with higher prevalence of home-based child delivery in the Western Province (Binagwaho et al., 2012).

The sample size for qualitative research is not predetermined through a formal sample size calculation (Hesse-Biber & Leavy, 2004). Hence, the focus groups and interviews continued until theoretical and data saturation was reached. In the Eastern Province, the saturation was reached after conducting interviews with ten women who

experienced home based delivery, 19 women who delivered in a health facility, seven CHWs, 13 ALSO trainees and three MMH trainees. The number of health providers who were trained in MMH is related to the low number of the total number of trainees in the Eastern Province (only four hospitals in nine received this training). In the Western Province, saturation was reached after conducting the interviews with six women who delivered at home, ten who delivered in a health facility, eight health care providers and seven CHWs. All participants (women, CHWs and health care professionals) were over 18 years of age.

Table 1: Number of IDI and FGD participant per hospital

Hospital	**IDI**		**FGDs**	
Eastern Province	**Women**	**Health Professionals**	**Women**	**CHWs**
Nyamata	4	2		
Rwamagana	4	2		
Kibungo		2	1	1
Kirehe	3	2		
Gahini	4	2		
Kiziguro	3	2		
Ngarama	2	2		
Nyagatare	3	2		
Western Province				
Karongi	4	2		
Mugonero		2	1	1
Kabaya	2	2		
Rubavu	4	2		

There is a community health officer based at the hospital who works directly with community health workers in order to supervise community health activities. CHWs are

the members of the community who follow up the health of the mothers at the community level and give them information in regard to pregnancy, antenatal and postpartum care. There are four community health workers in every village of about one hundred households. Each of these community health workers keeps records on maternal health and these ones will help them to identify eligible mothers to participate in either FGD or IDI. Community health officers helped in the recruitment of CHWs and the recruitment of women who have recently given birth. The meetings with hospital directors helped to identify eligible health professionals. For the Eastern Province, these have participated in either ALSO or MMH training. For the Western Province, the health providers eligible were the ones working in maternity wards at the time of interviews.

Eligible participants were identified and were given written and verbal information about the study and contact information by the community health workers. To build a rapport with potential participants, the researcher made arrangement to meet with interested women and community health workers to further explain the study, answer questions, and schedule interviews and focus group discussions. While establishing a relationship with participants, the researcher explained to them the goals and reasons of conducting the research. To arrange interviews with health professionals, information were circulated through the hospital administrators. Those who express an interest in participating in the study were invited to call or email the researcher, and a meeting time was set up to explain the study and schedule face to face interviews.

3.6 Study Procedures

Depending on participant's choice of where they would feel more comfortable, interviews took place either at home or in the health facility. Interviews with most of the mothers took place in Health Centers, as these were scheduled on an immunization day. Some mothers preferred to have interviews in their homes. Interview with health professionals took place in the hospitals whereas FGD with mothers and with CHWs took place at the health centers. All the FGD and some interviews with mothers were scheduled on a vaccination day of the week at a health center where a room was arranged in advance. In terms of location, it is important to conduct the interview in a location familiar to participants (Kreuger, 1988; Gibbs, 1997) where they feel more comfortable to share their stories.

The idea of holding the discussion in a room at health facility is familiar to mothers who use health facilities in Rwanda as such rooms are used for meetings or other gatherings, where mothers are given information related to the prevention of diseases, especially after immunization sessions. The interviews and FGD proceeded in a conversational manner to facilitate open dialogue. The interviews were audio recorded with the participants' permission, and were 30-45 minutes in length. FGDs were 60-80 minutes in length and were audio recorded as well. On a daily basis, one to two FGD were conducted and three to six IDI were conducted (on different days, due to separate locations of FGD and IDI).

To better understand the data, demographic information was also collected (age, gender and education level, marital status and number of children). All the sampled participants accepted to fully participate in the study and there was no refusal or withdraw from the study. The first data were collected at Nyamata Hospital and this was a pilot study. To get rich data from the interviews that followed, the interview guide for women was revised after the pilot. The information related to family planning was added, since this is one of the issues that is related to using maternal health care services. Body languages and non-verbal communication were observed as well as field notes. These were also used during the analysis to better understand the information from interviews.

3.7 Ethical Considerations

In order to conduct a study that uses human participants and sensitive cases, it is important to have ethical approval. For this study, the ethical approval was obtained from the Research Ethics Board at Western University prior to commencement of the study (File No: 103945). Before conducting the interviews and group discussions, the letters of information were given to participants and the oral and written informed consent were obtained from the participants. Participants were assured of voluntary participation, confidentiality, anonymity and freedom to withdraw from the study at any time. For both in-depth interviews and focus group discussions, informed consent is crucial. As much as possible, the nature of the study and associated benefit were explained to participants, after which consent to participate voluntarily in the study were given by the study subjects.

3.8 Logistics

All the expenses related to the study were covered by the MNCHR project. The researcher will take responsibility for dissemination of the findings at completion of the study to those participants who expressed interest in the results of the study.

3.9 Data Analysis

The analysis of findings of this study was done by the researcher. The audio recordings were transcribed verbatim, translated from Kinyarwanda into English by the researcher prior to analysis. Participants were given an ID number that was used for analytical purposes. Initial analysis of transcripts was done by the researcher engaging in reflection and highlighting key data from interviews (Prince, 2008). Notes on body language and non-verbal communication as well as field notes were also analysed along with the data from interviews to better explain the findings. Data from the pilot data collection were analysed along with the rest of the data.

Data analysis involved line-by-line, open, and axial stages of coding in a constant comparative, iterative manner to capture emergent themes. The researcher was going constantly through the data to cross check the validity of the analysis. This helped the researcher to stay true to the data to see what themes emerge as highlighted by Bringer, Johnston & Brackenridge (2006), while interpreting and explaining the findings. The analysis was done manually by grouping the themes and sub themes from the collected data. Different concepts and data categories were then generated, based on the objectives of the study and on the information that was gained through interviews.

For this stage, different quotes were used to match different themes that emerged from data. These were grouped into three major categories: perceptions and experiences about maternal healthcare, barriers to access maternal health care and CPD opportunities. The findings of the study were returned to participants for them to give feedback that is related to the accuracy of data they provided.

Chapter 4

4. Results

This chapter presents the findings of the study in terms of mothers' perceptions and experiences of maternal healthcare. The chapter also presents findings on the perceptions of community health workers and health professionals who were trained through CPD on how the training impacted health care delivery but also those who were not exposed to training.

4.1 Mothers' Perceptions and Experiences

This section presents the results from the interviews and focus group discussions with mothers. It includes the sample characteristics, the perceived needs and experiences of maternal healthcare utilization, the attitudes of healthcare professionals and those of CHWs. Finally this section discusses what mothers would like to see as the direction of maternal healthcare.

4.1.1 Sample Characteristics

The mothers interviewed were aged between 20 and 39 years old. Most of these women were married (n=30) and living with their husbands. A few of them were divorced or separated (n=11) and very few of them are never married (n= 4), and living either in their own homes or with their parents. Participants had between one and eight children and all of them had a baby in the last 12 months. Many of them had five to six children. The reported birth spacing varied from 1.5 years to 9 years and the reasons for

spacing varied from family planning, involuntary birth spacing, still births and other negative pregnancy outcomes.

4.1.2 Mothers' Perceived Needs and Experiences with the Utilization of Health Facilities

When asked about when a woman should seek for maternal healthcare for pregnancy related services, some participants said that the ideal time is when a woman suspects she is pregnant and thereafter. The participants agreed that a woman should follow up the appointments for antenatal care until she delivers. A respondent indicated that:

> "When a woman thinks she is pregnant, she has to go to health facility so that they can do a pregnancy test. If the test is positive, she has to go for prenatal consultations in all the pregnancy semester, that is, three times". (Woman, 27 years old, Karongi).

Several interviewees indicated that a woman should seek family planning services a month and half after delivery. Few participants expressed that they had gone to the health center a week after delivery for immunization programs. Those who indicated they had gone to the health center did so because they had health problems. Few women mentioned that when they go for immunization for their child a month after delivery, at that time they also undergo check-up for any health problems if they have concerns. Most participants mentioned that health professionals encouraged them to go for family planning three months after delivery.

Several women agreed that a woman should go for prenatal consultations at least three times during the pregnancy period and make more visits in the event there is an

identified health issue. Very few women indicated that a woman should go for antenatal care four times during pregnancy. Those who went more than four times stressed that they had other health concerns during their pregnancy. Few women said that they were told to go for antenatal care before they were three months pregnant, because they had to be tested for HIV/AIDS and in case of a positive test, there is a chance of follow up that could help prevent mother to child HIV transmission. As indicated below several interviewees highlighted that they use antenatal care services where both parents have to go for HIV/AIDS test to benefit from maternal-child HIV/AIDS services offered in health facilities:

> "My husband and I have to use these services because we want to have a good health for our kids but also to make sure we are both healthy, we have to make sure we are not HIV+, so we need to go, because even if I know my status, I cannot be sure of his status or he cannot be sure of my status and in the end we want the baby to be HIV-". (Woman 30 years old, Karongi)

All participants acknowledged the importance of going for antenatal care services offered to pregnant women, since thus can have immense benefit on pregnant women. Many interviewees also agreed that delivery in a health facility is the ideal, although a few women indicated they did not see any problems with home based delivery, as long as women delivering at home have been to antenatal care services and no issues were found related to the mother or the baby. An interviewee said that:

> "Delivery can happen in a health center or at home if the labor is approaching. It depends on where you are at the time you have to deliver". (Woman, 32 years old, Kibungo)

Some of the mothers highlighted that they never went to health facilities, except when they were pregnant and for delivery. Few of them said that they go to dispensaries

(health posts) for antenatal care, but when it comes to delivery, they go to health centers. Few participants explained that they delivered in hospitals because they were transferred from health centers, due to pregnancy complications. Women who go to health centers are only referred to hospitals if there is need. Mothers who had more than two children relied on the past experience of home based deliveries to deliver at home. When those who go to health facilities for deliveries were asked about their motivation to do so they indicated they trust the health professionals at facilities to handle maternal health issues. One of the participant said that:

> "I gave birth for my first child in at home, but didn't know about pregnancy at that time (19 years ago). All others [children] it was in a health center. They follow up and give all the services that are needed for health, any health problem that you have you can go to health professionals and they tell you what to do". (Woman 37 years old, Nyamata)

Several mothers talked about the services that are offered to pregnant women when they have health problems including vaccination and HIV testing for spouses (both partners). Pregnant women are also given relevant vitamins and other drugs. A participant reported that they are never told what kinds of tests or exams are being done to pregnant women by health professionals, and in most cases they are never told the results either. Some participants also reported that for HIV positive mothers, they educate them on protective and preventive measures, and they are also given medication to prevent mother-to-child transmission. Pregnant women are also educated on how to recognize early signs of pregnancy problems such as bleeding in order to seek early healthcare attention. Pregnant women are given mosquito nets during

antenatal services and educated on the need to prevent malaria, family planning, immunization of the newborn, nutrition, and hygiene.

4.1.3 Attitudes of Healthcare Workers

Several participants said that they were satisfied by the way they are treated by health professionals and the quality of healthcare they receive. Very few of them said that they have heard stories of mothers who were mistreated by certain health professionals, but none of those interviewed was a victim of mistreatment at the hands of health care providers. This is reiterated in the comments below:

> "It depends on which health professional, sometimes there are some who are nice and treat patients nicely, but sometimes some treat people poorly." (Woman, 35 years old, Rubavu)

Another interviewee:

> "There are some who don't treat patients well but they don't send back anyone home. Sometimes if a patient asks for more care, that's when they talk in a bad way, but generally they give a good service" (woman 27 years old, Mugonero).

Overall the participants complained about the wait times at health facilities due to the fact that only a small number of health professionals are usually responsible for so many women who frequently need maternal health services. A number of mothers also said that there are times when they are prescribed medicines that are not available in health facility pharmacies and in such cases these women have to buy medication on their own from private pharmacies which tend to be very expensive. Some participants also reported that when the treatment from health facilities do not seem to be working for them, they normally turn to traditional medicine or to members of their churches for healing prayers. One woman indicated:

> "I feel comfortable with health facilities but, I also use prayers in case the health care doesn't solve my health problem. I go to people who can pray for me" (woman 30 years old, Nyamata)

On another hand, an interviewee said the following:

> "I delivered at a traditional healer's home because I had a health issue that could not be handled by health professionals. The baby is now one month and I brought him to health center for immunization. I still have the same health issue and I'm waiting for my mother to get more money to pay for more traditional medicines". (Woman 26 years old, Rwamagana)

4.1.4 Men's Involvement in Maternal Health

One of the challenges reported by some of this study participants was on when pregnant women are expected to go to their first antenatal service in the company of their husbands. Frequently most husbands are reluctant to follow their wives to health facilities and this tends to result into women's delay in seeking early antenatal care. Most participants stressed that they are using or are planning to use family planning. Those using family planning services were motivated by bringing up healthy children and being able to care for them financially, especially with the educational and health needs:

> "At the moment it is a problem to have many children when you cannot take care of them". (Woman 25 years old, Gahini)

And another participant supported the idea saying that:

> "I use family planning for my kids to grow up properly and for me to be able to pay for health insurance and education". (Woman25 years old, Rwamagana)

When participants were asked whether their spouses/partners support the use of family planning most of them were positive. Only a few mothers said that their husbands were not involved in such decisions and that the mothers are the ones to go for family

planning, sometimes with or without their husband's knowledge. Few participants said that they get family planning services from community health workers, although they also raised the issue of lack of trust of the CHWs when discussing FP services they use as shown in the comment below:

> "I use injection and have to go to the health center all the time. I cannot trust the community health worker. For example, you know there happen to be conflicts in the community, and if she is HIV+ and she doesn't like you, she can inject herself and use the same needle to inject you". (Woman 29 years old, Kibungo)

4.1.5 Mothers' Perceptions of the Role of Community Health Workers

In general, the participants agreed that CHWs were their first point of contact for pregnancy related services although sometimes information about maternal health services can also be obtained through radio or family and friends. Most women mentioned that when they suspect being pregnant, they go to a community health worker who would tell them what services are available to them and when they can access those services. In a few cases, participants reported it was the CHW who prompted them to go for a check-up and follow-up services at a health facility. An interviewee commented that:

> "Community health workers are the ones to encourage pregnant women to go for health antenatal care… When you don't have a husband, a community health worker accompanies you to the health center for antenatal care… if she doesn't have time she gives you an approval to get tested and followed up". (Woman 30 years old, Nyamata)

Most of the of interviewees talked about the importance of CHWs in the communities because of the services they offer such as following up with pregnant women and

breastfeeding education and other health preventive services to mothers. Several interviewed mothers were of the view CHWs should be given more training related to the services they provide. Other mothers suggested that age and educational levels of CHWs should be a consideration when they are being selected. This is because some of them seem to be too old to accomplish all the tasks assigned to them, while others do not have appropriate knowledge to provide good services. Some participants also suggested that beyond bicycles and cell phones, CHWs should be given incentives for the services they provide so that they can be motivated to give quality services. Participants agreed that most women in Rwanda know about maternal health services because there are community health workers in all the villages, and also because of the radio. All participants stressed that their communities support the use of health facilities and that local community leaders are involved in enhancing the use of health facilities. While a few participants repeated that for some health issues, they feel going to traditional healers is best most of those interviewed indicated they do not use traditional medicine as they do not trust these healers. In this context, one interviewee said that:

> “I go to the traditional healers because for some diseases they are the ones who can provide better treatment, like poisoning, but when they cannot manage my disease, I go to hospital”. (Woman 39 years old, Kirehe)

4.1.6 Religion and Maternal Health

When asked the impact of religion on the use of health care, most interviewees were of the opinion that the church leaders encourage them to enroll into health insurance and to use health facilities on time:

> "They talk about using health facilities, especially about health insurance, that people need to have health insurance and not only relying on prayers, and they tell us to go for health care when we are sick." (Woman 31 years old, Nyagatare)

Only a few interviewees said that the churches offer some health training on different issues, such as maternal health. However, participants agreed that whatever is provided in churches is not mandatory.

Majority of participants reported that there is no health care access barriers related to seasonality or time of year, because if there is a health problem, they have to seek for health care because they would not be able to work if they are sick. However, some participants said that there is a difference in their use of health facilities based on the seasonality. In this context, a participant said that:

> "When it is farming season, people tend to be less concerned about their health issues, unless it is a serious issue". (Woman 37 years old, Mugonero)

And this is supported by another participant who said that:

> "It happens more often, women want to stay in field or they think others would work more than them or think they will waste time if they go to health facilities…. sometimes they know they are sick but still don't go, and they will be brought when they are so sick."(Woman 34 years old, Rubavu)

Most of the women in the study indicated that when they have to access health facilities, they discuss this with their spouses or other people they live with. A few of the participants reported that when they need to go for health care, they inform their spouses and ask them for money. Regarding who pays for health care, it was interesting to find a difference between older women with more than two kids and younger women. Mostly, older women said that whoever has money in the household pays for health care, including health insurance. However for younger mothers, all

health care related cost are paid for by their spouses. Some single mothers reported they pay for their own health care or sometimes get help from their parents. A few participants also mentioned that they sometimes have to borrow money from relatives and friends if they really need health care.

4.1.7 What Mothers Would Like to See

When asked the direction they want to see the government, health professionals and community take to improve the utilization of health facilities for deliveries, several mothers said that an improvement in the numbers of health facilities will reduce the distance that mothers have to travel to a health facility. A number of participants also mentioned that the cost of health insurance is a challenge to the utilization of health care for some mothers who cannot afford it, and suggested that the cost of health insurance should be reduced. In this context, a young woman said that:

> “It is time to pay for health insurance and my husband doesn’t like me to borrow money…with our financial means it is difficult to get money because we did not have good harvest this year… we have to look into how to pay, but he doesn’t understand because… it is a challenge…I have to look for means to get money so I can pay for some members of the family, not for everyone because we are many”. (woman, 32 years old, Ngarama)

Overall the results in this study have identified pertinent financial, geographic and transportation challenges that women confront when trying to access maternal healthcare. Given the Rwandan Government interest in reducing maternal mortality and improving outcomes, it will be appropriate to start with key areas that include supporting an expanded CPD training not only for health professionals but community health workers as well.

4.2 Community Health Workers and Maternal Healthcare

Community Health Workers (CHWs) are local volunteers in various villages who provide basic maternal health and other services. The CHWs who took part in this study generally agreed on their role in the provision of maternal health care: CHWs frequently educate the community encouraging them to use health services available in the community such as family planning and pregnancy related services offered in health facilities. Sometimes they follow-up to remind pregnant women about antenatal care and they also at times accompany women who do not have support systems to health center for delivery. Women who seek CHW service are mostly married, in farming households or within the informal sector. CHWs indicated that their operating zones are usually about one hundred households. Yet the physical geography of some of these zones makes access to the villages very difficult. For instance, the households located on the top of mountains or those in villages with very bad roads during rainy seasons are sometimes not accessible. CHWS also highlighted that in some instances women tend seek their services for child health more than for maternal health issues. This was stressed by one participant:

> "Even though we provide maternal health services, mothers mostly seek our services when they have a sick child because we provide some medicines to children under 5…some women are not yet used to come to us and ask advices or seek information on issues related to maternal health… they prefer to ask fellow women, and can sometimes give them wrong information" (Community health worker, Female, 35 years old, Ngarama)

The CHWs reported that in most cases, the women utilize the health information provided to them by CHWs. In rare cases if CHWs have to deal with different situations, they can turn to community leaders for help.

4.2.1 CHWs Perceptions of the Gendered Barriers to Accessing Maternal Health Services

CHWs participants discussed what they perceive as the challenges women face when trying to access maternal healthcare. These include financial and geographic barriers that negatively impact women's access to health facilities. Most especially women who do not possess health insurance are the ones who have difficulties accessing and utilizing health facilities. This is mostly found in very poor households or households with big families, who have to pay for health insurance for all the family members to be registered in the scheme. In this context, a participant said that:

> "We do our best to encourage pregnant women to get health insurance. However, there are some who don't pay for health insurance because they don't have enough financial means, especially those with many children….When it is time to deliver, they prefer to stay home because they cannot afford to pay the cost of delivery without having health insurance…a big number of home deliveries are experienced by women who do not possess health insurance".(Community Health Worker, Female, 33 years old, Ngarama)

Overall, the participants agreed that the lack of health insurance is related to poor income levels, related travel costs without which women have to walk for an hour or more to reach the health facility. Although women are always prepared to use less costly means of travel such as bicycles or motor cycles, these are not always available either. Without transportation, women may delay going to a health facility or they may not go at all, and this can affect their delivery. CHWs highlighted that there are few women who still think that they can deliver at home, especially when they went for

antenatal consultations and the health professional told them that everything is fine with both mother and baby.

Interviewed CHWs mentioned that generally, men provide financial support to their partners for maternal health care. However, some participants pointed out that this is not always the case, because there are women who have to use or look for their finances to use for maternal health care. Most health centers that provide antenatal and delivery services require that women are accompanied by their partners for the first antenatal care appointment, because both partners are required to test for HIV/AIDS. However, for subsequent appointments, the women go alone in most cases. For deliveries, women are accompanied by a member of their families or by a member of their in-law family, and few mothers would be accompanied by their husbands/partners. CHWs discussed the fact that some men do not provide support to their wives during pregnancy, especially if they did not plan to have another child, more so when they have already many children or if the woman has been using family planning methods and there is a birth spacing of four years or more. In this context, one participant mentioned that:

> ” We get cases for example of mothers who come to tell us about the way they are mistreated by their husbands when they get pregnant if the pregnancy was unplanned, how this generates conflicts in households…there was a case of mother whose husband left her when she told him that she was pregnant of triplets. The couple had already five children…The husband left and until now we never heard of him; the babies are now 6 months old”. (Community health worker, female, 36 years old, Ngarama)

One participant mentioned that there are cases of spousal conflicts from such situations, and there have been cases where the husbands left the household or ask to be separated from the wife. Usually, when women are absent due to maternal health issues, the children at home are the ones to take care of household activities and the eldest would normally look after younger siblings. If the children are younger, a family member (extended family) or a neighbor would look after them either at the parental home or in their own home. The husband takes care of farm activities and look after the home. CHWs who participated in the discussion highlighted that their role to enhance men's involvement in maternal health involved increasing education and giving more advice to couples together. To educate communities about households conflicts related to the man's involvement in maternal health, CHWs raise these issues during community meetings with the help of local leaders and other members of the community.

A number of interviewees expressed that there are no more traditional birth attendants in their villages; all the women know the importance of going to health facilities for maternal health care. However in rare cases when it is too late to go to a health facility or if the woman has no insurance, women still deliver at home with the help of a CHW or another person, mostly an elderly woman. However, as pointed out earlier, some women still use traditional substances for maternal health issues, either as told by other women or by traditional healers. Most of the participants agreed that the use of such substances or traditional healers is part of a belief system that have an impact on the negative use of health facilities. Also frequently women who have many

children consider themselves knowledgeable in regard to maternal health issues and are more likely to make decisions on not to go to a health facility. Other beliefs are also related to the use of family planning for different methods in case they fail, which becomes a barrier to the use of family planning.

4.2.2 Empowering CHWs and Improvement in Maternal Health

CHWs recognized their role to link the community to health facilities, by offering information, education and communication about maternal health services and by giving advice to mothers on any related issues. CHWs said that they give monthly reports to the health center about maternal health services they offer, such as educational sessions provided in the community, visited households, the number of pregnant women and number of deliveries in their respective villages and they also provide a report about family planning, for mothers who use family planning services provided by CHWs. CHWs also indicated how they are poorly motivated considering they are mainly volunteers and yet have to accomplish a lot. Participants highlighted that they have to do other income generating activities during the day and volunteer as CHWs in the evenings, which is not always easy. One CHW commented that:

> "We have many tasks as community health workers and we have to submit a daily report of our activities…we do our best to improve community health but unfortunately we have to do other income generating activities for our families, because we are not paid as community health workers. If we could be paid or get some incentive for the work we do, we could allocate more time for community health activities".(Community health worker, Female, 35 years old, Ngarama)

A number of CHWs also expressed that they do not have enough training to accomplish their roles in providing maternal care and sometimes they are not able to respond to all

the concerns of mothers. Family planning was another area of concern for most participants who found that most women prefer to use health facilities rather than going to CHWs, because of lack of trust.

Despite these challenges faced by CHWs, all the participants said that there is a remarkable increase utilization of maternal health services and an improvement in maternal health both in the community and at the health facilities. Home based deliveries are reported to have decreased with most women now aware of the importance of using antenatal care services and family planning services. CWHs indicated that they are getting empowered in their activities, and this is increasing the outcomes of maternal health and also improving trust by the community with more women increasingly seeking for their services. CHWs pointed that they receive training from health centers. Training is usually organized by the Ministry of Health or by other Organizations in the area of maternal health. In this regard, an interviewee highlighted that:

> "We get different training that is important to increase our knowledge and skills in maternal health. This has increased our confidence, when for example we are asked questions about family planning methods. Now we can answer to the questions or give advices to mothers…this is increasing the trust that mothers have to us". (Community health worker, female, 36 years old, Ngarama)

CHW training has involved how to follow-up pregnant women until delivery, such as education on physical activity and nutrition issues during pregnancy, signs and symptoms that may signal emergent care, care during postpartum period, including breastfeeding and family planning services. CHWs mentioned that there should be regular training to empower them, and they also need some support for their activities,

such as transportation and a small stipend to compensate for their time working as CHWs.

4.3 CPD of Health Professionals

This section presents the experiences and perceptions of nurses, midwives and physicians about CPD, for those who were exposed to CPD training and those who were not. This section highlights the success stories from CPD training to improving maternal healthcare and also talks about the challenges faced by health professionals to apply CPD skills and barriers to the implementation of CPD in hospitals who were not exposed to CPD training.

4.3.0 Sample Characteristics

Interviewees included midwives, nurses and physicians who provide maternal health care, such as antenatal care and other pregnancy related services, delivery and postpartum care. Most participants graduated from the former Kigali Health Institute for Nurses and Midwives and from the Medical School at the former National university of Rwanda between 2005 and 2007. Very few of the interviewed physicians graduated from universities in the Democratic Republic of Congo. Interviewees were aged between 26 and 35 years old and their work experiences ranged between one to eight years. Health professionals who were interviewed were working in maternity wards at the time of interviews. Interviewed nurses are rotated monthly to service areas of the

hospitals including inpatient and outpatients services. Midwives worked in maternity and neonatal services.

4.3.1 Health Professionals Perceptions before CPD Training

4.3.1.1 Quality of Maternal Healthcare

A number of interviewed nurses and midwives said that although they were confident in facing the challenges of normal labour and delivery, they were not comfortable managing complicated pregnancy/delivery presentations. For instance many of them mentioned that they were not comfortable with newborn resuscitation. They also stressed that equipment and space limitations had a negative impact on health care provision to mother and newborns. The participants reported that they offer maternal health services to mothers who come for pregnancy test, and pregnant women are then followed through antenatal services until delivery. After delivery, when the mother and the baby are both well, they are sent home and they come back after one week for immunization and further checkup if necessary.

The nurses in health centers indicated that they tried to provide quality health care to mothers unless there are complications and in such cases, they transfer the mothers to the hospital. They highlighted that they received large number of mothers every day and these mothers have to wait long hours at the health centers for care. The long wait times sometimes resulted in the delivery of poor care service. In this context, one interviewee said that:

> “The number of health professionals in our health centers is not enough. ….For example during night shifts, there is only one nurse on call and he/she has to take care of mothers and all other patients that come to seek health care at the health center”. (Nurse, Male, 32 years old, Rubavu)

Some interviewed nurses reported that sometimes mothers delay in seeking antenatal care services or for delivery so when there are problems, it is usually too late. Several nurse participants agreed that although they tried to provide quality care the unavailability of infrastructure and equipment they can use, plus the shortage of health professionals to take care of mothers and newborns hampered their care delivery. Participants generally agreed limited resources in health centers made them unable to care for the patients. In many instances patients are transferred to the referral hospital in Kigali. Several interviewees mentioned other challenges such as: insufficient number of staff, lack of to date knowledge, lack of skills for performing some procedures, and lack of adequate equipment for their practice.

For instance, all interviewed nurses reported discomfort in the care of women with pre-eclampsia and in the management of post-partum haemorrhage. Another challenge that was reported was how to deal with emergencies, both at the health centers and hospitals. The participants indicated that because the health centers did not have ambulances; when there is a need for a referral, they had to call for an ambulance from the hospitals. This meant that sometimes it took so long to get patient to the hospital.

In this context, one interviewee commented that:

> "At our hospital, nurses don't have enough knowledge and skills to manage obstetrical emergencies, such as pre-eclampsia and post-partum haemorrhage… In most cases, we had to transfer mothers with complications to the referral hospitals …we did not get opportunities to update our knowledge and skills, and for us, the better solution is to transfer patients to the advanced hospitals for care, but the problem is the travel and waiting time, especially when cases needed immediate action. Sometimes it was too late when they got to the referral hospital". (Nurse, Female, 28 years old, Karongi)

As indicated earlier, health providers did not perceive themselves to be well resourced to provide good quality care. Dedicated physical space and beds were consistently cited as being in short supply at both the hospitals and health centers, especially in delivery, operating and emergency rooms. A number of participants highlighted that shortages of health providers at all levels resulted in high nurse/midwife/physician-to-patient ratios which have the potential to negatively affect the quality of care they can provide regardless of their knowledge and skill levels. The lack of reliable internet access was also cited by all participants as critical to their practice; the appropriate functioning of their hospital; to its governance; and also for the delivery of quality continuing professional development and delivery of health care. Overall, the participants agreed that even though women are getting more and more knowledgeable in terms of the benefits of maternal health care at health facilities, there is still ignorance among some mothers.

Such mothers may not consult health professionals on time for health care and for deliveries. Other challenges that were found were related to family planning, whereby there are still mothers with many children who are not interested in family planning.

Other concerns mentioned by few interviewees were related to the attitudes and beliefs of women who still consider using traditional medicine during pregnancy; such substances of questionable efficacy sometimes have negative impacts on the mother and or on the baby and sometimes, they then generate complications that are not easy to manage on time. In this context, one interviewee highlighted that:

> “Some of the mothers are still using local substances during the pregnancy period and there are some mothers who take such substance while on labor, thinking that these will reduce pain or will have some other effects on the delivery. Some of these substances can have direct and indirect effects on labor, the mother and the baby. We tried our best to make them understand that these can lead to serious pregnancy/delivery complications but the majority of women still use them”.(Midwife, Female, 30 years old, Kabaya)

Overall health professionals indicated that their concerns have been reducing with time, as a result of government’s effort to improve maternal health in Rwanda. For instance, the community health workers program provides health education to mothers in the communities and follow-up services for those with health related problems, while encouraging them to use health facilities for care. Another effort highlighted by interviewees was government’s implementation of a community- based health insurance scheme through which poor and vulnerable women are able to access maternal health care services.

This is emphasized in the following statement by one interviewee:

> Mothers know that if they are paying their health insurance they will have easy access to maternal health care across the country at all levels of health care….In case of pregnancy related complications, women can access referral services at district or national hospitals, improving their ability to receive the required care". (Midwife, Female, 27 years old, Mugonero).

All interviewed health professionals highlighted how their respective institutions are committed to provide adequate maternal health care, despite the challenges they face. The institutions are always looking for ways to improve resources and infrastructure. Some interviewed health professionals said that they provide educational sessions in the communities, where maternal health is among issues that are given regular attention. These sessions are arranged in collaboration with the institutions to strengthen the CHWs education.

4.3.1.2 CPD Training: Missed Opportunities

Several interviewees said that there were many challenges to participation in CPD activities, including lack of availability of learning facilities (learning center, library, journals, manuals and protocols on maternal health care), lack of professional or monetary incentives, transportation difficulties, inability to get time off and added work load upon return. Some of the interviewed health professionals also expressed that administrative and managerial duties prevented them from taking part in CPD training. In the next section we report on those who were able to undertake the training, sharing knowledge and education among staff.

4.3.2 Post CPD Training

This section reports the findings from health professionals who took CPD training in ALSO. All the interviewees indicated that the training has increased their knowledge approach to maternal health care provision, as they were updated on several skills and learned new skills. In this context, one nurse indicated that:

> "I did not do midwifery, I'm a nurse... I was working in maternity by the time of the training… I learned a lot from the training and I was updated in some skills; some documents were newer than what we had in school, especially the documents related to newborn sufferance. For example there are some medicine we were giving to mothers that we were not supposed to be giving them because there are advanced medicine that should be given or because those medicines could have other negative impacts on the mother or the baby". (Nurse, Female, 33 years old, Kirehe).

Mental health nurses agreed that most of the times the people in maternity would call them to help with some cases and they would fear that they might make mistakes that may impact the mothers. However, after the CPD training, they feel more confident to give better counselling to families. According to them, this knowledge will continue to prove useful in the future.

4.3.2.1 New Skills and New Approaches Learned from CPD

All interviewees indicated that they learned new skills from the CPD training, including the management of post-partum haemorrhage. In this context, one nurse indicated that:

> "I learned new skills, such as the management of postpartum haemorrhage, the management of a mother with uterine atony and the management of dystocia. This was very important to me, because, when I would face such cases before, I was supposed to wait for medical intervention and this could lead to neonatal sufferance if the doctor is not available immediately". (Nurse, Female, 31years old, Kibungo)

They reported how the skills they have learned are different when compared to what they had learned in school. For example, they were trained on how to observe the placenta, to make sure that all of it is completely expelled after delivery. Nurses who were not midwives indicated that they were working in maternity wards without much knowledge in maternity issues. They therefore indicated that the CPD training increased their knowledge and has helped them to properly execute some procedures that they were performing on a routine basis and on the administration of appropriate medicines to mothers. The participants reported that they also learned techniques such as the management of shoulder dystocia and other obstetrical emergencies that help to reduce unnecessary caesarian sections. Some interviewees mentioned how they learned to manage dystocia without relying on any medical intervention, thereby reducing waiting time that can impact a new born. The training also helped them to have more knowledge about diagnosing different pregnancy/delivery complications on time, which helps to prevent the mother and baby from danger.

Such cases are either then managed or transferred on time to appropriate hospital. In this context, a physician commented that:

> "The first thing is that the training helps to have more knowledge about early diagnosis. We can know earlier what is the problem that can affect the mother and the baby so that we can increase the management, and can transfer on time if it is the case we cannot handle here".(Physician, Male, 35 years old, Nyagatare)

Overall, the participants agreed that their knowledge on the management of obstetrical emergencies has improved, as a result of the CPD training. Several interviewees also explained how they were taught the appropriate way to use the vacuum extraction (VE) technique for delivery. For example, they were told not to use it more than three times as opposed to they were initially applying the technique in some cases up to five times, which can cause a baby problems. Participants indicated that after trying VE for three times, if that did not work, they should use caesarean section. Other techniques that were learned included the surveillance for mothers in antenatal care and during labour to be able to manage neonatal asphyxia.

4.3.2.2 Maternal Mental Health

Another learning component that emerged in the findings was on maternal mental health. Some participants reported learning about how to handle cases with mothers who do not want to breastfeed their babies because of family problems or conflicts with their husbands / partners. Participants reported that in some cases when husbands / partners do not want their babies or when they do not accept them, such mothers under distress may refuse to breastfeed the babies because they want them to die. Many interviewees reported that initially they were not well prepared how to handle maternal mental health, but the CPD training has reinforced what they learned from

school, and given the ability to approach this professionally. Overall, the participants reported that the CPD training has increased their team work spirit and now they acknowledge the benefits of team work in the provision of maternal care as they share their concerns, experiences, learned knowledge and professional communication skills. This newfound collaboration is highlighted in the comment below:

> “More importantly regarding team work, we used to work on our own in maternity and try to handle cases on our own, but we were told how to ask for help among colleagues if we need it, before it takes more time”. (Midwife, Female, 28 years old, Ngarama)

The training has also helped participants to be more confident even under challenging situations. With regards to decision making on mental health respondents indicated the training encouraged them to devote significant amounts of time to attending to the needs of mothers, and to be good listeners in order to be able to respond to the needs of patients. Participants acknowledged that this approach is very important in improving psychosocial health of mothers and their babies. This was emphasized by an interviewee in the following statement:

> “We learned that as mental health nurses, we should take enough time to listen to mothers more than nurses could do because they don’t have enough time to take care of that. We have to listen to mothers because it helps them, we want to improve that approach more than providing drugs because that can have impact on babies”. (Mental health nurse, female, 30 years old, Nyamata)

Most interviewees also reported that they learned how to communicate to breamed families.

4.3.2.3 Organization of CPD Training

Overall, participants agreed that the time management was good because people were mostly on time, all the activities were well planned. However, a number of participants reported that there were times where they had to work longer days to cover the materials that was planned for that day's training and some participants indicated that such long days made them tired resulting in less concentration on the courses. Several participants talked that the CPD training was well organized, although some indicated that the place where the training was provided was not easy to access because it was not near the main road. Another challenge that was frequently mentioned was that the training period was really short. Participants were trained for five days: three days of theory, one day of practice and one day of evaluation. Hence most of them indicated this was not enough time. One interviewee said that:

> "The time management was good, but there was a lot of material that needed to be covered in many days and the training was only five days. It was an intensive training". (Physician, Male, 34 years old, Gahini)

Most interviewees suggested that the time used to cover theory alone could be ten days, with more opportunity to practice in a hospital setting. Several participants also indicated they practiced on mannequins only and did not have the opportunity to practice on real patients, because the trainers assume that they would practice when they are at work.

Another training challenge that was discussed by some of the nurses was the fact that they were mixed with midwives who already knew a lot more about the materials that were taught. This was a challenge as they struggle to follow the training

process at the same level as midwives. Also, some interviewees mentioned that there were institutions that would send a participant for training and at the same time schedule them for on-call night shifts, which meant that those on such schedules would go from training to work and back to training the following day, and thus made it difficult for them to concentrate on the courses. Another point that was raised by many interviewees was language difficulties. The training was offered in English, which was a barrier for participants whose language of education was French. The participants agreed that it would have been more helpful to have someone to translate the course materials and also the pretest materials, because some participants failed the courses not because they did not know the subject matter, but because they did not understand the questions in English. Some participants also reported that the content of the training was explained in both French and Kinyarwanda during the training sessions.

4.3.2.4 CPD Training Instructors

All interviewees mentioned that the instructors were competent in what they were teaching and that they showed excellent teaching capabilities. There were enough teaching materials and the instructors tried to allocate enough time for discussions and explanations about the content. Most of the participants reiterated that it would have been good to increase the time for practical demonstrations of skills. Since there was a large number of trainees, it was not possible to allocate enough time to each participant for skill demonstration and practice.

4.3.2.5 Upcoming CPD Activities

Some participants suggested that in the future health facilities should be informed early and given sufficient time to plan for their appropriate staff to go for training. This is because there were cases were people were trained, but did not use the CPD in the areas of the training expertise. Such people went for training only because they were available and asked by their institutions to go for training. Also, most interviewees highlighted that it would be important to increase the number of clinical cases that were discussed during the training and these should be given in working groups, so that people can work through how to handle such cases, while learning from each other. In the comments below, respondents advocated for the training of health professionals at health centers since they tend to work with many women.

> "It is important to allocate more time and provide training to health professionals in health centers, they are the ones who take care of many women and they are the ones who provide primary health care.... they send cases they cannot manage, it would be good to train them so that they can manage those cases". (Midwife, male, 32 years old, Kiziguro)

> "Training should be decentralized… we have 15 health centers, when people in health centers have been trained we see the impact in the numbers of cases that are transferred to the hospital…. Also if they know the diagnosis, they know when to transfer the women and the cases are managed on time". (Physician, male, 33 years old, Nyamata)

Several interviewees also pointed out that it would be helpful to give out certificates at the end of the training, so that they can make use of this, even outside their working environment. Participants also called for frequent training sessions to be given to many health professionals. This was stressed by an interviewee in a statement below:

> “The CPD training was very helpful. It would bring more impact if all the maternal health professionals could benefit from the training because one or two persons who are trained are not enough to bring desired impact. The training should also happen more often so that we keep updated about new skills and guidelines “. (Nurse, Female, 28 years old, Nyagatare)

Some midwives who were interviewed mentioned that they do not have opportunities to train others in the hospital and there are no frequent supervisions in hospitals to ascertain what is being done wrong and what needs to be corrected. This is partly due to their work loads and the number of cases they handle. In the comment below, a midwife called for the need to get together frequently to share ideas and skills:

> “In a hospital, we don’t have many roles to train others in the maternity services. My suggestion, as a midwife would be that we have the opportunities as maternal health professionals, midwives, physicians, nurses, and even others, to get together so that we can share knowledge and skills about the care of mothers”. (Midwife, female, 28 years old, Gahini)

As expected, one problem that is constantly faced by health institutions in Rwanda and elsewhere is staff turnover.

4.3.2.6 Turnover of Health Staff

For the hospitals of the Eastern Province where MNCHR project provided different CPD training, the turnover of CPD trained staff was assessed among health professionals who were trained in ALSO. In each hospital, nine health professionals working in maternal health (nurses, physicians, midwives) were trained in ALSO during the period of October 2012 to October 2013. This study examined the different reasons that were given as to why these health professionals left (Table 2).

Table 2: ALSO trainees' turnover per reason per hospital (October 2012 – August 2014)

Hospital	Total turnover	Turnover Reason: Studies	Better position	Other reasons
Nyamata	7	3	2	2
Rwamagana	6	2	1	3
Kirehe	7	4	2	1
Kibungo	6	2	2	2
Gahini	6	4	1	1
Kiziguro	4	1	2	1
Ngarama	3	1	1	1
Nyagatare	6	2	1	3

The reasons that were given for leaving their current position were: for a better job/remuneration, further studies and other reasons such low morale, or challenges from the administration.

Chapter 5

5 Discussion

The main objective of this study was to explore mothers' perceptions and experiences and the role of CHWs in maternal health care provision. Furthermore, the study aimed to explore health professionals' perceptions and experiences of CPD training aimed at improving maternal health. The results revealed several barriers that limit women's access to maternal healthcare services.

5.1 Mothers Perceptions and Experiences

The results of this study show that most participants are aware that they should use health facilities for maternal health services and participants were also aware of the type of maternal health services offered to mothers at health facilities. These results are consistent with studies on the perceived knowledge and needs of the utilization of health facilities in a number of developing countries such as a comparative study done by Künzel et al. (1996) on the maternal health perceptions in Mali, Togo and Nigeria and a study by Zere et al. (2007) on maternal health perceptions in Namibia (See also Filippi et al., 2006; Say and Raine, 2007). Nevertheless, the results here highlight the uncertainties of some mothers when it comes to knowing the types of health conditions they should be seeking attention at health facilities. Given the challenges women face, some participants discussed how sometimes women would tend to try and handle health issues on their own. Also women tend to contemplate when they should go for

antenatal care for the first time and how many times they should go before delivery. Invariably, these decision-making processes for antenatal care seeking continue to the point of when a pregnant woman is contemplating whether to go to a health facility for delivery and assistance. Yet underlying these decision making processes are the inherent challenges women face.

These findings are similar to what is in the literature on why pregnant women tend to delay seeking health care (See Myer & Harrison, 2003; Babalola and Fatusi 2009). Emerging from this study is the notion of delayed maternal care seeking in favor of what some participants reported to be traditional diseases that needed more attention. In this light, participants reported they did not seek maternal care during pregnancy because of their focus on a ranked ordered health issue. This finding is important in this context, considering that no study in Rwanda has yet reported how prioritizing health problems may be influencing access and use of maternal care services.

As expected, older mothers were more likely to report delivering at home instead of at a health facility. Although this is not a quantitative analysis, we found that none of the participants who opted to deliver at home was younger than 25 years old and all of them had experienced delivery before. This finding is important considering that the Rwandan Government is trying to reduce home-based deliveries by encouraging facility and skilled birth attendant deliveries. The fact that younger women are more likely to deliver at health facility may be because they are more educated and hence more responsive to government programs. Also it could be because of the lack of delivery

experience which is prompting young women to deliver at health facilities. Older women on the other hand are relying on previous birthing experiences and hence the likelihood of delivering at home.

The results on the barriers to access maternal health care service are consistent with previous studies in other contexts (e.g., Dixon et al., 2014). These barriers range from geographical barriers, whereby, both the mountainous geography of Rwanda and the limited number of health facilities prohibit mothers to use health facilities or enhance delays in seeking health care. Other studies have demonstrated that the geography of the terrain where women live and the distance used to reach the nearest health facility is a factor to its utilization. For example, in their study Gage & Guirlène (2006) stressed how geographical barrier is the main barrier towards the use of health facility for maternal health services especially in rural areas. A similar finding was reported in a study conducted in Afghanistan, which has similar relief to Rwanda and where the number of health facilities is also limited (Hirose et al., 2011).

Apart from geographical barriers, this study found that financial barriers significantly affect to the utilization of health care services. This finding has also been highlighted by several studies looking at the cost constraints to access maternal health care in developing countries. These include a study on the utilization of maternal health services in India by Navaneetham and Dharmalingam (2002) where the tribe and caste of a household, which are closely related to the economic status of that household, influence the use of health care services. In most of the cases related to economic barriers, women have to rely on their partners to pay for health care. For women who

are not economically dependent, this could lead to delays in seeking maternal health care if the partner is not willing to provide the financial support. Not only would this lead to poor maternal health outcomes but could also lead to misunderstanding in the household, which in turn could generate spousal conflicts or partner violence. A few participants in this study revealed that they rely on their spouses to pay all the costs related to health care. However, most of these were of a younger age and were mostly first-time mothers. On the other hand, women of an advanced age revealed that they have to look for their own finances to pay for health care. A participant revealed how her husband left her upon knowing that she was pregnant. This is linked to the involvement of men in maternal health.

Furthermore, a study in Southeastern Nigeria found that poor families tend to not use maternal health services and suggested subsidizing health care for women of reproductive age in order to increase their access to services and reduce maternal mortality and morbidity which are ranked among the highest worldwide (Onah, Ikeako & Iloabachie, 2006). Other studies that support this finding are related to the strategies used by some countries to reduce maternal mortality and morbidity, which include reducing financial barriers. The example of Sri Lanka's reduction of maternal mortality ratio in the past years from 61 in 1995 to 40.2 in 2010 (Senanayake et al., 2011) shows how the country made efforts to tackle financial barriers by subsidizing health care to women (Rannan-Eliya & Sikurajapathy, 2008).The same strategy was used by Ghana whereby mothers are provided free health care during the pregnancy and for delivery since the year 2008 where the revised National Health Insurance Scheme helps

pregnant mothers to benefit from free antenatal, delivery and postpartum services, a strategy that led to a steady increase in the use of maternal health services in Ghana (Mensah, Oppong & Schmidt, 2010; Dixon et al., 2014).

The possession of health insurance is associated with the use of maternal healthcare services in a health facility (eg. Say & Raine, 2007; Smith & Sulzbach, 2008; Dixon, Luginaah & Mkandawire, 2014). However, according to Jütting (2004) the socioeconomic status of a household defines its adherence to the community based health insurance whereby the poorest households maybe unlikely to enrol in these schemes. This finding is consistent with what was reported by the women in this study. Those who were in poor households indicated they were unable to enroll in the community health insurance schemes.

The findings suggest that men's involvement on maternal health related issues of their spouses has been minimal. Most women indicated that their partners/husbands are only involved in maternal health only during the very first stage of antenatal care because government legislation requires them to go with their wives to be tested of HIV/AIDS as a couple. This is mandatory for all the health centers of Rwanda and women who are not accompanied by their partners for the first antenatal visit need a special attestation from a CHW stating why the partner could not come. The same principle has been used in Malawi, where health providers strive to get men involved in the maternal health of their partners by using different strategies at both the community and health facility levels (Kululanga, Sundby & Chirwa, 2011). When men accompany their partners for antenatal care, they are also educated on other maternal health issues

and how they should support their partners during this particular moment. This is also one of the strategies that foster positive maternal health outcomes (Mullany, Becker and Hindin, 2007). A few women though highlighted that they would like their husbands help them at home in household activities. This finding is corroborated by research in Guatemala on husbands' involvement in maternal health (Carter, 2002). This study highlights how both men and women understand the husbands' involvement in maternal health as a necessity. It would be interesting to explore how Rwandan men and also men in the sub-Saharan Africa generally understand their role, which could be researched in further studies.

Since 2008, Rwanda has been the first and unique country in the world with the female majority in the parliament. This has contributed to improving gender equality in the country, a policy that has been emphasized after the genocide of 1994. During this time, there was a need to rebuild the country in all the sectors (political, economic, social, health, education) hence all the individuals were asked to work hand in hand to rebuild the country without any discrimination whatsoever (Burnet, 2011). However, there are still significant similar differences in the access and utilization of health care. According to the WHO (2011) situation analysis, only 17% medical doctors in Rwanda are females while females make up 66 % nurses. Even though not highlighted in this study, it has been observed that gender disparities in the working places can lead to poor quality of health provision or can lead to discomfort or lower self-esteem (Sen & Östlin, 2008), to the extent that such disparities can also influence who can go for training and how health teams work. The results of this study show that there is still a

long way to achieving gender equity, when it comes to mothers and the barriers to accessing and utilizing health facilities. Not only was this highlighted by mothers, but also by health professionals as well as community health workers who are the first point of contact of mothers in the communities.

The involvement of the extended family in the maternal health especially during the delivery period is consistent with findings from other studies (Simkhada, Porter & van Teijlingen, 2010). The results of this study show the uncertainty regarding the knowledge, access and use of family planning methods, which may be limiting the utilization of family planning methods. For example, some women expressed that they did not know when to start using contraception after delivery. The Government of Rwanda has opted to involve members of the community to improve the health conditions at the community level. The results of this study on the involvement of community health workers in improving maternal health therefore align with the Rwanda Community health policy (Ministry of Health, 2009) which elaborates how Community Health Workers are part of the health system, as they are involved at the community health level, which in return, is directly linked to the primary health care facility.

5.2 Community Health Workers and Maternal Health

The CHWs are the first point of contact for health care especially in remote communities to provide preventive, curative and promotional health services. Preventive health services include services such as immunization, family planning, provision of mosquito nets to pregnant women. The curative services include the management of under-five diseases. And the promotional services include all activities related to

behavior change such as health information, education and advices on maternal health and other health related issues. These include but are not limited to hygiene and sanitation, nutrition, immunization and child health, gender, mental health among others. Educational programs are provided to effect behavior change on attitudes and beliefs towards traditional medicine and how these could be a barrier to the use of maternal health services and hence poor maternal health outcomes.

CHWs provide maternal health in the local communities and in remote geographical locations they are the first points of contact. Furthermore, they sometimes have to follow women to the hospital. It therefore seems appropriate to provide them with resources aimed at improving maternal health. CHWs may also prove useful in the education of men on the important roles they can play during their spouses' pregnancy through to delivery and child care. This may also have an effect on women who deliver at home as the support from their husbands can be the difference. Training of CHWs on basic maternal care issues can also be used to improve maternal health outcomes at the community level. This may also help to reduce the lack of trust some women have towards CHWs.

Despite CHWs efforts, it seems there is a persistent use of traditional medicine by some women whereby some of them prefer to take herbal substances that they think benefit mothers before, during and after the pregnancy. Contrary to what is reported by Ernst (2002) that women who deliver at home are more likely to use herbal remedies, we found that most women use herbal remedies whether they delivered or not in a health facility. Consequently, it is imperative for the government to intensify public

health education with CHWs involvement against the use of herbal remedies by expectant mothers or those who have recently delivered especially given the lack of scientific knowledge of the herbal medicines in Rwanda. While trying to limit the use of traditional remedies, it is important to understand that these women may be operating out of desperation as they are unable to access timely and adequate care. Yet CHWs involvement has to be designed on the background of the persistent lack of trust between mothers and CWHs. Consequently to achieve better maternal health outcomes at the local level, it would be necessary to also train CHWs on the provision of better maternal care. Empowering CHWs would bring an impact on the ways mothers perceive the benefit of using maternal healthcare. This would bring positive influence on the use of maternal health services. Changes of perceptions on barriers to access maternal health care would bring a positive impact related to mothers' decision making in regard to the use of maternal health services.

5.3 CPD of Health Professionals

There is no doubt that mothers who receive satisfactory care would be more likely to utilize health facilities for care again. Given the findings of this study, there is a need to expand the CPD training to cover hospitals that were not covered under the auspice of the larger project. In fact given the impact of the CPD training reported by health professionals, it will be worthwhile for the Rwandan Government to consider scaling up this training model to other regions of the country.

Quality maternal health care includes good service to clients, provision of adequate health information, reduced wait times and the management of health

conditions. These can only happen with relevant knowledge, skills and an effective referral system. In this study, all of these characteristics were highlighted by participating women as issues that make them want to go to a particular health facility or not. Health professionals echoed these sentiments and emphasized that the cumulative impact of CPD training has led to an increase in the utilization of maternal services. These findings are consistent with those of Evans et al. (2005). The current findings also support the call by McTavish et al. (2010) for countries in Sub-Saharan Africa to strive to update the knowledge and skills of health professionals through CPD. Beyond the knowledge and skills gained by health professionals through CPD training, the emergence of improved inter-professionalism among workers goes to show the relative importance of CPD especially in a setting without sufficient health resources. Inter-professionalism can only go a long way to improve maternal health care that demands team work and frequent collective decision making (See also Mantovani et al., 2003).

Despite the positive impact of CPD training on maternal health in the current study context, some participants in this study raised important issues related to how the CPD sessions were organized. For instance, some of the sessions combined nurses, midwives and physicians together as a group. This may have led to the notion that training was not necessarily targeted at any group and may have led to some groups being unable to participate efficiently in the training. In addition to this, the hospital role comes crucial especially in the application of learned knowledge and skills, when the health professionals are trained while they are working for a given ward or health unit and are rotated after a certain period. This study found that in many cases, while the

CPD aim was to train trainers, the initial trainees do not have the opportunity to train their fellow health professionals. Consequently, with a limited number of health professionals who were trained, a lack of follow-up training of other works means the CPD knowledge will not be properly integrated into the health institutions.

Another interesting finding in regard to the implementation of CPD and the challenges hospitals face was on the turnover of health professionals in general and specifically those who have been trained. The results on the drivers of staff turnover for this study are similar to related studies. It was found that looking for opportunities (remuneration, better position, further studies, urban institution), and family related motives are the main factors for staff turnover among health professionals (Hayes et al., 2006; Mathauer & Imhoff, 2006). It should be noted that CPD training did not factor in issues of staff retention.

Furthermore, the findings reveal that empowering maternal health professionals (both healthcare providers and CHWs) is an important step in order to improve maternal health care. Based on the findings, CPD training should be designed and provided in such a way that all health professionals involved in maternal health care would benefit from them continuously. The training of CHWs alongside other health professionals is also crucial as CHWs play a primordial role in maternal health through maternal health promotion activities at the community level.

5.4 Contribution of the Research

The contributions of this study are related to the examination of potential structural barriers to maternal health care and the need for CPD to improve maternal health outcomes. We highlighted issues that contribute to the non-use of maternal health services and delays related to the utilization of maternal health services in the context of training that are provided to health professionals. For effective healthcare provision, it is necessary for health professionals to continue to update in their knowledge in order to provide quality care and in order for mothers to have positive experiences and perceptions of the care that is provided to them.

The geographical, financial and social barriers that emerged in this study indicate the need to understand mothers' experiences and perceptions when accessing maternal health care as Rwanda and other countries strive to reduce negative maternal health outcomes. Most importantly issues related to maternal health in the context of Rwanda that would be applicable to most of Sub Saharan Africa, such as the use of traditional medicine and remedies among expectant or lactating mothers were discussed. These are then highlighted in the context of CPD and how CPD training should be designed to impact the use of maternal health services. As expressed in this research, CPD programs would be successful with the willingness of the government to implement policies that target all the health professionals involved in maternal health care at all levels. At the same time, organizations involved in the design of CPD programs have a crucial role in insuring that the delivery of CPD programs targets the

needs of health professionals and ensure the mentorship of trainees to facilitate the application of acquired knowledge.

5.5 Directions for Future Research

This study led to areas of interest where future studies could be conducted. One of these includes a study on how the capacity building and empowerment of CHWs could impact the use of maternal health services and how CHWs contribute in reducing maternal deaths. In the context of Rwanda, where CHWs are involved in different activities related to health promotion at the community level, research could be conducted on the evaluation of CHWs service delivery in different fields (maternal health, chid health, nutrition, sanitation) and compare what has been their inputs to improve the situation in each of those fields in order to evaluate how other fields could be improved. It would also be of interest to explore in depth the timing of maternal health services use and the prioritization of health conditions in regard to the use of health services by mothers.

Several studies have been conducted looking at the impact of health insurance in impacting women’s access to maternal health services. However, this study showed a gap related to the use of maternal health services and possession of community based health insurance (CBHI), in the context of CBHI policy in Rwanda. It would be of importance to study how the CBHI policy structure impacts the enrollment in the scheme by mothers, which in return, affect the use of maternal health services. Furthermore, in this study we highlighted some of the views related to male involvement

in maternal health. It would be interesting to go further and explore gender imbalances in the utilization of maternal health services from both male and female's perspectives.

In conclusion, since this study was exploring the impact of CPD training, it would be of importance to conduct longitudinal studies that are looking particularly to the impact of CPD in the area of maternal health. This study focused on one component of CPD, the ALSO program. Hence, it would be useful to explore the inputs that result from different maternal health CPD programs so that such programs could be implemented and expanded to the countrywide scale. Lastly, a study in the context of CPD and maternal health could be conducted using a mixed methods research approach, using both qualitative and quantitative methods in the geographical context of Rwanda. Quantitative methods could help to have an image of the importance of barriers to access maternal health care in different parts of the country and how different training programs and other health promotion programs could be designed and implemented, taking into consideration the geographical differentiation of maternal health across the country. A quantitative approach would also help to know what programs are more beneficial for health professionals and CHWs in order to improve maternal health care. These could then be explored in deep using a qualitative methodology.

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Appendices

Appendix A: Western University Ethics Approval

Research Ethics

Use of Human Participants - Ethics Approval Notice

Principal Investigator: Dr. Isaac Luginaah
File Number: 103945
Review Level: Full Board
Approved Local Adult Participants: 0
Approved Local Minor Participants: 0
Protocol Title: Improving Maternal, Newborn and Child Morbidity and Mortality in Rwanda: The Impact of Continuing Professional Development Interventions
Department & Institution: Social Science\Geography,Western University
Sponsor:
Ethics Approval Date: August 02, 2013 **Expiry Date:** December 31, 2015

Documents Reviewed & Approved & Documents Received for Information:

Document Name	Comments	Version Date
Western University Protocol		2013/06/06
Other	Post-CPD Interview Checklist Key Informants/Health Professionals	2013/06/05
Other	Pre-CPD Interview Checklist Key Informants/Health Professionals	2013/06/06
Other	Indepth interview checklis CPD - during training	2013/06/06
Other	Focus Group Discussion Checklist - Women	2013/06/06
Other	Indepth Interview Checklist - Women	2013/06/06
Letter of Information & Consent	Letter of consent Focus Group Women July 24 2013	2013/07/24
Letter of Information & Consent	Letter of consent Health Professional Post-CPD July 24 2013	2013/07/24
Letter of Information & Consent	Letter of consent Health Professional Pre-CPD July 24 2013	2013/07/24
Letter of Information & Consent	Letter of consent InDepth Women July 24 2013	2013/07/24
Response to Board Recommendations	Response to REB Recommendations July 24 2013	2013/07/24

This is to notify you that The University of Western Ontario Research Ethics Board for Non-Medical Research Involving Human Subjects (NMREB) which is organized and operates according to the Tri-Council Policy Statement: Ethical Conduct of Research Involving Humans and the applicable laws and regulations of Ontario has granted approval to the above named research study on the approval date noted above.

This approval shall remain valid until the expiry date noted above assuming timely and acceptable responses to the NMREB's periodic requests for surveillance and monitoring information.

Members of the NMREB who are named as investigators in research studies, or declare a conflict of interest, do not participate in discussions related to, nor vote on, such studies when they are presented to the NMREB.

The Chair of the NMREB is Dr. Riley Hinson. The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

Ethics Officer to Contact for Further Information

✓ Grace Kelly (grace.kelly@uwo.ca)	Vikki Tran (vikki.tran@uwo.ca)	Shantel Walcott (swalcott@uwo.ca)

This is an official document. Please retain the original in your files.

Western University, Research, Support Services Bldg., Rm. 5150
London, ON, Canada N6A 3K7 t. 519.661.3036 f. 519.850.2466 www.uwo.ca/research/services/ethics

Appendix B: Letter of Information for In-depth Interview (Women)

Mothers' perceptions and experiences of accessing maternal healthcare: Exploring the Role of Community Health Workers and Continuing Professional Development in Rwanda

Dear participant;

We are seeking your assistance with a research study, where we would like to have your perceptions and experiences for Maternal Healthcare needs in Rwanda.
This study is being conducted to look at mothers' perceptions and experiences of accessing maternal healthcare while exploring the role of Community Health Workers and Continuing Professional Development training aimed to improving Maternal Health in Rwanda.

If you agree to participate in this study, you will be asked to respond to an interview questionnaire that will take approximately 45 minutes. Only you and the interviewer (researcher) will be present in the room where the interview is taking place. There are no known or expected risks associated with this study. Participation is completely voluntary. You indicate your agreement to participate in the study by completing the study consent form. You may refuse to participate, refuse to answer any questions or end the interview as you wish with no effect on you. Any information about participants will be anonymous and reported for as grouped data only. Your individual responses will be confidential to the research team.

With your permission, we would need to tape record the interview, for the accurate use of the information you would be sharing with us. The information will only be used for this research purpose and only the members of the research team will have access to

the data. The results of the study will be presented in publications and presentations without identifying you personally thus maintaining your confidentiality.
Upon completion of the study, all of the data and consent forms will be shredded.

Appendix C: Letter of Information for In-depth Interview (Health Professional)

Mothers' perceptions and experiences of accessing maternal healthcare: Exploring the Role of Community Health Workers and Continuing Professional Development in Rwanda

Dear health professional;

In order to evaluate the impact of Continuing Professional Development Interventions that are provided by the MNCH project to health care providers in the areas of Maternal, Newborn and Child Health in hospitals, we are seeking your assistance with a research study. This study is being conducted to look at the impact of CPD training in improving Maternal Health in Rwanda.

If you agree to participate in this study, you will be asked to respond to an interview questionnaire that will take approximately 45 minutes. Only you and the interviewer (researcher) will be present in the room where the interview is taking place. There are no known or expected risks associated with this study. Participation is completely voluntary. You indicate your agreement to participate in the study by completing the study consent form. You may refuse to participate, refuse to answer any questions or end the interview as you wish with no effect on your professional status. The health facility you work with will not be informed about your participation or non-participation in the study. Any information about participants will be anonymous and reported for as grouped data only. Your individual responses will be confidential to the research team. With your permission, we would need to tape record the interview, for the accurate use of the information you would be sharing with us. The information will only be used for this research purpose and only the members of the research team will have access to the data. The results of the study will be presented in publications and presentations without identifying you personally thus maintaining your confidentiality
Upon completion of the study, all of the data and consent forms will be shredded.

Appendix D: Letter of Information for Focus Group Discussion

Mothers' perceptions and experiences of accessing maternal healthcare: Exploring the Role of Community Health Workers and Continuing Professional Development in Rwanda

Dear community health worker;

We are seeking your assistance with a research study, where we would like to have your perceptions and experiences for Maternal Healthcare needs in Rwanda.
This study is being conducted to look at mothers' perceptions and experiences of accessing maternal healthcare while exploring the role of Community Health Workers and Continuing Professional Development training aimed to improving Maternal Health in Rwanda.

If you agree to participate in this study, you will be asked to participate in a focus group discussion that will take approximately 90 minutes. Only the group participants and the interviewer (researcher) will be present in the room where the discussions are taking place. There are no known or expected risks associated with this study. Participation is completely voluntary. You indicate your agreement to participate in the study by completing the study consent form. You may refuse to participate, refuse to answer any questions or end the discussion as you wish with no effect on your professional status. The health facility you work with will not be informed about your participation or non-participation in the study. Any information about participants will be anonymous and reported for as grouped data only. Your individual responses will be confidential to the research team.

With your permission, we would need to tape record the discussion, for the accurate use of the information you would be sharing with us.

The information will only be used for this research purpose and only the members of the research team will have access to the data. The results of the study will be presented in publications and presentations without identifying you personally thus maintaining your confidentiality.

Upon completion of the study, all of the data and consent forms will be shredded.

Appendix E: Consent Form

Mothers' perceptions and experiences of accessing maternal healthcare: Exploring the Role of Community Health Workers and Continuing Professional Development in Rwanda

I have read the Letter of Information, have had the study explained to me, and I agree to participate in the study voluntarily. All of my questions have been answered satisfactorily.

I give permission for the information I have shared to be used in this and possibly further studies by this research team on the condition that no identifying information will be associated with my interview contributions. I give permission for my data contributions to be used in presentations and publications of this study with no personal identifying information.

My signature represents that I have agreed to participate in the study.

Appendix F: Interview Guide (Women)

Mothers' perceptions and experiences of accessing maternal healthcare: Exploring the Role of Community Health Workers and Continuing Professional Development in Rwanda

CHECKLIST FOR RESIDENTS' IN-DEPTH INTERVIEWS

Preamble:

Hello my name is Germaine Tuyisenge, a master's student in the Department of Geography at Western University, Canada. This study seeks to investigate mothers' perceptions and experiences of accessing maternal healthcare while exploring the role of Community Health Workers and Continuing Professional Development in Rwanda.

TOPIC	QUESTION	PROBES
1.Background	Could you tell us about yourself and your family?	Age, location, marital status, number of children,
2. Woman's perceived need for utilization of health facilities	When do you think a woman should seek for maternal health care services?	Before pregnancy period, during pregnancy (at which stage?), delivery services, postpartum care?

	Where do you seek for maternal health care services?	Health center, Hospital, Private clinic, Traditional medicine?
	Describe your opinion of the health facilities?	- Are they needed? - pros, cons -
	Describe the kinds of services that are offered to pregnant women?	Pregnancy related services, family planning services, HIV/AIDS related services?
	Have you ever used any family planning methods?	
	Are you planning to use any family planning methods in the future?	
	What was your motivation about using (or not using) family planning methods?	
	What was the source of information about family planning?	- Family, market, radio, community health workers, other?
	Does your husband/partner support the use of family planning methods?	- Which services?
	Where do you get family planning services?	

	How did you hear about these services? Do you think that most women in Rwanda know about these services? Did you, or will you, use any of these services? How did you benefit from maternal healthcare services? Would say that maternal health care is important? When women deliver their babies which care provider is considered the best and why? What services would you expect from health care providers and how? (quality)	- Health, medical attention, safer? - What aspects? Prenatal, labour and delivery, postpartum, etc Doctor, Nurse/midwives, traditional birth attendants?

3. Experiences with and Perceptions of Quality of Health Care Workers and the Utilization of Health Facilities for Delivery	Did you go to a health facility during your last pregnancy? How many times do you think a pregnant should visit a health facility prior to birth? How often do you go to the health center or hospital? Was your last birth in a health facility? If not, why was it not in a health facility? when have you given birth in the past?	- Reasons? - When was the last time? - Why? health center, hospital - if not, where? home, etc.

	Who delivered your child? Could you tell me about your treatment the last time you went to the health facility? Could you describe how you were treated by the staff/nurses? Would say they treat the patients the same? Do you feel comfortable (going to) in a health facility? Are you satisfied with the services you get from health facilities?	Doctor, midwife, nurse, traditional birth attendant, etc. Positive or negative experiences? Will you continue to use or not? Waiting time, communication, information about health conditions? - Fair treatment? - Stigma, poor treatment from nurses?

4. Economic, Social, Cultural, or Geographic Barriers and Utilization of Health Care Facilities for Delivery	What are the challenges you face when accessing a health facility? Would you prefer using a traditional birth attendant than going to a health facility? Do you have health insurance? If yes, did you have at the time of delivery? If not, why?	- Time, cost, travel, children, family, perceptions/stigma, more important obligations? - Why? Easier, perceptions, treatment, religion, extended family, culture, hidden costs? - Too expensive? - Do you/ some people take out debts to access health facilities for delivery?

	What are your motivation for having health insurance? Are there any factors that affect your health care utilization? (family, religion) Are there certain times of the year when women are more likely to use a health facility? (Seasonality of work) or when it's harder to get to the health center? How do you access a health facility? Does accessing a health facility take too much time? Why? If facilities were closer are you more likely to use them? Why? Does your community support your use of maternal health care facilities for labour and delivery?	- Hinder? - Allow/prohibit utilization? - Rainy season/dry season? - Walk, transportation, traditional stretcher? Distance, walk, children? - Easier access? Proximity? Treatment? Waiting time? - Money? Transportation? Awareness?

5. Autonomy and Gender Barriers to Utilization of Health Care Facilities for Deliveries	Who in the household makes decisions about when to seek maternal health care? Where do you get money to pay for health care? Women have lots of responsibilities in daily life including at the home, on the farm, going to market, at work etc. Does all this work make it hard for women to deliver in a health facility? What kind of services do you get from maternal community health workers? What do you think is the role of community maternal health workers in improving maternal health? What do you think could be done to empower maternal community health workers?	- Men/husband, female/wife, joint, extended family? - From who? Why? - Can't take time off? - Too much work? - Can't afford the loss of productive time? Services-where? -access? -Sensitization on maternal health care services, provision of services (antenatal, delivery, information breastfeeding and post-partum care, family planning?) -Maternal health trainings, stipend, facilitation in their activities?

7. OTHER CONCERNS	Do you have any other types of concerns related to the utilization of health facilities for deliveries? How	

	would you rank these concerns? Have you always felt this way? How do you manage/deal with these concerns? How could these concerns be minimized? What direction do you want to see the government, health professionals and community take to improve the utilization of health facilities for deliveries?	Coping strategies: talk to neighbours, do nothing Better services? Easier access? Improved treatment in health facilities?

8. CONCLUSIONS	Is there anything more you would like to add?	

Appendix G: Interview Guide (Community Health Workers)

Mothers' perceptions and experiences of accessing maternal healthcare: Exploring the Role of Community Health Workers and Continuing Professional Development in Rwanda

CHECKLIST FOR COMMUNITY HEALTH WORKERS

Preamble:
Hello my name is Germaine Tuyisenge, a master's student in the Department of Geography at Western University, Canada. This study seeks to investigate mothers' perceptions and experiences of accessing maternal healthcare while exploring the role of Community Health Workers and Continuing Professional Development in Rwanda.

TOPIC	QUESTION	PROBES
1.Background	Could you tell us about yourself and your background as a community health worker?	Age, location, marital status, ,
2. CHWs experiences	Could you tell us what is your role as a community health worker, in regard to maternal health? (Type of services provided)	Information, Education, Communication on pregnancy, antenatal care, family planning, delivery in health facility, postpartum
	How would you describe the categories of women who seek of your help?	Age, marital status, household structure, proximity to the residence of CHW, economic status
		Health concerns, health conditions (family planning, pregnancy, postpartum

	From your experience are there circumstances in which woman seek more of your help than others?	period), information, advices,
3. Socio economic and gendered barriers	How do you deal with cases of women who do not seek your services or those who do not follow your advices?	More education, report to the health center
	What do you think are the main barriers that women face while seeking maternal health care in a health facilities	Perceptions, Accessibility/travel, household demands, cost, waiting times, poor treatment by health professionals
	How would you describe the role of men's involvement in maternal health care of their wives/ partners? As community health workers, how do you enhance that involvement?	Financial support, moral support, help for the household demands
4. Maternal health services and CHW opinions	From your experience, how would you describe the importance of maternal health services provided by CHW and the relationship to the services provided in health facilities?	Health education, antenatal care, family planning services, referral services (community to health center)
	How would you describe traditional medicine and the use of traditional birth attendants in your region?	
	Are there other beliefs that you would associate with maternal health and that have an impact on the use of health care services by women/ families? How do you deal with them?	Religious related, family related, community related

	Could you tell us about the challenges that CHWs face in providing maternal health services and increasing women's access to those services?	Accessing households, not enough time to dedicate to health related activities
	When you think of your role as a CHW, how would you describe the changes in the use of maternal health care services by women in the last five years?	Home based deliveries, access to health facilities, more women seeking CHW services
	What types of trainings do you get as CHW that help you to improve your work? Who are the providers of such trainings?	
	What do you think could be done to empower community health workers in their role to increase mothers' access to healthcare services?	More trainings, incentives increase the number of CHWs, facilitation in their activities.

8. CONCLUSIONS	Is there anything more you would like to add?	

Appendix H: Interview Guide (Health Professionals- Non CPD)

Mothers' perceptions and experiences of accessing maternal healthcare: Exploring the Role of Community Health Workers and Continuing Professional Development in Rwanda **CHECKLIST FOR IN-DEPTH INTERVIEWS**		
Preamble: Hello my name is Germaine Tuyisenge, a master's student in the Department of Geography at Western University, Canada. This study seeks to investigate mothers' perceptions and experiences of accessing maternal healthcare while exploring the role of Community Health Workers and Continuing Professional Development in Rwanda.		
TOPIC	**QUESTION**	**PROBES**
1. BACKGROUND	Could you tell us about your role as a health professional in regard to maternal and child care? Institution and year when have graduated from your training? Your age? How long have you been working here?	
2. QUALITY OF CARE	Can you tell us about the unit you work in? How would you describe the quality of care provision to mothers and children in this Institution? Would you describe to us any challenges to care provision? What would you say are some of the most pertinent challenges at your hospital?	- Types of services? -Availability? Staffing issues? -No time? -capacity of your institution

		-Communication difficulties with patients? -Communication with team members etc. -decision making? -referral system?
	What are your main concerns/worries about health care for Rwandans? Where do your concerns about the mothers and children rank relative to these? Have your concerns changed over time? Since when has your concerns changed? How? Why? -	-lack of access; medical care cost; -ignorance -traditional medicine -beliefs and attitude?
INSTITUTIONAL FACTORS	What institutional support systems help to facilitate mothers and child health care provision? Are these support systems delivered as you would expect? Why would do you say that? How would you describe the commitment of your staff to maternal and child issues? Are there any gender issues you have to deal with? Are any issues with hierarchy that you have to deal with?	-administration, management, competent staff, availability of resources? -availability of maternal and child health care services, drugs, protocols and policies? -evaluation and quality control committees? -Gender balance issues -lack of collaboration -No respect for others -it is a general problem? -
3.**CPD TRAINING**	How does your institution facilitate in-service training activities?	Attending CPD trainings (at your institution or outside), Learning center? Library? Availability of journals, manuals and protocols on maternal and newborn care? internet access

		? Knowledge sharing workshops?
	How would you describe the main challenges to CPD activities in your institution	-Anticipated challenges? Lack of time? No resources? Lack of management support? -Gender balance? -Feedback mechanisms
6. CONCLUSIONS	Is there anything more you would like to add?	

Appendix I: Interview Guide (Health Professionals- Post CPD)

Mothers' perceptions and experiences of accessing maternal healthcare: Exploring the Role of Community Health Workers and Continuing Professional Development in Rwanda

CHECKLIST FOR IN-DEPTH INTERVIEWS

Preamble:

Hello my name is Germaine Tuyisenge, a master's student in the Department of Geography at Western University, Canada. This study seeks to investigate mothers' perceptions and experiences of accessing maternal healthcare while exploring the role of Community Health Workers and Continuing Professional Development in Rwanda.

TOPIC	QUESTION	PROBES
POST-CPD TRAINING	How has the training influenced your approach to maternal and child health care?	-Confidence to perform mothers and child healthcare? -relevance of the CPD training to your daily care provision needs?
	What new skills would you say you have learned from CPD	- techniques, theories, formats, examples, documentation etc…
	What new approaches would you say you have learned from CPD	-communication, management, team work relationships, decision making?
CPD TRAINING ORGANIZATION	How would you describe the organization of the CPD training	-location (access, environment and learning atmosphere, time management?

CPD TRAINING INSTRUCTORS	Could you tell us your thoughts about the instructors for the CPD activity you were involved in, with regard to the overall objectives of the training?	Knowledge of the topic? Communication with trainers, availability learning materials, presentation of skills? Opportunity for discussion?
UPCOMING CPD ACTIVITIES	What do you think should be done to improve the upcoming CPD activities?	Like? Dislikes?
6. CONCLUSIONS	Is there anything more you would like to add?	

Appendix J: Curriculum Vitae

Name	Germaine Tuyisenge
Post-Secondary Education and Degrees	Western University Department of Geography London, Ontario, Canada 2013-2015 M.A.
	Annamalai University Department of Population Studies and Demography East African Branch, Rwanda 2010-2012 MA.
	University of Groningen Department of Population Studies Groningen, The Netherlands 2013 PG
	Kigali Health Institute Department of Environmental Health Sciences Kigali, Rwanda 2005-2007, B.Sc.
Related Work	University of Western Ontario Graduate Teaching Assistant 2014-2015
	Western University Health Projects in Rwanda Project Manager 2010-2013
Volunteering Work	Western University Health and Environmental Analysis Laboratory Field Researcher 2013-2014
Awards	Queen Elizabeth II Diamond Jubilee Award, 2015

Conference Presentations

Robert Macmillan Graduate Research in Education Symposium, Western University, Ontario, April 2015
"Continuing Professional Education in the Rwandan Maternal Health Care System: Success Stories and Challenges"

AAG Annual Meeting, Chicago, Illinois, April 2015
"Barriers to Accessing Maternal Health Care in Rwanda: Mothers and Community Health Workers Perceptions and Experiences"