**MATERNAL DEATH REVIEW PRACTICES AMONG NORTHERN ZONE HOSPITALS IN MALAWI.**

**BY**

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# DECLARATION

Declaration by candidate

This thesis is my original work and has not been presented for a degree in any other university.

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SN/PGMNH/03/15

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# DEDICATION

This thesis is dedicated to my dearest children Tisunge and Tifatse for moral support and patience while I was away.

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Almighty Father in heaven for the opportunity to study, the health and success in my study. Great has been your faithfulness because you did not fail me.

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# ABSTRACT

**Background**: Globally, about 287,000 maternal deaths occur each year. Sub-Saharan Africa has the highest maternal mortality ratio of 546 maternal deaths per 100,000 live births compared to a global maternal mortality ratio of 216 despite that 80% of maternal deaths are avoidable. WHO recommends Maternal Death Review as one of the cost effective, adaptable and evidence-based strategy for low resources countries to reduce maternal deaths. In Malawi despite institutionalizing the Maternal Death Reviews, maternal mortality remained unacceptably high, 574/100,000 in 2014. This study explored Maternal Death Review practices among hospitals in Malawi.

**Method:** This was a qualitative study done in the Northern Health Zone of Malawi. Eight Focus Group Discussions were conducted between January and February 2017 with Maternal Death Review committees and midwives working in maternity ward from four sampled hospitals. Three officers from the Northern Health Zone also participated in in-depth interview. Both Focus Group and in-depth interviews were audio recorded and transcribed. Ethical approval was sought from Moi/MTRH IREC and National Commission for Science and Technology, Malawi. Thematic analysis was used to create subthemes and themes.

**Results**: Nine themes emerged namely; comprehending MDR concepts, responding to maternal death, improving quality of care, closing knowledge and skill gaps, avenue for blaming game, logistic challenges, limited understanding of MDR process, poor implementation of MDR action plan and making MDR effective. Findings of the study show that there are still gaps with Maternal Death Review process in all the four hospitals. These include poor feedback, lack of personnel commitment, blaming and limited financial resources.

**Conclusion:** Despite many perceived benefits, Maternal Death Review practices in district hospitals in Northern Health Zone need improvement. Maternal Death Review teams require more technical and financial support.

**Recommendation**: The study recommends need for sustainable financial resources for the implementation of Maternal Death Reviews action plans in district hospitals. Capacity building on Maternal Death Review processes should be done to all clinical staff members to enhance their understanding. The criteria based clinical audits and near miss reviews should be made formal in all facilities to eliminate fault finding.

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# LIST OF ACRONYMS

**CARMMA** Campaign on Reduction of Maternal Mortality in Africa

**CEMD**  Confidential Enquiry into Maternal Death

**CHAM** Christian Health Association of Malawi

**DHMT**  District Health Management Team

**DIP**  District Implementation Plan

**FBMDR** Facility Based Maternal Death Review

**FGD**  Focus Group Discussion

**LMICs**  Low and Middle-Income Countries

**MDGs**  Millennium Development Goals

**MDR**  Maternal Death Review

**MDSR**  Maternal Death Surveillance and Response

**MNDR** Maternal and Neonatal Death Review

**MNH**  Maternal and Neonatal Health

**MOH**  Ministry of Health

**MPDR**  Maternal and Perinatal Death Review

**NCCEMD** National Committee on Confidential Enquiry into Maternal Death

**NHZO** Northern Health Zone Office

**NSO** National Statistical Office

**ORT**  Other Recurrent Transaction

**SDGs** Sustainable Development Goals

**WHO**  World Health Organization

# DEFINITION OF TERMS

**Maternal death**: “death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to- or aggravated by- the pregnancy or its management, but not from accidental or incidental causes” (WHO, 2004b).

**Maternal death review**: “a qualitative, in-depth investigation of the causes and circumstances surrounding maternal deaths that occur at health care facilities, at home or anywhere else” (WHO, 2004a).

**Maternal Death Surveillance cycle: “**an ongoing process of identifying cases, collecting and analysing information, using it to formulate recommendations for action, and evaluating the outcome” (WHO, 2004a).

**Maternal Death Surveillance and Response:** identification, notification, quantification, determination of causes and avoidability and response to provide essential information to stimulate and guide actions to prevent future maternal deaths and improve the measurement of maternal mortality (Hounton et al., 2013).

**Community-based maternal death review**: “a method of finding out the medical causes of death and ascertaining personal, family or community factors that may have contributed to the deaths of women who died outside of a medical facility” (WHO, 2004a).

**Facility-based maternal deaths review:** It is “a qualitative investigation of the causes of and circumstances surrounding maternal deaths which occur at health care facilities”(WHO, 2004a).

**Near miss maternal review or critical case review***:* review of “any pregnant or recently delivered woman (within six weeks after termination of pregnancy or delivery), in whom immediate survival is threatened and who survives by chance or because of the hospital care she receives” (WHO, 2004a).

**Confidential inquiries**: A systematic multi-disciplinary anonymous investigation of all or a representative sample of maternal deaths occurring at an area, regional (state) or national level to identify the numbers, causes and avoidable or remedial factors which are associated with them (WHO, 2004a).

## CHAPTER ONE

# INTRODUCTION

## 1.1 Background information

Every maternal death is devastating, leaving behind families and orphans and remain a huge burden worldwide. Maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes (WHO, 2004b).

Globally, about 287,000 women died of pregnancy related complications in 2010 (WHO, 2015). Among developing regions, sub-Saharan Africa has the highest maternal mortality ratio of 546 maternal deaths per 100,000 live births in comparison to a global maternal mortality ratio of 216 (WHO, 2015). The maternal mortality ratio in developed regions is 12 maternal deaths per 100,000 against 239 maternal deaths per 100,000 in developing countries (WHO, 2015). Women of reproductive age in Sub Saharan Africa have a 1:41 chance of dying as a consequence of childbirth compared to 1:3300 in high income countries (WHO, 2015). This shows that the burden of high mortality in Sub Saharan Africa cannot be overemphasized and effective interventions need to put in place to reduce and end such deaths.

The tragedy is that almost all of these deaths are preventable and that about 80% of the causes of maternal deaths are avoidable (Abouchadi, Alaoui, Meski, Bezad, & De Brouwere, 2013; De Brouwere, Delvaux, & Leke, 2014; Thorsen, Sundby, Meguid, & Malata, 2014).

Maternal deaths reveal the women’s basic health status and the magnitude of care by the society towards its women which calls for the immediate reduction and prevention of these high maternal deaths in all countries (Paul, Sen, Kar, & Mohapatra, 2013).

Many of these deaths could be prevented through timely interventions that have proven to be effective and affordable (De Brouwere, Delvaux, et al., 2014; WHO, 2004a). In 2003, WHO and its development partners introduced Maternal Death review to all African countries and urged all to institutionalize it at the health system level (Musoke & Balogun, 2015). Maternal Death Review identifies social and medical causes and circumstances of maternal deaths and compares the current practice with standards set to improve the quality of care thereby preventing the occurrence of similar death in future. (De Brouwere, Zinnen, Delvaux, Nana, & Leke, 2014; Dzoole, Pindani, & Maluwa, 2015).

There are five approaches to Maternal Death Review; Community Based Maternal Death Review or verbal autopsy, Facility Based Maternal Death Review, Near Miss Maternal Review) or Severe Morbidity Review, Criterion- Based Clinical Audit and Confidential Enquiry into Maternal Death (CEMD) (WHO, 2004a).The success of these approaches depends on effective use of ongoing Maternal Death Surveillance Cycle, individual responsibility and ownership of health workers towards reviews, an environment that encourages learning to improve quality of care and a supportive political and policy environment (Lewis, 2014b).

Globally each country conducts one or a combination of the five MDR approaches (De Brouwere, Zinnen, Delvaux, Nana, et al., 2014). The UK CEMD has the longest history which started in 1952 and has helped to reduce maternal mortality ratio which was at 9/100,000 in 2014 from 12/100,000 (Kurinczuk et al., 2014; Lewis, 2014b). Consequently, the UK CEMD is recognized as an international ‘gold standard’ for MDR due to its long history and success. It has since been modified and adopted for other high, middle and low-income countries (Achem & Agboghoroma, 2014; Lewis, 2014b; WHO, 2004a).

South East Asian region countries like Sri Lanka, Nepal, India, and Maldives conduct Maternal and Perinatal Death Review (MPDR), while other low-income countries like Bangladesh conduct Maternal and Neonatal Death review (MNDR). Though terminologies are different, MNDR and MPDR include neonatal mortality reviews but the approach is the same with MDR. (Biswas, Rahman, Halim, Eriksson, & Dalal, 2014).

African countries also took a collective action to improve maternal health and reduce maternal mortality. This is enshrined in the “Maputo Plan of Action; African Union Campaign on Reduction of Maternal Mortality in Africa (CARMMA) (Dartey, 2012). This has resulted in the development of maternal and newborn roadmaps that focus on among other interventions, to establish and conduct Maternal Death Reviews in a bid to prevent and reduce maternal mortality (Bernis & Wolman, 2009). Between 2003-2007, WHO, oriented and introduced MDR methods to thirty-four countries such as; verbal autopsy; facility-based MDR and near miss reviews (Musoke & Balogun, 2015).

Malawi started conducting Maternal Death Review and maternal death became notifiable in 2003 basing on the WHO recommendations. The Ministry of Health (MOH) developed MDR tools and in 2008 the verbal autopsy tools were also developed (Mataya, 2015). The MOH then constituted a National Committee on Confidential Enquiry into Maternal Deaths (NCCEMD) in 2009 (Mataya, 2015). This was set to overlook the MDR activities in different hospitals and compile a report about maternal deaths and possible recommendations to be carried out at national and district level to avert maternal deaths (Mataya, 2015). Secondary and tertiary health facilities conduct facility and Community Based Maternal Death Review alongside the CEMD at the zone level. Currently, the WHO is advocating for Maternal Death Surveillance and Response (MDSR) which builds on the work done through MDR to accelerate the reduction of maternal deaths (Achem & Agboghoroma, 2014; Hounton et al., 2013; Musoke & Balogun, 2014).

## 1.2 Problem Statement

Women continue to die from preventable complications of pregnancy and childbirth. (Agaro et al., 2016). This is due to poor quality of care in obstetric which is linked to shortage of skilled birth attendants and poor emergency obstetric services to deal with these maternal and neonatal complications. World Health Organization recommended Maternal Death Review as a cost effective and evidence-based strategy to improve the quality of maternal care. Reviews can help to prevent and reduce 80% of preventable direct cause of maternal deaths (Dzoole et al., 2015).

Malawi started conducting Maternal Death Reviews and maternal death became notifiable in 2003. Despite institutionalization of Maternal Death Reviews in the secondary and tertiary health facilities, the maternal mortality ratio remains unacceptably high at 675/100,000 live births in 2010 and 574/100,000 in 2014 (National Statistical Office (Malawi) & ICF Macro, 2011; National Statistical Office, 2015). Specifically, for the Northern Health Zone, maternal mortality ratio increased from 66/100,000 live births in 2013-2014 to 87/100,000 live births in 2014-2015 despite conducting regular MDRs among the health facilities(Ministry of Health, 2016; Northern Health Zone Office (NHZO), 2015). This study therefore aims at exploring Maternal Death Reviews practices among hospitals in Northern Health Zone of Malawi.

# 1.3 Significance of the study

Maternal Death Review is one of the health care responses to maternal mortality. Effective implementation, use and understanding the purpose of Maternal Death review is paramount in the reduction and prevention of avoidable maternal deaths. Malawi did not meet the MDG 5 target of maternal mortality ratio of 155/ 100,000 by the end of 2015. In order to fulfil SDG 3.1, which calls for global reduction of maternal mortality ratio to less than 70 per 100,000 live birth by 2030, effective use of Maternal Death Review needs to be intensified as it is a proven strategy that is applicable to low resource countries to improve quality of care hence reducing the high maternal deaths (Børge & Bent, 2015; Gaffey, Das, & Bhutta, 2015; WHO, 2004a).

The findings from the study mayhave implications for policy making and implementation, practice of the health workers, the existing body of knowledge and education preparation. The health facilities may use the findings to formulate and improve on in-service training health care workers to effective Maternal Death Reviews.

The training institutions may use the findings to include Maternal Death Review as part of clinical competence. The evidence may be used as a platform to share best practices among the facilities on effective MDR in the zone.

The zonal Health Office may benefit from the study as it will provide current evidence which may improve their supportive supervision in MDR among the hospitals. These findings may also be used to inform further research on MDR practice in other health zones of the country.

# 1.4 Research questions

What do MDR committee members, maternity midwives and zone health officers understand the MDR process to be?

What are the perceptions of MDR committee members, maternity midwives and Zone Health Officers towards Maternal Death Review process?

What are the challenges faced by MDR committee members, maternity midwives and Zone Health Officers with Maternal Death Reviews?

What are the potential solutions MDR committee members, maternity midwives and Zone Health Officers suggest for effective Maternal Death Reviews?

### 1.5. Objectives

### 1.5.1 Broad objective

The main objective of this study is to explore maternal deaths review practices among hospitals in the Northern Health Zone of Malawi.

## 1.5.2 Specific Objectives

1. To explore understanding of MDR process among district MDR committee members, maternity midwives, and Zone Health Officers.
2. To describe the perceptions of MDR committee members, maternity midwives and Zone Health Officers on MDR process.
3. To identify the challenges faced by MDR committee members, maternity midwives and Zone Health Officer with MDR process.
4. To identify potential solutions from MDR committee members, midwives working in maternity and Zone Health Officer for effective maternal death review process.

## CHAPTER TWO

# LITERATURE REVIEW

# 2.1 Introduction

This chapter presents a review of literature related to maternal death review to put the study in context. The focus is on the concept of Maternal Death Review, the magnitude of maternal death in Africa and the causes of maternal death. The global and regional policy responses to maternal death, Maternal Death Review approaches, the Maternal Audit cycle of Maternal Death Review and the success and bottlenecks associated with Maternal Death Review are also covered in the literature review.

## 2.2 Definition of Maternal Death

Successful Maternal Death Review hinges on the clear understanding of the definition of maternal death and the related concepts. This helps to standardize cause of maternal death attribution, avoid misclassification and underreporting, and provide a good basis for national and international comparisons (Lewis, 2014a). This facilitates advocacy, research, resource allocation, and planning of programs aimed at reducing maternal death

World Health Organization (2004b) defines maternal death as “a death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.” Malawi use this definition while countries like Unites States of America and the United Kingdom have extended the duration to one year. This help to ensure the inclusion of all pregnancy-related deaths particularly late indirect deaths such as cardiac disease or postpartum mental health problems which are becoming common and are a concern in quality of care (Berg, 2012; Lewis, 2012; Saucedo, Deneux-Tharaux, & Bouvier-Colle, 2013).

## 2.3 Magnitude of Maternal Death

The Sub Sahara African region has the highest burden of maternal death. Eighteen countries in the region have very high Maternal Mortality Ratio between 999 and 500 with Sierra Leone estimated to have the highest at 1360/100,000 live births (WHO, 2015). Highest estimated mortality lifetime risk is in Sierra Leona and Chad at 1 in 17 and 1 in 18 respectively. Meanwhile, the estimated lifetime risk of maternal mortality in High income countries is low at 1 in 3300 compared to 1 in 41 in Low and Middle income countries (WHO, 2015).

Sub Saharan Africa (56%) and Southern Asia (29%) accounts for 85% of the global burden of maternal mortality (Thorsen et al., 2014). At country level, India 19% (56,000) and Nigeria 14% (40,000) contribute to a third of global maternal deaths of 287,000 (Hofman & Mohammed, 2014; WHO, 2015).

Malawi is among top fifteen countries in Sub Sahara Africa with high maternal mortality ratio (Mgawadere, 2014). Analysis of the trends of maternal mortality ratio over the past eighteen years shows unsatisfactory maternal mortality reduction. In 1992 the ratio was at 620 and it almost doubled to 1120 in 2000 with a slight decline in 2010 to 675/100,000 (National Statistical Office (Malawi) & ICF Macro, 2011). The Malawi MDG Endline Survey of 2014 estimated the MMR at 574/100,000 live births. Thus Malawi did not attain the MDG 5 target to reduce the MMR to 155/100,000 by end of 2015 despite institutionalizing maternal death review (Gaffey et al., 2015; King, 2013; National Statistical Office, 2015).

Besides maternal deaths, about 10 million women globally are left with life-long complications of child birth every year (WHO, 2015). These complications include neurological sequelae, rectovaginal and vesicovaginal fistula, severe anaemia and infertility (Dartey, 2012).

The effects of these maternal deaths are felt by everyone as portrayed in the "Pebble Analogy" by King (2008) in which he likened "maternal death as tossing a pebble into a placid pond of water." This creates ripple effects that affect her child, other children, partner/significant others, extended family, midwives, physicians, colleagues at work and the community at large (King, 2013). Thus, Maternal Death Review are still needed to improve quality of care which in turn will prevent more deaths and it devastating effects.

# 2.4 Causes of Maternal Death

Numerous studies have reported direct and indirect causes of maternal deaths through Maternal Death Reviews. This is crucial to ensure that effective and reliable monitoring and evaluation of interventions for reducing maternal mortality are implemented

Direct causes of maternal death result from “obstetric complications of the state of pregnancy, labour and puerperium, from interventions, omissions, incorrect treatment, or a chain of events resulting from any of the above”(WHO, 2004b). Globally, the common direct causes are obstetric haemorrhage, unsafe abortion, sepsis and hypertension and its complications such as pre-eclampsia and eclampsia which account for 80% of avoidable direct maternal death causes (De Brouwere, Delvaux, et al., 2014; Dzoole et al., 2015). Worldwide, obstetric haemorrhage is the leading cause of maternal death seconded by hypertensive disorders (Abouchadi et al., 2013; Gaffey et al., 2015; Mgawadere, 2014).

Indirect deaths are those “resulting from a previously existing disease or a disease that developed during pregnancy and which was not due to direct obstetric causes but which was aggravated by the physiological effects of pregnancy”(WHO, 2004b). In LMIC especially in Sub Sahara Africa, the leading indirect cause is HIV/AIDS as well as anaemia and malaria (Madzimbamuto et al., 2014; Mlambo, Chinamo, & Zingwe, 2013; WHO, 2015). On the hand, suicide following puerperal psychosis though not yet recognized internationally, obesity and cardiomyopathy are the most indirect causes in high income countries (Lewis, 2012; Saucedo et al., 2013).

The three-delay model by Thaddeus & Main (1994), summarizes contributing factors to maternal death with the first two delays at family/community level and the third at the facility level. In most LMICs, maternal deaths are associated with long distances to the health care facilities, financial constraints, poor communication and transport, weak referral links, harmful cultural beliefs, weak community participation and involvement, and low-quality of care in some health facilities **(**Dartey, 2012; De Brouwere, et al., 2014; Vink, De Jonge, Ter Haar, Chizimba, & Stekelenburg, 2013). Both the direct and indirect causes and contributing factors of maternal death can be prevented if Maternal Death Reviews are effectively used because the goal is to improve quality of care.

## 2.5 Policy Response to Maternal Death

Since 1980s, several International conferences have put the huge burden of maternal death on the spotlight (Dzoole et al., 2015; Lewis, 2014a). These include Safe Motherhood Initiative in 1987, the 1994 International Conference on Population and Development and the Women Deliver conferences held in 2007 and 2010 respectively. The main agenda has been to reduce the burden of maternal death and ill-health in developing countries by offering family planning, promotion of antenatal care, improving essential obstetric care and addressing the socio-economic status of women (Dzoole et al., 2015).

The United Nations Millennium Declaration of 2000 included MDG 5 which aimed at reducing maternal mortality by 75% by 2015 (Nisar & Sohoo, 2010). African leaders collectively took action to improve maternal health and reduce maternal and neonatal morbidity and mortality as stipulated in CARMMA, Protocol on Rights of Women in Africa and Sexual and Reproductive Health and Rights Continental Policy Framework (Dartey, 2012). Eventually, road maps for improving maternal and new born health were developed with focus on establishing and conducting Maternal Death Reviews (Dartey, 2012).

Currently, with the end of MDG era in 2015, the United Nations Sustainable Development Goals (SDGs) 3.1, calls for global reduction maternal mortality ratio to less than 70 per 100,000 live birth by 2030 (Børge & Bent, 2015; Gaffey et al., 2015; WHO, 2015). This confirms the much needed effort to prevent and reduce the persistently high maternal mortality in Sub Saharan Africa, Malawi inclusive since most countries did not attain the MDG 5 target (Lewis, 2014; Michelle, et al, 2015).

# 2.6 Maternal Death Review Concept

MDR is an depth narrative analysis of issues surrounding maternal death either in health facility or at home (WHO, 2004a). Maternal Death review is a cost effective strategies to avert of high maternal mortality in poor resource countries (Musoke & Balogun, 2015; WHO, 2004a). Currently, MDRs are included in the national health policies of the majority of countries that contribute to 95% of global maternal deaths (Mathai, Dilip, Jawad, & Yoshida, 2015). Apart from identifying social and medical causes and circumstances, Maternal Death Review creates learning opportunities to prevent the occurrence of similar deaths in future. More importantly, MDRs also assist to promote, protect and fulfill the commitment outlined in the right to health, and the right to life in respect of preventable maternal deaths in the community (Dartey, 2012; Owolabi et al., 2014; Thorsen et al., 2014; WHO, 2015).

The term “review” is mostly used than “audit” because many parts of the world do not routinely use evidence based criteria when conducting “audit” consequently, conducting “review” helps to generate these evidence based criteria (Lewis, 2014a). Although some use the two terms interchangeably, “review” is the most commonly used (Achem & Agboghoroma, 2014; Hofman & Mohammed, 2014; Muchemi & Gichogo, 2014).

A legal framework that covers confidentiality, immunity, and access to records is crucial for the success of MDR (Berg, 2012). Hoffman & Mohamed, (2014) pointed that the main principles of successful MDR as anonymity, confidentiality, non- threatening environment and commitment to act on the recommendations. WHO recognizes these guidelines which if effectively implemented will result in improved quality of care in maternal healthy thereby preventing and reducing maternal deaths (WHO, 2004a).

### 2.6.1 Maternal Death Review Approaches

WHO, (2004) outlined five approaches to MDR namely; community based maternal death review or verbal autopsy, facility based maternal death review, confidential enquires into maternal death (CEMD), near miss maternal death review and criterion- based clinical audit.

The choice of which approach to use depends mainly on the appropriateness of the level for the review and the choice of cases to study (WHO, 2004a). Community based maternal death review are done at community level to find out the medical causes and contributing factors of the maternal death outside of health facility (WHO, 2004a). It complements facility based maternal death reviews and provide an opportunity for community and health workers to collaborate in preventing and ending maternal deaths (Bayley et al., 2015; Dzoole et al., 2015; Singh et al., 2015).

Facility based maternal death review is a qualitative, in-depth investigation of the causes of and circumstances surrounding maternal deaths occurring at health facilities. This is the most widely used approach among low and middle countries to identify the causes of maternal deaths (Fuke, Sukhsohale, & Fusey, 2015; Mohammed & Ameh, 2012; Owolabi et al., 2014).

Near miss maternal review is a different approach from the others because it involves review of maternal cases that have survived death whether by chance or care they received in the hospital (WHO, 2004a). This approach is now advocated for since the fear of blame is eliminated because the mother survived and such cases are common than maternal deaths (Luz, Osis, Ribeiro, Cecatti, & Amaral, 2014; Rulisa, Umuziranenge, Small, & van Roosmalen, 2015).

Clinical audit is used for both maternal death or near miss maternal cases in which management of the cases is examined against explicit evidence based criteria to improve quality of care and bring change (Nyamtema, de Jong, Urassa, & van Roosmalen, 2011; WHO, 2004a).

Confidential Enquiry into Maternal Death (CEMD) are multidisciplinary national level review of sampled maternal deaths to identify avoidable or remediable factors that can inform national policy formulation and change in the management of maternity services (Lewis, 2012; Mataya, 2015; Ratsma, Lungu, & Hofman, 2006).

### 2.6.2 Maternal Death Surveillance and Response Concept

In 2012, the WHO introduced Maternal Death Surveillance and Response (MDRS) after realizing that most countries, especially in Sub Saharan Africa, were off track for MDG 5 and unlikely to meet its target in 2015 (Hounton et al., 2013). MDSR is a form of continuous surveillance linking health information system and quality improvement processes from local to national level (Achem, Agboghoroma, & Adeoye, 2014; Mathai et al., 2015). MDSR provides a surveillance tool for timely information on where, when, and why maternal deaths occur, builds on maternal death reviews, and includes the missing "response" component for improving the quality of care and preventing maternal deaths (Muchemi & Gichogo, 2014). Consequently, implementation of MDSR depends on work already undertaken by MDR in the facilities making maternal death review an essential component of MDSR (Hounton et al., 2013).

Eastern and Southern Africa countries have introduced MDRS with support from UNFPA and other partners though not yet at its best (Scott & Dairo, 2015). For example, Kenya adopted MDRS guidelines in 2014 (Smith et al., 2017). Though relatively new concept in Malawi it has improved community involvement in the verbal autopsy (Konopka, 2015). The main challenge is health workers' reluctance to report maternal deaths for fear of being blamed and subsequently disciplined. Lewis, (2104b) advised on importance to continue to support existing local MDR initiatives as they offer local solutions which are timely than MDRS which has the national focus. Armstrong et al, (2014) strongly recommend that effective FBMDR should remain central to continuous quality improvement culture and mechanism of accountability within the facility. Thus, MDRs are at the hub of quality maternal care to prevent and reduce maternal deaths and need to be strengthened to achieve the intended purpose.

# 2.7 Experiences with MDR process implementation

Globally, many countries conduct MDR using either one approach or a combination of the five approaches. Both success stories and difficulties faced with MDRs are reported in literature (Lewis, 2012, 2014b; Mathai et al., 2015).

### 2.7.1 Success stories of Maternal Death Reviews

The UK CEMD is one of the success MDR globally and it's a ‘gold standard’ of MDR worldwide (Lewis, 2012). Its success is based on the philosophy of taking every maternal death as a mother who dies before her time and learning from that event to save more lives of the mother in future (Lewis, 2012). The CEMD is part of professional learning and practice among all health workers. Eventually, every health worker, participates in professional development and self- reflective learning.(Lewis, 2014b). True confidentiality and anonymous nature of the process and use of multidisciplinary committee has made the health workers be fully committed to prevent and reduce maternal deaths (Kurinczuk et al., 2014).

Currently, several low- and middle-income countries have introduced national CEMD or are in the process of doing so. Examples include Indonesia, Israel, Tunisia, Kenya, and Malawi. However, in some countries reports are not published and as such its impact is not felt so much (Mataya, 2015; Mathai et al., 2015; WHO, 2004a). Other challenges are lack of civil registration for birth and death certificates which is common in many LMICs and lack of technical assistance and underreporting of the magnitude of the problem. Despite these obstacles , South Africa, Malaysia, Egypt and Jamaica are among countries that have reduced MMR due to use of CEMD recommendations and willingness to implement change to improve the quality of care (Achem & Agboghoroma, 2014).

In South East Asian region, MNDR in Bangladesh resulted in visible and tangible changes in the care seeking and client satisfaction which helped to prevent maternal and neonatal deaths (Biswas et al., 2014). Interestingly, Bangladesh has made remarkable progress in achieving MDG 4 and 5 over the past two decades, with reduction of maternal mortality ratio from 574/ 100,000 in 1991 to 194/100,000 in 2011(Biswas et al., 2014).

Similarly, in Rwanda the reduced MMR over the last decade was in part due the implementation of audit recommendations and commitment from health workers to bring change (Sayinzoga et al., 2016). Political stability and policy change focusing on health care improvement has also greatly contributed to this success story (Rulisa et al., 2015). Rwanda was ranked as the country with the highest average annual rate of maternal death reduction and one among eleven countries ‘on track’ to achieve MDG 5 (Sayinzoga et al., 2016). In Cameroon, MDR has enhanced better understanding of the circumstances contributing to the maternal deaths and resulted in full support of the MDR by the hospital directors, the introduction of MDR in midwifery school training curricula and better case and hospital service management (De Brouwere, Delvaux, et al., 2014). A study done in rural hospital in Malawi appreciated the benefits of facility based maternal death review like development of protocols in management of meningitis in pregnancy which was common cause of maternal deaths between 2007 to 2011, establishment of women’s group and bicycle ambulance committees to address the second delay (Vink et al., 2013).

Similarly, CEMD reports’ recommendations in France helped to develop their first national clinical guideline for management of postpartum haemorrhage, a leading direct cause of maternal death worldwide (Saucedo et al., 2013). Another study in Tanzania noted that using clinical audit improved patient care, knowledge and behavioural change in patient care and cost effective use of resources. This was a result of implementing the recommendations made and prompt feedback by the audit team (Nyamtema et al., 2011). In India, use of MDR led to change in organization status that contributed to 24 hours availability of emergency obstetric service (Raj, Maine, Sahoo, Manthri, & Chauhan, 2013). Nigeria initiated quality of care improvement programmes and mobilization of resources through hospital management, community and the state. This was a result of using facility based maternal death reviews recommendations and acting on them (Hofman & Mohammed, 2014).

Achem et al, (2014) noted that global support, political will, technical innovations, and increased financial resources provide an ideal opportunity to make MDR a reality for all countries. In Kenya, the support from Cabinet Secretary for Health has been instrumental in improving implementation of facility-based MDR and central coordination of MDSR (Smith et al., 2017). Additionally, within the facility three interdependent supportive cultural factors , individual responsibility and ownership; a proactive institutional ethos which promotes learning as a crucial part of improving services and quality of care; and a supportive political and policy environment at a national and/or local level should be enforced to ensure a positive and enabling environment for successful MDRs (Lewis, 2014b). A study done in Burkina Faso, Niger and Benin also showed that strong leadership and dedicated coordinator at the hospital level and regular hospital team coaching can sustain the MDR (De Brouwere, Delvaux, et al., 2014).

### 2.7.2 Bottlenecks in Maternal Death Review Process

The difficulties that are faced by facilities that conduct MDR can be grouped into administrative and health worker related factors. Administrative factors include lack of supportive health professional, continual lack of action on recommendations by administrators, shortage of human and financial resources (Musoke & Balogun, 2015; Thorsen et al., 2014; van Hamersveld et al., 2012). The other obstacle is lack of feedback mechanism to stakeholders and health care providers for action taken. Without feedback, changes may not be made to improve quality of maternity care (Kongnyuy & Van Den Broek, 2009). Lewis, 2014 argued that MDR are action based programmes hence prompt feedback is imperative. A study in Burkina Faso highlighted that health workers were not happy with audits because it lacked feedback to those not present and follow up report of recommendation implementation (Richard et al., 2009). Similar findings were also reported in two studies study done in Tanzania which showed inadequate feedback to members of the audit team about the implementation of the recommendations such that sixty seven percent of care providers did not know of any action implemented due MDR recommendations (Nyamtema et al., 2011; Nyamtema, Urassa, Pembe, Kisanga, & van Roosmalen, 2010). These factors in part led to health workers to be demotivated and perceived MDR as further burden or form of inspection or criticism rather than support (Nyamtema et al., 2011). Similarly, Lewis, (2014b) noted that not acting on recommendations can result in staff disenfranchisement and unwillingness to participate in MDR meetings, on the other hand when administrative colleagues and others are supportive of acting on the recommendations staff are enthusiastic since results are rapidly seen. A study in Tanzania observed that as much as staff were committed to the MDR process with routine documentation and reporting, appropriate challenges and solutions were not identified and there were insufficient action and response, hence, no impact was felt (Armstrong et al., 2014; Nyamtema et al., 2010). These findings are in contrast with the UK CEMD which values each recommendation and takes action across multidisciplinary levels (Lewis, 2012).

Lack of multidisciplinary committee may contribute to incomplete action of the recommendations. As observed, maternal death is a public health, medical and quality improvement issue which needs diverse personal to form the MDR committee. For example, in the UK, France and USA, the committee members include social worker, psychiatrist and public health representative (Lewis, 2012; Main, 2012; Saucedo et al., 2013). However, some MDR committees in Africa do not have public health representatives. This may led to for example, lack of full involvement of the community in MDRs which can result in challenges to implement recommendations at that level that would improve maternal health (Bayley et al., 2015; Dzoole et al., 2015; Raj et al., 2013; Singh et al., 2015).

A range of health worker factors also poses some obstacles to MDR. One of these factors is lack of professionalism which makes one deprived of learning opportunities and prone to acts of commission and omission which can claim life of a pregnant woman. Professionalism calls for continuous professional improvement, excellence and team work (Lewis, 2014b). Other studies noted that lack of knowledge and skills to properly conduct MDR led to problems with implementation and sustainability of MDRs (Musoke & Balogun, 2015). Poorly conducted MDR are prone to fail putting the lives of mothers in danger but also decline in professional support (Lewis, 2014b). On the other hand clear understanding of goals of MDRs made health care workers to change their practice (Richard et al., 2009). Competency based training on MDR was then recommended so that those involved in MDR are able to navigate through the whole process with confidence (De Brouwere, Zinnen, Delvaux, Nana, et al., 2014). Shortage of staff and high workload also hinders full participation and commitment to MDR as the staff takes client care as a priority over MDR activities (Hofman & Mohammed, 2014). Lack of commitment and ownership of MDR activities also contributed to drawbacks with MDR. Irregular attendance was reported in a study done in Tanzania whenever the heads of department of obstetrics and gynaecology was not around. Those who attended the MDR session were less active especially nurse and midwives and students (van Hamersveld et al., 2012).

Much as the MDR guidelines emphasis the ‘no blame’ and ‘no punishment’ culture, it is yet to be practical. Fear of blame and punishment among the health care works has been reported as a major contributing factor for health care workers not to be committed and participate in MDR sessions (Hofman & Mohammed, 2014; Kongnyuy & van den Broek, 2008; Richard et al., 2009). For example, in Tanzania there was internal transfer and removal from supervisory roles of the staff that were held responsible for the deaths (Nyamtema et al., 2010). Similarly, in India there was under reporting of maternal deaths by facilities to avoid investigation and punitive action by higher authorities (Raj et al., 2013). In contrast, since the inception of CEMD in the UK in 1952 not one doctor or midwife or any other work has had legal action taken against them (Lewis, 2012). Despite most health professionals agreeing that MDR has a positive influence on professional practice, staff reported that maternal death audits highlighted only the negative aspects of care management; anonymous was not respected and not all levels of health care providers were involved in audits (Baltag, Filippi, & Bacci, 2012; Richard et al., 2009). A study done in Liberia noted that audit reviews fuelled heated arguments between participants and some were dominant than the others which created a blame environment (Lori & Starke, 2012). Consequently, near miss maternal death reviews are now been advocated for beside clinical audits and facility based reviews because they tend to assign less blame since the mother eventually recovered. However, Richard et al, (2009) noted that even the use of near miss maternal review, blame and negativity can still remain. The lack of blame free atmosphere hinders learning that would lead to improved quality of maternal care (Baltag et al., 2012; DʼAlton, Main, Menard, & Levy, 2014; Lewis, 2014b). Lack of blame free atmosphere cause fear which in turn leads to demoralization and lack of transparency thus making it impossible to learn real lessons that need to be acted upon following MDR sessions. National Health Service, England said that, “fear is toxic to both safety and improvement” (Lewis, 2014b). Thus, clear policy on blame and punishment free MDR must be encouraged always to facilitate quality improvement and professionalism among health care workers.

Other health workers pointed that lack of money incentives to attended MDR sessions was a reason for not been active and committed. However, this had mixed reaction as shown in a study done in Burkina Faso. Majority of the regular attendees saw no need to receive money unlike those who participated less often demanded for a fee or transport reimbursement to motivate them to attended (Richard et al., 2009). Similarly, studies done in Burkina Faso, Niger and Benin noted that though hospital teams were given money incentives, they was variation in the proportion of actual audit meetings reported against the number agreed (De Brouwere, Delvaux, et al., 2014).

Evaluation of MDR in Sub Saharan countries done in 2007 showed that not all countries are fully engaged in MDR. Out of the 30 countries that completed the survey, 12 had established and implemented the guidelines, although only seven had set up a national MDR committee (De Brouwere, Zinnen, Delvaux, & Leke, 2014). Several challenges emerged as countries try to scale up MDRs for instance, lack of government ownership and commitment, lack of guidelines, shortage of staff, and the limited awareness of the benefits and methodology of MDR because of lack of exposure and training. Hence to ensure full establishment and sustainability of the MDR, they recommended full political commitment, legal and administrative back-up, financial support, capacity development, simplified reporting forms and procedures, coordinated support of development partners, the involvement of professional bodies, and regular supportive supervision.

## 2.8 Conceptual Framework

The study adopted the Maternal Death Surveillance cycle as its conceptual framework. The maternal death surveillance cycle framework helped to guide the focus of the study and put the maternal death review practices into perspective. The framework helped to provide a context for interpreting the study findings and providing both direction and impetus (Sitwala, 2014).

The Maternal Death Surveillance cycle has five ongoing steps that are a backbone of the MDR approaches

Figure 1: Maternal Death Surveillance Cycle. **(WHO, 2004a)**

The first step is identification of maternal death cases to avoid misclassification and to differentiate maternal deaths from non- maternal death (Owolabi et al., 2014; Thorsen et al., 2014). The revised WHO ICD-10 is used to define and classify maternal death during this step

Data collection using maternal death report forms is the next step. This must be completed within 72 hours following a maternal death (Nyamtema et al., 2010; WHO, 2004a). However, to achieve better accuracy of data, it is recommended to collect data almost immediately after death (WHO, 2004a).

Third step is analysis of findings to identify direct causes and avoidable factors of maternal death. Qualitative analysis is used to bring out in more detail, the clear-cut reasons why individual women die, their socioeconomic factors and quality of care provided (WHO, 2004a). The analysis also convey the lessons to be learned by all health workers as well as management members to improve organization memory (Berg, 2012; Paul et al., 2013). A code of conduct is agreed upon to ensure that all proceedings are treated with strictest confidentiality and blame free environment (Berg, 2012).

Recommendation and action step is for stipulation of evidence based action points to prevent occurrence of similar maternal deaths in future (WHO, 2004a). The action plan is crucial in facilitating accountability, follow up and evaluation of the recommendations implemented (Berg, 2012). The success of the MDR lies in putting the recommendations into action to bring about the desired quality of care.

The final step is evaluation and refinement which serves to check on the implementation of the recommendations made and determine any success and challenges encountered (WHO, 2004a). An effective feedback mechanism is crucial to provide a common understanding of what needs to change, how the change will be so that quality of care is improved (Berg, 2012; Musoke & Balogun, 2015). Practical recommendations facilitate evaluation and refinement (De Brouwere, Zinnen, & Delvaux, 2013). Separate session is needed for this step to discuss the progress of implementation of recommendations depending on the timeline to keep up the momentum than waiting for the scheduled MDR session (Lewis, 2014b) Lewis, (2014b) recommended a separate session.

The maternal Death Surveillance Cycle conceptual framework was relevant to this study as it touches and guides on the practices the study had to investigate at various stages of the maternal death review process.

# 2.9 Conclusion

The chapter dealt with the magnitude of maternal death; global and regional policy responses to maternal mortality; and maternal death review methods. The literature showed that there is urgent need to reduce maternal death and this is at the center of the policies at all levels of society. Evidence supported the use of MDR in poor resource countries to improve the quality of maternal care hence reducing and preventing maternal death. For this to happen, team work, supportive policies and hospital culture, political will and professional commitment need to be part and parcel of these Maternal Death Reviews. The Maternal Death Surveillance cycle has been adopted as a conceptual framework to guide the study.

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## CHAPTER THREE

# METHODOLOGY

# 3.1 Introduction

This chapter describes the research methodology that was used to achieve the purpose of the study. The research design, setting, population, sampling techniques, data instrument, data collection and analysis process, trustworthiness of the findings and ethical considerations are described.

# 3.2 Study design

A cross sectional explorative design was used to explore maternal death practices among hospitals in the northern zone of Malawi. Maternal Death Review committee members and Zone Health Officers were engaged in systematic and interactive discussion. Phenomenological approach was used to allow the researcher to delve into the perceptions and understanding of the MDR committee members, midwives working in maternity and the Zone Health Officers who have actually been involved in Maternal Death Review(Creswell, 2012). An unstructured FGD guide and probes was used to gain insights, ideas and knowledge of MDR practices (Polit & Beck, 2014). Exploratory design satisfied the inquisitiveness of the researcher and the desire to gain a deeper understanding of MDR practices from the participants perspective in the hospitals in northern zone of Malawi.

# 3.3 Setting

The study was conducted in the Northern Health Zone of Malawi which has six districts; Chitipa, Karonga, Rumphi, Nkhata Bay, Likoma, and Mzimba which is divided into south and north, thus a total of seven districts hospitals (National Statistical Office (Malawi) & ICF Macro, 2011). The Northern Health Zone Office is located in Mzuzu city, 355.5km from Lilongwe the capital city of Malawi.

The estimated population for the northern region is 2,233,400, out which 495,891 are women of childbearing age. Mzimba South district has the highest population, 626,914 while Likoma island district has the lowest, 10,451 (Northern Health Zone Office (NHZO), 2015).

There are three levels of health delivery system; the health center, district and central hospital and maternity services are offered across the levels. Health centres offer basic emergency obstetric and newborn care while comprehensive emergency obstetric and newborn care are available at the district and central hospital level. Northern Health zone has 125 public health facilities. Out of this, five are government district hospitals, five Christian Health Association Hospital, (CHAM) and one central hospital and all have functional Maternal Death Review committees. Maternity services are free in all government hospital with four CHAM hospitals in Service Level Agreement (SLA) with the ministry of health to offer free maternity services.

The total number of deliveries for 2014-2015 was 56,615 with 79% delivering in the health facilities. Eighty-seven (87) maternal deaths were reviewed and reported to the zone office between July 2014 – June 2015 (Northern Health Zone Office (NHZO), 2015). The study was conducted is four district hospitals; Chitipa, Karonga, Mzimba North and Likoma Island.

# 3.4 Study population

The study population were the MDR committee members, midwives working in maternity and the Health Zone Officers. MDR committee is comprised of clinicians (medical officer, clinical officer, laboratory technician, pharmacist), nurses/midwives (nurse/midwife technician and registered nurse/midwives), and administration staff (members of the District Health Management Team) and has a maximum of 10 members. There are 242 midwives, 11 medical officers and 50 clinical officers in the four district hospitals that the study was conducted(Northern Health Zone Office (NHZO), 2015).

# 3.5 Inclusion and exclusion criteria

The study included the MDR committee members who attend MDR meetings midwives working in maternity ward for more than one year in the four district hospitals and the Health Zone Officers.

MDR committee members who have not attended two full review session and midwives who have not participated in MDR process were excluded from the study. The researcher believes that they may not have enough experience with Maternal Death Reviews process to help achieve the objectives of the study.

The researcher was assisted by the District Nursing Officer and the Safe-motherhood coordinator of the participating hospitals to identify midwives and MDR committee members who met the above inclusion criteria.

# 3.6 Sampling procedure

Purposive sampling was used to select facilities to be engaged in the study. Two facilities with low maternal death reports (Chitipa and Likoma) and two facilities with high maternal death reports (Mzimba north and Karonga) in 2014-2015 were selected. The MDR committee members and the midwives in these facilities who are believed to have and are able to provide most valuable data related to Maternal Death Review process and practices were engaged in focus group discussions (Kombo & Tromp, 2006).

No sampling for the zone health officers since they are only three, hence census was used to engage them in in-depth interviews (Burns & Groove, 2005)

# 3.7 Data Collection Instruments

### 3.7.1 Unstructured Focus Group Discussion Guide

Unstructured FGD guide was used to explore the practices of Maternal Death Review practices among the MDR committee members and midwives. An in-Depth interview guide was used to obtain data from the Zone Health Officers. The guides contained open-ended questions to allow for rich and deep data collection from the participants. The way the participants responded dictated the flow of the discussion to maintain the natural aspect of the discussion. The guide helped the researcher to ensure that all the necessary areas pertaining to the research objectives have been dealt with but not in any order.

### 3.7.2 Data generation techniques

Data was gathered through FGDs with the MDR team committees and midwives. FGDs fitted well for this study because of synergism, snowballing, stimulation, security, spontaneity, speed and cost effective inherent in it. This helped to generate quality and rich data from the participants (Burns & Groove, 2005). A total of eight FGDs was conducted in the four purposively sampled facilities.

A prior arrangement to conduct FGD was made using telephone and a day before the actual data collection. The researcher personally confirmed with the District Health Officer and the Safe Motherhood coordinator. On morning of data collection, the researcher reported to the District Health Officer together with two research assistants and in some areas with the research supervisor. We introduced ourselves and explained the purpose of our visit. With the help of the District Health Officer and the Safe motherhood coordinator we had 6-8 members that made up each focus group for the MDR committee members and the midwives respectively. The MDR committee was comprised of clinicians (medical officer, clinical officer, medical, laboratory technician, pharmacist), nurses/midwives (nurse/midwife technician and registered nurse/midwives), and administration staff (members of the District Health Management Team). The midwives both nurse/midwife technicians and registered nurse/midwives working in maternity who met the inclusion criteria made up each focus group to ensure representation.

Before commencing each FGD, written informed consent was sought from each member and permission to use audiotape recorder to capture data.During each FGD, the research assistants who were non- participant observer took discussion notes. The moderator facilitated the discussions; paused the questions, was an active listener, used probes and validation to get more from the participants. The moderator was also in charge of recording the discussions, with each session taking 48-55 minutes. The researcher used codes to denote FGDs for easy organization, storage, retrieval and reporting of the data. FGDs with the midwives were coded as MID HOSP # 1, MID HOSP # 2, MID HOSP # 3, and MID HOSP # 4. MID stands for midwives, HOSP for hospital and #1 to #4 is the number of district hospitals involved. The MDR committee were coded as MDRC HOSP #1, MDRC HOSP # 2 MDRC HOSP # 3 and MDRC HOSP# 4. The MDRC is Maternal Death Review Committee, HOSP for hospital and #1 to #4 represent the total hospitals that were sampled. After the discussions, the participants were offered refreshments.

The in-depth interview was used to gather data from the Health Zone Officers. Prior to the day of data collection, a phone call was made to confirm the availability of the Health Zone Officers. On the day of data collection, the researcher reported to the Health Zone Supervisor, introduced herself and explained objective of the visit. Written informed consent was sought before commencing the interviews and permission to use a tape recorder to capture data. Active listening follows up questions and probes were used for clarification and getting more insights. The interviews were carried out by the researcher in their respective offices of the Health Zone Officers at a time that was conducive for them and took about 45-55 minutes per interview. The researcher was responsible for recording and note taking. The researcher likewise used a letter and number code for the interviews; ZHO #1, ZHO #2, and ZHO #3 for easy organization, storage and retrieval of the data. ZHO means Zone Health Officer and #1 to #3 is for the total number of interviews conducted. After the interviews refreshments were offered.

# 3.8 Data management and analysis

Data management and analysis process began during the data collection. After each FGD and in-depth interview, the researcher listened to the recorded data to make sure that data was recorded and to have an idea of the type of data that was generated. Transcription of data was done verbatim within 24 hours by the researcher using MS word along with data collection so that the data remained unchanged. This allowed the researcher to immerse into and familiarize herself with the data which also allowed for organization of the data and preparing for report(Dartey, 2012; Elo & Kyngäs, 2008; Kombo & Tromp, 2006).

Data management involved storing the data on a PC drive and making a backup on OneDrive and password known only to the researcher was used to maintain confidentiality. Data analysis was guided by the overall objectives of the study and the specific research questions of the study. Thematic analysis framework was used to guide the data analysis process. This process include transcription, re-familiarization, first phase coding, second phase coding, third phase coding and producing a report (Jwan & Ong’ondo, 2011). The analysis was done manually by writing notes on the text the researcher was analysing and using highlighters to code and categorize the data.

Transcription of the recorded data was the first step. This involved typing the audio recorded data following each FGD and in-depth interview by the researcher and it captured everything including fillers, and repetitions (Jwan & Ongo’ndo, 2011).

Re-familiarization with data was the second step. Each transcript was read and re-read toto get a feeling of what the text is talking about and start to get a pattern. It also involved listening again to the recorded audio for clarity.

Third step was first phase coding or open coding where the researcher created new MS files and cleaned them by removing fillers and repetitions. Inductive or *posterior* coding was used (Jwan & Ongo’ndo, 2011). Each transcript was re-read and segments that talked about distinct issues in relation to the study were highlighted and assigned a word or phrase (Jwan & Ongo’ndo, 2011). This phase ended with copying the transcripts as new MS word files then mutilated the new files by cutting different chunks of data and pasting them under the various codes identified (Braun & Clarke, 2006).

Second phase coding which is also referred to as axial coding was the fourth step. This involved grouping together the similar codes to avoid unnecessary overlaps and repetitions. The researcher then merged some codes while others were upgraded or downgraded to form categories. This helped to substantially reduce the number of codes (Jwan & Ongo’ndo, 2011).

Fifth step was third phase of coding which involved selective coding. Different categories and codes were grouped and re-grouped appropriately like in second phase coding (Jwan & Ongo’ndo, 2011) This phase also involved many discussions with peers and supervisors to achieve internal homogeneity (themes cohere together meaningfully) and external heterogeneity (clear and identifiable distinctions between them) (Braun & Clarke, 2006).

Last step was the production of the report. This involved reading again and carefully reflecting on whether the report has captured the focus of the study and noting whether themes, categories, codes and data under each theme are relevant (Jwana & Ong'ondo, 2011).

# 3.9. Measures to ensure trustworthiness of the results

Lincoln and Guba’s Evaluative Criteria measure of trustworthiness was used to address the rigour of data collected namely credibility, dependability, confirmability and transferability (Erlingsson & Brysiewicz, 2013).

### 3.9.1 Credibility

In order to have confidence in the ‘truth’ of the findings, expert scrutiny was done to ensure content of the interview guide is consistent with the topic of discussion (Erlingsson & Brysiewicz, 2013). The researcher also used prolonged engagement in which enough time was spent on data collection until saturation was reached. Referential adequacy was achieved by using audio taped and field notes to capture adequate information relating to the FGDs and the in-depth interviews. Triangulation of different data generation approaches also enhanced the credibility of the results.

### 3.9.2 Dependability

The consistency and repeatability of the results were ensured by reporting in detail the methodology so that it can be replicated by another. Peer scrutiny to minimize inconsistencies and achieve clear and logical documentation was also done.

### 3.9.3 Confirmability

This criteria required the researcher to illustrate clearly the evidence and the thought process that led to the conclusions basing on participants input and not researcher bias, motivation, or interest (Erlingsson & Brysiewicz, 2013). This was achieved by keeping an audit trail with specific details of the research process and recording of activities over the length of the research period. The audit trail consisted of raw data, analysis notes, reconstruction and synthesis products, process notes, personal notes, and preliminary developmental information. Bracketing was also used during the discussions and interviews for any preconceived ideas about the topic to allow participants own explanation to dominate.

### 3.9.4 Transferability

This was ensured by providing ‘thick description' of the topic under discussion so that the reader can have a proper understanding and decide its applicability to their own context (Erlingsson & Brysiewicz, 2013). Thick description was achieved by using transcribed verbatim which when it was analysed contained enough information to permit judgement about contextual similarities. Purposeful sampling also ensured transferability because these participants were deemed to have the relevant knowledge and experience of the of study. Furthermore, relevant literature citation was conducted to contribute to thick description.

# 3.10 Ethical consideration

Approval to conduct the study was obtained from Institutional Research and Ethics Committee (IREC) and National Commission for Science & Technology (NCST). Written permission was also sought from the Northern zone health to conduct the research in the four selected district hospitals.

**Respect for autonomy**

Written consent was obtained from participants who met the inclusion criteria after reading the information contained in the consent form and answering their questions and concerns.

**Confidentiality and anonymity**

The participants were ensured that the names of the hospitals will not be mentioned and even the during the discussions there was no mention of names of a person or hospital, where a name for facility was mentioned mistakenly, it was deleted. The data collected could not be linked to any hospital and each transcription was given a unique code that could not be linked to the hospital. The data collected was not be shared with anyone and it was stored a password protected document.

# 3.11 Study limitations

The study was limited only to the health facilities that conduct maternal deaths reviews and forward their reports to the northern health zone office leaving out the other hospitals that do not send their reports to the health zone**.**

The study was prone to attribution because data was self-reported by participants. This may contribute to attributing positive events and outcomes to participant’s own hospital but attributing negative events and outcomes to external forces.

## CHAPTER FOUR

# FINDINGS

# 4.1 Introduction

This chapter presents the findings of the study. The purpose of the study was to explore maternal deaths review practices among hospitals in the northern health zone of Malawi. Data was collected through four Focus Group Discussions with midwives and Maternal Death Review committees in four district hospitals. Three Northern Zone Health technical officers were also involved in in-depth interviews.

Findings of the study show that a total of thirty-two (32) midwives were involved in the four midwives Focus Group Discussions. There were 24 female and 8 male participants in the study. Thirteen (13) were registered nurse/midwives degree in nursing, three had master degree and four had a diploma in nursing. The remaining twelve participants were nurse/midwife technicians with certificate in nursing and midwifery.

Maternal Death Review Committee Focus Group Discussions involved forty two members; twenty five males and seventeen females. There were ten clinical officers,

four pharmacy technicians, four laboratory technicians, four environmental health officers, eight administration staff and eight registered nurse/midwives with four Safe Motherhood coordinators. Most of the registered nurse/ midwives were either maternity in- charges or deputy maternity in- charges.

Nine themes emerged from the findings of the study (Table 1).

##### Table 1: Themes and subthemes

|  |  |
| --- | --- |
| Objective 1: Understanding of MDR committee, midwives working in maternity and Zone Health Officers of MDR process | |
| **Theme** | **Subtheme** |
| Comprehending Maternal Death Review concept | Meeting and discussing issues around Maternal Death |
| Maternal Death Surveillance and Response substituting MDR |
| Responding to Maternal Death | Identifying and notifying maternal death cases |
| Writing an incident report |
| Preparing for MDR session |
| Creating a blame free environment for MDR session |
| Analysing the cause of Maternal Death |
| Coming up with MDR action plan |
| Allocating responsibilities for MDR action plan implementation |
| Objective 2: Perception of MDR committee, midwives working in maternity and Zone Health Officers on MDR process. | |
| **Theme** | **Subtheme** |
| Improved quality of care | Improves service delivery and utilization |
| Promotes team building and work |
| Closed knowledge and skill gaps | Stimulates learning opportunities |
| Avenue for blaming game | Blaming self |
| Blaming others |
| Objective 3: Challenges MDR committee, midwives and zone health officers face with MDR process | |
| **Theme** | **Subtheme** |
| Inadequate Resources | Inadequate financial resources |
| Unavailability of committee and staff members |
| Limited understanding of MDR process | Inadequate orientation to and training in MDR |
| Limited understanding of using MDA forms |
| Poor implementation of MDR action plan | Poor management and financial support |
| Poor feedback mechanism |
| Unwillingness of committee members and staff to attend MDRs. |
| Objective 4: Suggested solutions from MDR committee members, midwives working in maternity and Zone Health Officer for effective MDR process | |
| **Theme** | **Subthemes** |
| Making MDR effective | Prioritizing MDR activities |
| Having personal commitment |
| Using other clinical situations to improve quality of maternal health care |
| Providing training and orientation to MDR and staff members in MDR process |

# Understanding of Maternal Death Review process by MDR committee members, midwives in maternity and Zone Health Officers on MDR process

Participants demonstrated understanding of maternal death review process in terms of definition of MDR and the steps that are taken once a maternal death has occurred until a review meeting is conducted. Two themes emerged; comprehending MDR concepts and responding to maternal death.

# 4.2 Comprehending MDR concepts

Findings of the study show that majority of the participants were familiar with MDR concepts. Participants were able to define MDR and MDSR. Two subthemes emerged from this theme; meeting and discussing issues around maternal death and Maternal Death Surveillance and Response substituting MDR.

### 4.2.1 Meeting and discussing issues around maternal death

Participants reported that MDR is a process whereby the audit committee and staff members convene for two main reasons. One is to identify and discuss causes and contributing factors to maternal death. Secondly is to find ways to prevent and reduce further maternal deaths. Most participants consistently used the terms “review and “audit” interchangeably despite the study’s focus on Maternal Death Review. Participants from different Focus Groups explained that Maternal Death Review as:

*“… a process whereby the audit committee sits down when a maternal death has occurred to look at the causes of that maternal death, to discuss the best ways of how to prevent further maternal death and if there is need to do any action depending on the causes…” (*MDRC HOSP #3)

*“a process whereby the committee looks at the possible causes and then possible contributing after critically analysing the situation on the causes of maternal death…”* (MDRC HOSP #1)

### 4.2.2 Maternal Death Surveillance and Response substituting Maternal Death Review

Findings of the study indicate that participants understood Maternal Death Review (MDR) and Maternal Death Surveillance and Response (MDSR) concepts differently. Majority of the midwives thought MDSR has replaced MDR, while most of the MDR committee members thought it is the same with MDSR emphasizes much on ‘Response’ and ‘Surveillance’ aspects and conducting verbal autopsy.

*“…initially we could say maternal death review but now it is not maternal death review as such it is now maternal death surveillance and response…”* (MID HOSP #1)

“…*maternal death surveillance and response and maternal death review are two different things…” (*MID HOSP #2)

*“…what MDSR is doing now is also what used to happened in the past the extension is they are encouraging verbal autopsies as opposed maybe to what it used to be…”* (MDRC HOSP #2)

On the other hand, the Zone Health officers who oversee Maternal Death Review activities confirmed that MDSR is a new approach but it has not replaced Maternal Death Review.

*“… maternal death surveillance and response is an approach that is being utilized… and maternal death review is one of the issues within the maternal death surveillance and response…”* (ZHO #1)

# 4.3 Responding to Maternal Death

Findings of the study showed that when a maternal death has occurred a set of actions are set in motion. Seven subthemes emerged from this theme; identifying and notifying maternal death cases, filling notification form, writing an incident report, preparing for MDR session, creating a blame free environment for MDR session, finding out the cause of maternal death, coming up with MDR action plan and allocating responsibilities for the implementation of the MDR action plan.

### 4.3.1 Identifying and notifying Maternal Death cases

All participants acknowledged that maternal death notification was the first step that is taken once a maternal death has occurred. Notification captures maternal deaths that occur in transit to the facility, in the community and within the hospital, by filling Notification form, MDA 1. Within the hospital maternal death occur in maternity ward and female ward where gynaecological cases are managed. Health Surveillance Assistants help to identify and report maternal deaths that occur in the community.

*“Whenever a pregnant woman has died in maternity or female ward … a notification form is filled”* (MDRC HOSP #3)

*“Those who die of abortion complication in female ward we consider them under maternal death….”* (MID HOSP #1)

*“… they are also some of the deaths usually occur in transit… we actually address them as maternal deaths …information is still gathered and reported…”* (MID HOSP #2)

*“At community level … we have structures which help us to identify maternal death... HSAs trained in community based maternal new born health … help us to report on any maternal deaths”* (MID HOSP #4)

However, the Zone Officers reported that not all maternal death that occur in transit are notified.

*“… they might say as district hospital we have not experienced any maternal death, yet some mothers are dying in transit from health center to the district hospital… (ZHO #3*)

Most of the participants reported that the notification form, MDA 1 is supposed to be filled by midwives who witnessed the death though mostly is done by the Safe Motherhood Coordinator. A copy of this form is sent to the District Health Officer (DHO), zone health office and Ministry of Health within 24 hours.

*“… one attending to the deceased is the one to fill the MD1 form … and that form is sent to the DHO within 24 hours…” (*MID HOSP #4)

*“The one who witnessed the death is supposed to fill the form not the safe Motherhood coordinator, but mostly he fills that form…” (MID HOSP #3)*

The findings showed that some midwives are not conversant with filling the notification form and they consult with those who have experience as narrated below;

*“There are always veterans… those quite familiar with each process and on such issues, they become consultants… they will advise on what to do …”* (MID HOSP #1)

The filled notification forms are sent to the Health Zone Office by email for those who are conversant with technology. Some hospitals use fax, post office and hand delivery.

*“… now there’s technology so those who are good at technology would email MD1 and MD2 and we then print and file the forms…”* (ZHO #1*)*

*“… usually we have been sending those forms either by email or by fax to the zonal officer...” (*MID HOSP #2)

*“… that report and form it’s been carried by last time it was the environmental health officer to the office of the DHO…”* (MID HOSP #1)

The Zone Health Officer disclosed that notification is mostly done via phone. The MDA 1 form is supposed to send later but sometimes that does not happen. Despite this, findings of the study show that the Zone Office is mandated to get the death notification forms immediately or within 24 to 72 hours following a maternal death.

*“Most of the time they call to notify us verbally, but they may not fill the notification form or send it ...”* (ZHO #1)

*“We expect them to notify us immediately or within 24-72 hours using a maternal death notification form...”* (ZHO #3)

The Health Zone Officers noted that sometimes workload, computer illiteracy and limited numbers of computers cause delays in making notification

*“...if the coordinator has got computer skills the notification comes within 72 hours but those that use hard copies and send them it takes more than 72 hours*.” *(ZHO #3)*

“… *sometimes it’s because they are other activities apart from the maternal death reviews like trainings, workshops and they are also expected to do nursing care so we understand…”* (ZHO #1)

### 4.3.2 Writing an incident report

Midwives reported that apart from filling the MD1 form, they also write an incidence report. They feel the report could be used to implicate them with the maternal death. However, the report aids in filling the MDA 1 form in case the one who witnessed the death is not available. The report is captured in the case note and report book while some hospitals use incident report forms. Midwives also claimed lack of orientation to the incidence forms until a maternal death has occurred.

*“We also write in the case file of that mother … you even write in the report book … what happened to the extent that that mother has reached a point of dying…”* (MID HOSP #3)

*“…we have incidence report forms ... but the purpose of those form is not possibly to punish... the information that is there is part of the MD1 form... that can help in filling the MD1 form”* (MID HOSP #2*).*

… *when you are working there that form has never been mentioned, we are not even oriented and when the incident has happened is when they tell you write… (MID HOSP #2)*

### 4.3.3. Preparing for a MDR session

Findings showed that the Safe Motherhood Coordinator, a member of the Maternal Death Review Committee is responsible for setting date for case review. The findings also showed that due to underfunding, the reviews are done within the hospital and mostly in the afternoon to cut cost for lunch allowance.

*“…after filling that form* (MD1) *the safe motherhood coordinator sets the date when the audit committee is supposed to sit down and audit now in depth…”* (MID HOSP #2)

*“In the past, the audits would be done maybe outside like a lodge... but due to underfunding the audits are being done right way here… scheduled at 3pm so that everyone has taken lunch from his or her home…” (*MID HOSP #3*)*

The findings noted that Maternal Death Review committee was also referred to as audit team or MDSR team composed of personal from different departments is responsible for conducting the reviews. Other participants felt that the composition of their team was incomplete.

*“There is a committee which does review so they are selected members of staff from different departments that consist a committee of maternal death reviews”* (MDRC HOSP #4)

*“… this committee is there just because maybe of the place you are working. Someone is the in charge of maternity, … and am also working in the maternity, maybe it also requires someone from pharmacy or laboratory…”* (MDRC HOSP #1)

Furthermore, apart from MDR committee members, other members of staff participate in the reviews. Most of these participants are midwives, though sometimes those working in labour ward claim to be left out when conducting the reviews. This make them fail to know their gaps and how to improve the quality of care.

*“… majority of people who are involved are midwives … there is an in-charge for maternity… one more from the labour ward and the other one from postnatal then we have a community nurse/midwife …”* (MDRC HOSP #2)

*“… sometimes audit is done while leaving the one who was there when the maternal death was happening… it is really bad because the one who was on that time should know the weak areas so that they should improve…* “(MID HOSP #3)

### 4.3.4 Creating a blame free environment for MDR session

Participants reported that a code of conduct is read before the review. This help to ensure blame free environment, confidentiality and to allow everyone to express his or her views without fear.

*“We have a code of conduct …when doing the review to say no blame game…it is read whenever we are starting an audit”* (MID HOSP #2)

*“…. issues of confidentiality… are part and parcel of the audit, in fact they are part of the rules of the audit…”* (MID HOSP #3)

### 4.3.5 Analysing the cause of Maternal Death

Findings of the study show that discussion and note taking is done to analyse care given during antenatal period up until the time of death. The analysis covers strengths and gaps of the care given, causes and contributing factors of the maternal death.

*“…to make a thorough audit we need the case-patient case file, forms and somewhere to write whatever we hear from the case note”* (MID HOSP #4)

*“… we check the file whether … we missed managing that case … we check for factors related to the woman as well to see if there were shortfalls that have critically contributed to the death…”* (MDRC HOSP #3)

Participants also reported that while review is done on every death of a childbearing age woman, in some hospitals deaths due to abortion complications are not reviewed.

*“Any death that occurs to a woman who is in childbearing age is audited unless confirmed otherwise…”* (MID HOSP #3)

*“The team mostly look at deaths in maternity but from other wards like female ...there are maternal deaths but sometimes the review is not done on such cases, I don’t know maybe because it was an abortion...”*

(MID HOSP #1)

Participants also reported that they conduct critical case analysis during morning report. This only involve clinical staff and leaves out administrative staff of the MDR committee. Sometimes during District Health Management Team supervision, the Zone Health Officers randomly analyse partographs to check on the quality of care that was rendered to the women and address gaps identified.

“…. *we do not necessarily sit down as a committee, ...but trust me there is no near miss case that goes undiscussed or unlearnt from ……. during the morning report that’s where you know that there is a very critical mother in labour ward*...” (MDRC HOSP #2)

*“During DHMT supervision, they* (zone health officers) *randomly sample partographs … and look at the management that was provided … whether they followed the required standards or not...”* (MDRC HOSP #3)

### 4.3.6 Coming up with MDR action plan

Participants reported that after the in-depth analysis, an action plan is drawn to mitigate the identified gaps to prevent further maternal deaths. They use MD 2 form which they called it a “game changer “and a copy is sent to the Zone Health Office and Ministry of Health headquarters.

*“... we come up with an action plan to address the specific associated factors that were isolated so that we may avoid similar deaths…a report has to be drawn and the Ministry has to be copied.”* (MDRC HOSP #2)

*“… the MD 2 form is the main game changer…actually there is no action plan made until this form is filled, and it has to be filled by the team “(*MID HOSP #3)

Findings also showed that Zonal quarterly Maternal Death Review meetings are done for the all maternal deaths. The representatives of the Maternal Death Review committees from the district hospitals attended these meetings. They also make zonal action plan and share best practices in Maternal Death Review.

*“The standard for us is to meet on quarterly basis with the district teams… it’s a learning process where people can discuss and share best practices to improve in maternal death review …and at the end we come up with action points…”* (ZHO #1)

### 4.3.7 Allocating responsibilities for MDR action implementation

The findings showed that implementation of the action plan is done at different levels and by different stakeholders. This depends on the identified cause and contributing factors of maternal death during a review. Some participants likened maternal death to a cholera outbreak and that all concerned stakeholders should be involved to play their roles. Most of the action points are addressed at district level for instance health worker related factors.

*“… this time the maternal death is just like an outbreak ... so, people from different levels have to take their responsibility… we are talking of the facility, the zone, the ministry as well is involved …*.” (MDRC HOSP #2)

*“... the causes are allocated to different levels… at times it could be the poor management of the patient at the health center level but at times it could be due to poor referral system, so it means even the action point would be different levels…”* (MDRC HOSP #4)

*“…Three quarters of the action points they can be managed at the district level…. the most occurring issues in the maternal death are health worker factors like poor assessment … so the DNO and the administration at the hospital should be able to sort that one …”* (ZHO #1)

Participants reported that the action points that cannot be dealt with at the district hospital are referred to the Zone. The Zone Health Officers lobby and link the district hospitals with the ministry for action points they cannot handle. Such issues include shortage of staff, procuring a vehicle and infrastructure development.

*“… there are long term issues for example, shortage of staff, providing an ambulance… even to work on the structure ...you really need to have a good capital investment since the districts alone cannot do it, so we lobby with the ministry…”* (ZHO #2)

**Perception of MDR committee members, midwives working in maternity and Zone Health Officers on MDR process.**

Participants perceived that MDR had many benefits. Two themes emerged; improves quality of care and closes knowledge and skill gaps. Fault finding was theme that emerged as a perceived barrier for effective MDRs.

# 4.4 Improves quality of care

Majority of the participants viewed Maternal Death Reviews as a driving force behind improving quality of maternal health care. Two subthemes emerged; improves service delivery and utilization and promotes team building and work.

### 4.4.1 Improves service delivery and utilization

Participants highlighted that reviews have improved service delivery in terms of patient care, resource mobilization and transport system. They also reported improved utilization of services like antenatal care, family planning and male involvement.

*“…within the process, you find out whether the cause of death was lack of certain resources … the committee will recommend to the DHO to procure and …. that’s good for service provision”* (MDRC HOSP #3)

*“…some systems have improved out of that... an example of transport system… through auditing process, we were able to identify that this was the problem ... you work on it to see that there are some changes … they are able to pick patients in time...”* (MDRC HOSP #4*)*

*“… we have seen some of the indicators improving for example women attending ANC, male involvement, we have seen a reduction in home deliveries … family planning uptake is also going high … it’s one of the positive roots of MDSR”* (MID HOSP #2)

The findings also showed that the reviews have helped to improve quality of care hence preventing further maternal deaths.

*“… overall the review has improved some of the factors that have contributed to maternal deaths in our district and the care that we are giving to the mothers…”* (MID HOSP #2)

### 4.4.2 Promotes team building and work

Participants reported that when a maternal death affects everyone. Through MDRs synchronized efforts are taken to prevent further deaths. Participants also noted that MDRs bring about hard-working spirit and helps to eliminate the blaming aspect that some members attach to MDRs.

*“…the approach …is team building, it tries to bring together all the efforts and see the responsibility each officer has towards eliminating maternal deaths…”* (MID HOSP #1*)*

*“…all areas are involved like the transport, the administrator so they also understand and know what the cause was … previously it was just said the nurse in maternity has done that, yet it was transport or maybe it was other issue.”* (MID HOSP #2)

The participants also reported of cooperation between the hospital and the community in preventing further maternal deaths.

*“they are certain things that are contributed by the community like delays and poor perception ... the chiefs have formulated by laws that assist to reinforce that every woman should deliver at the hospital and encouraging male involvement …” (*ZHO #3)

# 4. 5 Closes knowledge and skill gaps

Participants perceived MDR as an avenue that has facilitated identification and mitigation of knowledge and skill gaps among staff members. Stimulates learning opportunities emerged as a subtheme.

### 4.5.1 Stimulates learning opportunities

Participants reported that Maternal Death Reviews gave them chance to learn more. They noted that those who participate in MDR are exposed to new information like case management and it also promote reflective practice.

*“…. you look at what unfolded at community level, at facility level and then we try to draw some lessons and learn from the event to avoid future similar deaths*…” (MDRC HOSP #2).

*“…skills of the practitioners especially their knowledge can improve because if someone should not know what she or he supposed to do that it means it’s given him or her the knowledge …”* (MID HOSP #1)

The reviews have also helped to develop tailor made training to address knowledge and skill gaps among the health workers.

“…*it* (maternal death review) *is supposed to direct the DHO to say the people are lacking a certain skill and it means the DHO has to provide a certain intervention to conduct a training for those gaps that have been identified…”* (MDRC HOSP #4)

# 4.6 Avenue for blaming game

The findings showed that despite deliberate efforts to make the reviews ‘blame free’ this was not always possible. Blaming self and fault finding emerged as subthemes of the perceived barrier towards effective MDR.

### 4.6.1 Blaming self

Some midwives blamed themselves to be the cause of a maternal death. They feel guilty to have failed to prevent it from occurring.

*“… sometimes you feel like as if you have not done much to that woman so that you have not prevented the death … you feel as like you are not worthy as a midwife so sometimes it makes you feel guilty…” (*MID HOSP #1)

*“….. the nurse who was on duty may feel like has failed and sometimes puts blame on herself, because an MD is different from other deaths in the other wards, the nurse feel like maybe if somebody had come to help, maybe this would not have happened so a bit of self-blame is there….”* (MID HOS 2*)*

### 4.6.2 Blaming others

Participants reported presence of blaming others and fault finding. This is witnessed when the in charge of labour ward and members of management team approach the midwives who provided care to the deceased. This generated fear among the midwives and hence they gave inaccurate report about the death, afraid to fill notification form and they become defensive. Some midwives shun from attending Maternal Death Review meetings and working in the labour ward. In some instances, the blame is shifted to the mother for contributing to her own death.

*“… when you are involved directly… you are questioned as if you are the main cause of death … if you are called to attend the audit you will not have that interest to attend because of the way you have been approached, you are afraid”* (MID HOSP #3)

“*…the one who witnessed the death most of the times they are afraid to report or fill the form because they think they are responsible for that death …”* (MDRC HOSP #3)

*“… sometimes the in- charge may go to that particular person and start blaming him or her; saying you have caused this death …”* (MID HOSP #2)

*“… some people are shunning away from the ward itself ... if anything happens … they would say maybe … I was negligent …”* (MID HOSP #4)

*“...because there are different causes…then people would like to push the causes as something related to the mother but those which might be contributed by the health workers are not focused…”* (MDRC HOSP #1)

The participants also reported that fault finding come from outside sources like the Nurses and Midwives Council. This happens when they undertake investigation on issues of negligence following a maternal death. In some hospitals staff have been suspended by the council or Ministry of Health.

“… *the Nurses council when they hear about a maternal death they come …but the way they ask questions it’s not good, makes you feel like you are the one who killed the mother…”* (MID HOSP #1)

*“At this institution because of maternal death some people who have been punished by … the management from the higher level for example ministry or Nurses council like suspension …”* (MDRC HOSP #3)

Members of the deceased mother also fear to be blamed when death occur in the community. This makes them not to report of maternal deaths to the authorities.

*“…they also fear because the family involved sometimes does not feel disclosing what really happened because they are afraid that they are going to be penalized.”*

# Challenges faced by the MDR committee members, maternity midwives and Zone Health Officers during MDR process.

Findings of the study show that all Maternal Death Review teams are faced with various challenges when implementing MDR. Three themes were identified namely; logistic challenges, lack of adequate knowledge and poor MDR action plan implementation.

# 4.7 Logistic challenges

Two subthemes emerged under this theme; inadequate financial resources and unavailability of committee and staff members.

### 4.7.1 Inadequate financial resources

Participants reported that though Maternal Death Review activities are captured in District Implementation Plan (DIP), money is not readily available. They depend much on partners to provide the needed financial support.

“... *to be honest with you MNH has a component in DIP one, and to be honest … MNH is given the biggest eye and priority, and to be honest with you there are no funds for any of the activities…”* (MID HOSP #2*)*

*“…previously the money was coming directly from the ORT but in the last 7 years that provision is not there so we just wait for partners to help us…”* (MDRC HOSP #3)

The limited financial support has affected Maternal Death Reviews activities. The reviews are not done within seven days and in some cases, a whole year elapsed without a review meeting.

*“…the main issue is resources, money… the whole year can pass without doing an audit, we have cases that occurred in 2015 but they have not been audited…”* (MID HOSP #2)

*“…at times, we may meet within a week, at times we may delay for as much as a quarter” (*MDRC HOSP #2)

*“…this thing of not having something to refresh due to the underfunding... we have tried to scale down some of the activities and so some of the affected things are the audits…”* (MID HOSP #3)

The Zone Health Officers also cited financial hiccups and dependency on partners as a major contributor to cancelled quarterly zone Maternal Death Review meetings. Supportive supervision in the district hospital is not done according to schedule. There is also limited interaction with the district hospital Maternal Death Review committee members to share best practices and develop action plans to address maternal death issues affecting the zone.

*“…partners have not come forth to support us with these meetings … but in the past we could do them at least quarterly and discuss how best to improve… “*(ZHO #1)

*“…one year has elapsed since we had reviews due to lack of resources… and no meetings were taking place as scheduled…”* (ZHO #3)

The participants also reported that lack of adequate funding has caused staff members to shun review meetings because they don’t get lunch allowance and refreshments.

*“…every time they are talking of financial problems … people are willing to do everything in time but sometimes you see there is no Fanta and people are discouraged…”* (MID HOSP #4)

*“... the number of files that need to be audited are more than 10 or 15 but you are targeting to do three quarters of that so… lunch allowances for people to sit down, money to buy refreshments…we don’t have a donor, we cannot manage…”* (MID HOSP #2)

However, participants pointed that money incentive was introduced to motivate staff members to attend Maternal Death Reviews. Unfortunately, once the partners pull out their financial support there is no sustainability. This resulted in delays to review the maternal deaths and sometimes reviews are not done at all.

*“… of recent these MD audit have been channelled by the partners and those involved in MNH issues brought the issue of motivation for people to do the audit so were given an allowance. Now the partners have pulled out and members don’t want to be just called to do the audit for free ...that has really affected the audits because at the end you just pile up the cases and a few have been audited and the rest are left*.” (MDRC HOSP #3)

*“…if partners come and support these activities it’s a motivating factor because of the monetary component attached to it but the moment they go it turns out to be a demotivating factor...” (*ZHO #3)

Because the quarterly meetings are not done, the Zone Office developed a template to capture data on maternal death in the district hospitals. This help them to compile quarterly reports to the Ministry.

*“…because we are not having meetings, what we are doing now we developed a template we send it to the districts so that they fill that …” (ZHO #1)*

### 4.8.2 Unavailability of committee and staff members

The committee members reported that other activities with money attached make the members and staff not to be available for the MDR meetings as narrated below;

*“…people just come and sit with nothing then people seem to be busy … we have a lot of competing activities happening that have monetary attachment to them so that’s why it becomes very difficult to get people together…”* (MDRC HOSP #2*)*

*“…the negative part is the presence of people to participate in the audit because as you are aware it’s government and you are aware that money is an issue so people try to look at money involved…” (*MDRC HOSP #1)

Participants also reported that shortage of staff due to high vacancy rate, high work and workshops has contributed to unavailability of committee and staff members during reviews. This in turn led to postponement of the review meetings.

“… *may not meet some other time because members of staff are not available … we have a vacancy rate of 51 percent … to make nurses, clinicians and who whoever in the committee available it really becomes a problem…* (MDRC HOSP #2*)*

*“…sometimes the review is due, but most members are engaged with some activities, workshop and routine duties…”* (MDRC HOSP #4)

The Health Zone Officers noted that committee and staff members are money oriented because they can do the reviews without money as explained below;

*“…at the district people can just set aside a day and do the reviews since the team is there but because of attitudes people prefer to get something…”* (ZHO #3)

Participants also reported that lack of personal commitment contributed to the absence of committee and staff members during review meetings as related below;

*“*… *ones who come its personal commitment but the others they are not there because there is nothing which motivates… like refreshments or lunch allowance*…” (MID HOSP #3)

*“…most of the members are not willing so it’s just the safe motherhood coordinator who is very busy pushing for us to meet…”* (MDRC HOSP #3*)*

# 4.9 Limited understanding of the MDR process

Participants reported that they have inadequate understanding of how to go about Maternal Death Review process. Two subthemes emerged; Inadequate orientation to and training in Maternal Death Review process and inadequate understanding of using the Maternal Death Review forms.

### 4.9.1 Inadequate orientation to and training in MDR process

Participants in some hospitals reported that they have not been oriented or trained in Maternal Death Review. In hospitals where the orientation has taken place, it is a few members because of financial constraints. The participants claimed that inadequate knowledge contribute to ineffective and incomplete reviews.

*“…we have not been oriented in the new approach due to lack of financial support… so we are waiting…” (*MDRC HOSP# 3)

*“… we have not been trained or oriented to do maternal death review... since I have been working here* (MID HOSP #1)

*“…in our case we have never gone for a training like how to review so with that little knowledge at times some of the areas which are of importance are not addressed…* (MDRC HOSP #1)

Meanwhile, the Zone Health Officers reported that orientation was done in all the district hospitals. The Safe Motherhood Coordinators are responsible for orienting new members of the committee as expressed below;

*“… all the districts and safe motherhood coordinators have been oriented and we expect all the teams to be doing MDSR…” (*ZHO #1)

*“...every time when they have a new MDR committee the safe motherhood coordinator orients members on how they are supposed to utilize that tool so that everybody is very conversant …” (*ZHO #3)

**4.9.2 Limited understanding of using the MDR forms**

Most midwives reported attending review meetings with no idea of what they are supposed to do. Some do not know how to fill the notification forms and others are still using old forms.

*“…we have not been trained or oriented in maternal death review, we just being called… and it’s when we are just shown the forms to say this is the audit form and this the way we do the audit …”* (MID HOSP #3)

*“… there are a lot of staff in the labour ward who have never filled that form …”* (MDRC HOSP #1)

*“… they are new forms which we are to use which were supposed to be distributed throughout the country but unfortunately it’s like things are not being done that way…” (MDRC HOSP #1)*

# 4.10 Poor implementation of MDR action plan

The findings of the study showed that action plans are poorly implemented. Three subthemes emerged namely; poor management and financial support, poor feedback mechanism and unwillingness of committee and staff members to implement action plan.

### 4.10.1 Poor management and financial support

The participants reported that DHMT does not fully support the implementation of the action points despite some committee members are part of the DHMT. This is causing frustration among the staff members.

*“…though the committee has management members still more they don’t seem to take the recommendations seriously. They …met and approve these activities, so they need to support us…”* (MDRC HOSP #3)

*“… matron can shed more light because when you tell them … nothing is being done and its’ frustrating because you feel as if you are doing nothing…”* (MID HOSP #4)

Participants also noted that action points referred to the national level take time to be addressed due to scarcity of resources. This has led low morale in MDR activities in the hospitals.

*“…at times, it feels bad that the action points have not moved as quickly as possible but you also you know that the resources are not there like human resource…”* (ZHO #1)

*“…they are some that are beyond our control, so it becomes demoralizing because you plan but then fail to fulfil what you have planned because you don’t have control over that…”* (MDRC HOSP #3)

The findings showed that implementation of action plan is highly dependent on partners for financial support. If partners are not available, then MDR activities get stack as explained below;

*“we are more less like becoming facilities that run-on donor funding or projects if there is no donor it means there is no activity …MNH have remained idle for long without been funded and the MDSR happened to be one of it…”* (MID HOSP #2)

### 4.8.2 Poor feedback mechanism

The results of the study showed that there is lack of horizontal feedback; within the hospital and vertical feedback; from Zone Office and Ministry of Health. There is no feedback following implementation of action plans to know the progress. Midwives working in labour ward lack specific feedback and those who did not attend the review meetings do not get any feedback as well.

*“…when they implement the actions, we are not told the outcome it’s just water under the bridge, feedback is most challenging one ...”* (MID HOSP #3)

*“… if there is audit and there were issues which we need to improve and maybe we have improved… there is no feedback that these things have now changed...”* (MID HOSP #1)

*“…the recommendations are not communicated to every midwife only those who were involved in that audit know the recommendation but the rest of us do not…” (*MID HOSP #4)

*“…there is no such thing as specific feedback to midwives in the labour ward…”* (MID HOSP #2)

Consequently, because feedback is not given midwives reported that its painful and stressful because they are faced with same unresolved issues. They also reported of difficulties to improve when feedback is not coming forth as narrated below;

*“…because we don’t get feedback, to us we just take it it’s a normal issue we just continue working but sometimes it’s painful to… find that there are the same issues just circulating… it’s stressful…”* (MID HOSP #3)

“… *the DHO don’t give feedback, if there is feedback that comes we are not given as midwives so that we should know how best we can improve…”* (MID HOSP #1)

The participants also reported lack of vertical feedback. There is no feedback on whether something is being done or not to address their recommendations. This makes them feel demotivated since it looks like the higher authority is not concerned with maternal death issues.

*“…reports are sent to the zone but we don’t get feedback if we could be getting feedback from the authorities it can be some sort of motivation to the team because we can feel that it’s not just for us but other people are also interested … in reviewing maternal deaths….”* (MDRC HOSP #3)

*“…when we send the MD1 form to the zone, we have never had feedback from the zone, maybe it’s just for their records…”* (MDRC HOSP #2)

The Zone Health Officers also reported that lack feedback from the Ministry of Health is a major concern from the district hospitals. This has created distrust in the Zone Health Office because the committee members and staff feel that their efforts to do MDRs are futile as explained below;

*“…the district’s concern most of the time is waiting for feedback and feel we are failing them… and they wonder what is our role and why are we not pushing for the feedback*…” (ZHO #2)

However, the Zone Health Officers reported despite pushing for feedback from ministry, there is not much they can do apart from waiting.

*“…districts do not get feedback in time because in certain situations the office responsible from RHD would be excusing themselves to be busy and it can take up to 6 months depending on the issue…”* (ZHO #3)

*“…. they find that the same action point has not been implemented and the feedback we get from the higher level is ‘we are trying to look into it…’”* (ZHO #1)

### 4.10.3 Unwillingness of committee and staff members to implement action plan

The participants showed that implementation of action plans is a big challenge. Committee and staff members lack willingness to implement and follow up the action plan. Sometimes they just wait for the DHMT to do everything, while the responsible person does nothing.

*“...they are doing the review and have the action plan documented on each MD 2 form but now to implement and follow up of those action plans is a challenge…”* (ZHO #1)

*“… the team does not follow up very much on the action plan because people say that are busy or maybe they are waiting for management to do something…”* (MDRC HOSP #1)

*“…we sometimes make action plans but those to take responsibility do not make things move…”* (MDRC HOSP #4)

Participants reported that in some cases no action plan was drawn or was incomplete. This made quality improvement next to impossible as narrated below;

*“…sometimes the other challenge is that the audit team here does not meet to make plans to prevent other maternal deaths so sometimes the same problems come when a maternal death occurs…”* (MID HOSP #1)

*“… sometimes the action plan is not made comprehensively…lacks some clear direction…”* (MID HOSP #2)

However, the Zone Health Officers reported that they are mandated to follow up on action plans the district hospitals make to ensure they are implemented. Zone Health Officers mainly help in policy direction in the implementation of the action plans.

*“The zone is also mandated to follow up the districts especially on the work plan that they make and see how they are achieving the work plan and we offer guidance and policy direction that they may need...” (ZHO #2)*

On the other hand, participants reported that those action points they can manage at their level are carried out with no problems. They also feel that because they depend on Ministry of Health to implement some of the action points it delays the activities unlike if they had means and capabilities to do everything by themselves.

*“… some recommendations need huge investments in terms of resources… like… infrastructure … what we can implement within our capacity we try our level best* …” (MDRC HOSP #2)

*“…you depend on somebody to do for you… who is not part of your team, … you depend on ministry … it is very difficult to have a very good feedback unlike your own .*..” (MDRC HOSP #4)

Furthermore, some felt that the reduced number of Maternal Death Review committee has deprived the direct involvement of concerned officers to implement the action plans as explained below;

*“…currently the officers that have been opted into the committee, mostly are management members…but there are other smaller officers that can also directly provide appropriate input … for instance, a transport officer currently is not in for this … if the transport officer is directly represented it makes a difference… they are able to give their input and take issues right away there”.* (MDRC HOSP #2)

Participants noted some communities are a difficult to implement action plan. They are hostile, lack understanding of their role and they have wrong perception towards Maternal Death Review.

*“…. the community refuses to work on some of the community related action points, some communities are very difficult because all they think is it’s the responsibility of the hospital… “(*ZHO #3)

*“…. it’s not each community which are receiving us with a happiness, some they become furious they don’t see the point of us going when death has already happened …”* (MDRC HOSP #3)

**Suggested solutions from MDR committee members, midwives working in maternity and Zone Health Officer for effective Maternal Death Review process.**

The participants suggested some measures that could make MDRs yield the intended purpose of improving quality of care thus preventing further maternal deaths.

# 4.11 Making Maternal Death Reviews effective

Four subthemes emerged from this theme; prioritizing MDR activities and action plan implementation, having personal commitment, using other clinical situations to improve quality of maternal health care and providing training and orientation to staff and committee members in maternal death review process.

### 4.11.1 Prioritizing MDR activities and action plan implementation

Participants suggested that priority should be given to time, financial and material resources for timely action. They also wished that maternal deaths should be treated as cholera cases so that there is prompt response.

*“… issues to do with review should be taken as priority, I can give an example that there is a cholera case somewhere no matter how strong the case … we try to be mobilized and we go to the facility, so maybe we apply the same pressure to the issues to do with Maternal Death Review as well…” (MDRC HOSP #4)*

*… In audit, information can better be implemented when possibly the death is still fresh. If the committee can sit down within seven days, it will have a better impact than of the death that happened some time ago even year…* (MID HOSP #2)

### 4.11.2 Providing timely feedback on progress of MDR action plan implementation

Midwives suggested giving feedback during ward meeting to those who did not attend will help them realize the value of participating in reviews. They also suggested the importance of follow up in case of delayed feedback.

*“…If previous audits the feedback was given people would see the importance of audits and they will be able to participate.* (MID HOSP #3)

*“… during the ward meeting the safe-motherhood coordinator to communicate about the audit that was done…”* (MID HOSP #3)

*“… if the death has occurred and report has gone to the DHO and if they are not giving us feedback then the audit team here they are supposed to follow up…”* (MID HOSP #1)

The midwives also suggested the need for blame free review meeting and respect when giving feedback. This could help them to learn and to take criticisms positively. They also feel that involving all members of the committee especially the management members can also reduce the blame that is mostly placed on the midwives.

*“...the way people are approached … show dignity … people have the ability to take criticisms as being constructive…” (MID HOSP #2)*

*“The reviews should not be causing fear but they should help us to learn and change so that we prevent maternal death…* (MID HOSP #1)

*“… without this activity being done the blame would be attributed to the nurses, because they render the care but if we bring the team together whereby they are people in administration… we are able to make sure that we actually find where something went wrong and then rectify it …* (MID HOSP #2)

### 4.11.3 Having personal commitment

The MDR committee members felt that if there is personal commitment, review meetings will be done on time because committee and staff members will be available. They will also value the meetings more than the money they always want to get when they attend such meetings.

*“…you can’t run away from the fact that … there is something taking place out there that has money and here there is no money and people go where there is money so, it needs personal commitment…” (MDRC HOSP #2)*

*“…it also calls for commitment of the committee members much as being a member you are already aware of the importance of auditing the MD but sometimes you fail to meet…” (MDRC HOSP #4)*

### 4.11.4 Using other clinical situations to improve quality of maternal health care

Participants suggested using other activities like critical case analysis within the department and using morning reports as platform for learning should be used to improve quality of care. They felt quality improvement endeavours should not wait until maternal death occur.

*“…in maternity, we don’t have to wait for the death to occur, I think we are supposed to sit down and to review our care to the patients at least monthly to see how best we can improve…”* (MDRC HOSP #1)

“*… our morning reports they are not a forum for learning because like we got a clinician who was on night duty but the reports they are nurse based, they are cases which they are supposed to present together … but that is rarely done … if such forums are formulated that would improve the quality of health for maternal and neonatal care…” (MDRC HOSP #4)*

Other participants suggested that each death should be audited like in Emergency Triage Assessment and Treatment (ETAT) which advocates for review of each paediatric death. They feel this will become a culture in the hospital and might create acceptance of conducting even maternal deaths.

*“…. like in paediatrics using the ETAT we have been drilled on death auditing and we are already improving…”* (MID HOSP #1)

*“…. why can’t we do the same to other deaths that occur in the hospital why only so special with maternity? … that can be our tradition that when death occurs we audit it then there can be acceptance in the people ….” (MDRC HOSP #1)*

### 4.11.5 Providing training and orientation to MDR and staff members in MDR process.

Most of the participants posited that training and orientation to Maternal Death Review process is needed. They also suggested that introducing and intensifying Maternal Death Reviews at college level could instil a culture of doing the reviews without money incentives.

*“…an orientation, training should be done to be knowledgeable of what we should do during the review.”* (MDRC HOSP#3)

*“MDR component must be intensified at all levels for instance at college level … they should take it as part and parcel of work when providing maternal health services not necessarily just looking at it as a separate entity that they should attach financial issues, the culture should be instilled at student level…”* (ZHO #3)

Furthermore, others suggested that exchange visits during Maternal Death Reviews among the facilities can provide an opportunity to know better how to conduct Maternal Death Reviews in their institutions.

*“… if maybe you have death here and you may try to call other institutions … so that we review together next time they have it at another institution then maybe they may call other people from here… maybe that way it may improve our technical know-how...”* (MDRC HOSP #1)

## CHAPTER FIVE

# DISCUSSION

Chapter five presents the discussion of the findings of the study. The discussion highlights the main findings regarding Maternal Death Review practices in Northern health zone hospitals in Malawi in light of existing literature. The discussion is based on the objectives of the study and themes of the findings on Maternal Death Reviews.

# Understanding of Maternal Death Review process

Findings of this study showed that some participants reported that Maternal Death Surveillance and Response has replaced Maternal Death Review. This may be due lack of training and orientation to recently introduced Maternal Death Surveillance and Response in 2012. Consequently, service providers put more emphasis on death notification and data collection while actual reviews are not always done. Armstrong et al, (2014) reported a confusion in Tanzania between newly introduced MDRS with an already existing Maternal Death Reviews program. This resulted into the system to focus on data collection and surveillance and failed to explore challenges and solutions because the actual reviews were not done. Maternal Death Reviews a bring out the real burden of maternal death and solutions to address problems at district level unlike MDSR which focuses on national level issues (Muchemi & Gichogo, 2014). MDSR provides a surveillance tool for timely information on where, when, and why maternal deaths occur. Therefore, MDR is an essential component of MDSR because it forms the basis for the implementation of MDSR activities (Muchemi & Gichogo, 2014).

World Health Organization recommends qualitative analysis of maternal death to bring out in detail, the clear-cut reasons why an individual woman lost a life. MDR investigate the woman’s socioeconomic factors and quality of care the woman received (WHO, 2004a). Majority of participants in this study understood MDR as a process that analyse the maternal death to identify the strengths and weaknesses of the care provided during antenatal up until death, causes and contributing factors of the death. Richard, et al (2009) also noted the same kind of approach during reviews in Ouagadougou, Burkina Faso called ‘gate to gate’ as all stages of care from referral, admission diagnosis and treatment were reviewed.

Findings show that in Northern Health Zone of Malawi, maternal deaths due to abortion complications are not reviewed despite making a notification. This is different from MDR practice in United Kingdom where every maternal death is reviewed because they believe that a life has ended prematurely and worth to learn from to save lives of more mothers in the future (Lewis, 2012). The review of such deaths is equally significant because the gaps identified help to improve quality of care thereby preventing more maternal deaths.

The MDR guidelines for Malawi stipulate that case identification should include all deaths of women of reproductive age. Findings of this study show that case identification is done by capturing all deaths in the maternity ward and any death of a woman of the reproductive age. This is contrary to practices in high Income Countries where case identification starts with analysis of death certificate of every woman of reproductive age. This is because they have robust civil registration systems (Kurinczuk et al., 2014). The findings showed that maternal deaths that occurred in transit or in the community are not always notified. This was attributed to fear to be held responsible if the members of the decease report about the death. Similar findings were reported in Bangladesh where community members were afraid to report maternal deaths because of fear of punishment from the government (Biswas et al., 2014). Studies done in Rwanda and Sudan showed that Maternal Death Review system fail to capture deaths that occur in the community (Musoke & Balogun, 2015; Sayinzoga et al., 2016). Bayley et al., (2015) also reported similar results for a study done in Malawi which showed a weakness with the hospital-based notification system to capture deaths that occur in transit or in the community. Case identification and notification help to avoid missing cases in countries like Malawi that have poor civil registration to capture deaths that occur in the communities. Capturing death of every woman within the reproductive age group enhance accurate monitoring of maternal mortality and the impact of interventions to reduce maternal deaths (Ministry of Health, Malawi, 2012). Eventually MDSR which builds on MDR was introduced to facilitate case identification, notification and review of every maternal death regardless of place of occurrence (Ministry of Health, Malawi 2012).

Findings of the study showed that notification was done by midwives who last managed the deceased using MDA 1 form within 48 hours. Other African countries like South Africa and Ethiopia also adopted the mandatory notification of maternal deaths within 48 hours (Abebe et al., 2017; Hounton et al., 2013). Death notification helps to count every case, collect information for quantification and determination of causes of avoidable maternal deaths to prevent future deaths (WHO, 2015). However, some district hospitals would notify verbally via phone within 24 but failed to fill and send the notification forms to the Zone Office.

The MDR guidelines recommend for a coordinator to be responsible for death notification and organizing review meetings at the district hospital level. Findings show that the Safe Motherhood coordinators who are usually a registered midwife are responsible for case identification and maternal death review organization. Musoke & Balogun (2015) highlighted that in Sudan a focal person was to oversee maternal death notification though it was not always a midwife. Similarly, the experience with facility based Maternal Death Reviews in Nigeria showed that they have a chairperson who is a champion of MDR and is responsible for collecting case information and arranging for review meetings (Hofman & Mohammed, 2014). In Bangladesh there was no focal person but senior staff nurses were responsible for notifying each death and conducting reviews with support of doctors (Biswas et al., 2014). Abebe et al., (2017) noted that absence of a focal person or coordinator can cause confusion as to who should make notification and arrange for review meetings which will end up in collapsing the MDR system.

The findings also showed that midwives who last attended the deceased must write a report. Although the report aids in filling the notification form in case those who witnessed the death are not available, it is seen as a punishment tool hence creating fears among midwives. Unlike in the United Kingdom, all those who were involved in the care of the deceased write a summary of their involvement and reflect on what lessons they might have learned from that death and how to improve next time (Lewis, 2012).

# Perception on Maternal Death Review process.

Participants of the study indicated that Maternal Death Reviews have many benefits including increased resource mobilization, improved maternal delivery system and patient care. This is consistent with a study done in Northern Nigeria which showed that reviews helped in resource mobilization through hospital management, community and the sate (Hofman & Mohammed, 2014). Vink, De Jonge, Ter Haar, Chizimba, & Stekelenburg, (2013) indicated that hospital in Central Malawi established women’s group and bicycle ambulances committees in the community because of reviews to address delay and developed protocols for management of meningitis during pregnancy. Maternal death reviews led to 24 hours availability of emergency obstetric service (Raj et al., 2013). Similarly, in Tanzania there was workforce development, improved referral system and policy development to ensure availability of staff by identifying rooms within the hospital where doctors spent their night (Nyamtema et al., 2011).

Maternal Death Reviews provide good opportunities for learning and stimulates the setting of standards of care (World Bank & WHO, 2011). The findings showed that reviews in Northern Health Zone have helped in knowledge and skill gap identification hence creating a chance for learning. This is consistent with studies in Tanzania which showed that learning was the main motivator to attend and continue doing reviews (Armstrong et al., 2014; van Hamersveld et al., 2012). Reviews were seen as an opportunity to learn and prevent similar deaths in Bangladesh (Biswas et al., 2014). The success of Confidential Enquiry into Maternal death in UK is based on the philosophy of taking every maternal death as a learning opportunity to prevent further deaths. (Lewis, 2012). When Maternal Death Review meetings are taken as learning opportunities it may help to remove fear and compel staff members to improve on the quality of care.

The MDSR guidelines recommend that a code of ethics should be read and signed by members at the start of the review meeting (Malawi MDSR Guideline, 2012). In the findings, a code of conduct was read before starting the review meeting to ensure confidentiality and blame free atmosphere. These results are similar to a study in Tanzania that reported that a code of conduct was read and the meeting atmosphere were generally participatory, blame free and no finger pointing (Armstrong et al., 2014). However, despite deliberate efforts to make the reviews ‘blame free’, fault finding was still one of the main perceived barriers to effective reviews. An earlier study done in Malawi showed that although there are attempts to ensure blame free atmosphere, there was still a feeling of fear of consequences among providers (Kongnyuy & van den Broek, 2008). In Ethiopia fear also persisted despite no blame policy during reviews (Abebe et al., 2017).

Findings show that midwives are sometimes transferred out of maternity because of a maternal death that had occurred. The same was observed in Tanzania, where there was internal transfer and removal from supervisory roles of the staff that were held responsible for maternal deaths (Nyamtema et al., 2010). Nurses and Midwives Council of Malawi would suspend midwives following a maternal death due to negligence. This caused midwives to shun working in maternity, not willing to attend reviews and hiding information when writing a report. These findings are similar to a study done in Uganda in which there was fear of litigation of health workers by government because of maternal death leading to reluctance of health workers to conduct reviews and staff attrition (Agaro et al., 2016). In Ethiopia, there were reported cases of clinicians and family members being detained by police investigating maternal deaths although no one has been arrested. This created fear among the health workers (Abebe et al., 2017). In contrast, since the inception of Confidential Enquiry into Maternal Death in the UK in 1952 not one doctor or midwife or any other work has had legal action taken against them (Lewis, 2012). A legal framework that covers confidentiality and immunity for the success of Maternal Death Review activities is needed (Berg, 2012). Stressing on true confidentiality, blame free and fear free atmosphere during review meetings can make health workers to be committed and participate in MDR meetings.

The WHO seminal publication, “Beyond the Numbers” stipulated that making an action plan is very crucial step. Action plan facilitate accountability, follow up and evaluation of the recommendations implemented (WHO, 2004a). The findings indicated that an action plan is drawn for each reviewed case. Absence of an action plan usually result into no action to improve quality of care. This is different to a study done in Tanzania whereby sometimes no action plan was made or sometimes it lacked a speciﬁc measurable action plan to be implemented at the hospital level (Armstrong et al., 2014). De Brouwere et al, (2013) highlighted that action points must be realistic, action orientated, auditable, achievable, supported by evidence from the review and not more than ten to be effective. However, the findings of the study revealed that actual implementation of the action plan is a major problem. This was attributed to lack of support from hospital management, lack of funding and lack of commitment from those tasked with responsibilities. This has caused frustration because they face similar unresolved issues they have recommended in previous review meetings. These findings are consistent with studies done in Uganda and Tanzania which showed that recommendations were not implemented, hospital administration failed to implement recommendations and lack of funding made implementation of recommendations at community level difficult which caused loss of morale among staff and death of the committees in Tanzania (Abebe et al., 2017; Nyamtema et al., 2010). In contrast, each recommendation in the UK is valued and acted upon because any maternal death provides opportunity to avoid more deaths and maternal morality ratio was significantly reduced (Lewis, 2012).

# Challenges of Maternal Death Review process

The study findings showed that inadequate funding was one of the challenges faced during MDR process. The activities of Maternal Death Review largely depend on donor funding because of the recent cut in Other Recurrent Transaction (ORT) allocation. When the partners withdraw their financial support, there was no sustainability of money to support maternal death reviews. This has contributed to delay in conducting reviews and members not willing to attended meetings for without incentives. These findings are consistent with a study done in Uganda which showed that previously a non- governmental organization, Pathfinder International gave them incentives and when these stopped so did the morale to conduct reviews (Agaro et al., 2016). A study done in Burkina Faso showed mixed reaction on money incentives; majority of the regular attendees saw no need to receive money unlike those who participated less often demanded for a fee or transport reimbursement to motivate them to attended (Richard et al., 2009). Similarly, randomized controlled trials done in Burkina Faso, Niger and Benin noted that though hospital teams were given money incentives, they was variation in the proportion of actual audit meetings reported against the number agreed (De Brouwere, Delvaux, et al., 2014).

The findings also showed that the review meetings were scheduled for afternoon to cut on allowance and refreshments. This caused low turn up of committee and staff members to attend the meeting. Similar findings were reported in a study done in Uganda where meetings were also done in the afternoon due to lack of funds to provide members with lunch or soft drinks and was demotivating and made it difficult to get members to come for the review meetings (Agaro et al., 2016). The findings also showed that because of donor dependence quarterly zonal health office supportive supervision for MDR activities are not conducted as planned. Likewise, in northern Nigeria supportive supervisions and quarterly review meetings heavily depended on donor funding hence became irregular, difficult to organize and jeopardizing sustainability (Hofman & Mohammed, 2014).

The study also showed that members are not readily available for the review which caused cancellation of the meetings. This was attributed to other money competing activities, high work load and shortage of staff due to high vacancy rate. In Nigeria too, shortage of human resource and high workload made it difficult to get all committee members together leading to cancellation and postponement of meetings (Hofman & Mohammed, 2014). Similarly a study in Uganda showed heavy workload with fewer staff, lack of adequate time and competing activities among committee members and staff made it difficult to have the reviews according to the scheduled time. (Agaro et al., 2016). Likewise, a SWOT analysis conducted to identify factors which facilitate or oppose MDR process in Malawi showed that shortage of staff made it difficult to bring people together for a review and committee members had several other competing commitments (Kongnyuy & van den Broek, 2008).

The findings revealed that there is inadequate understanding on how to conduct MDR including how to fill the MDA 1 forms. This was attributed to lack of orientation and training in MDR process. This has led to ineffective and incomplete reviews. These findings are similar to a study done in Rwanda where by lack of knowledge and skills to properly conduct Maternal Death review led to problems with implementation and sustainability of MDRs (Musoke & Balogun, 2015). Poorly conducted reviews are prone to fail putting the lives of mothers in danger but also cause decline in professional support. In this study, lack of financial support made it difficult to conduct MDR trainings among committee and staff members. Sayinzoga et al, (2016) noted the same in Rwanda that despite need to train personnel in MDR process there was no budget that could be allocated to train personnel on how to fill the reporting forms. Adequate understanding of MDR process is good starting off point to ensure successful and sustainable MDR meetings.

Follow up and evaluation of the Maternal Death Review is crucial because it serves to check on the implementation of the recommendations made and determine any success and challenges encountered (WHO, 2004a). The findings showed that feedback is poor because those that were absent during the review are not communicated. They also don’t know whether any action was taken on recommendations raised during previous review meeting and they do not get feedback from the Zone Office. These findings are consistent with a study done in Burkina Faso where there was absence of feedback for staff who did not participate in a review meeting and lack of follow up of recommendations to evaluate the improvements achieved (Richard et al., 2009). Similarly, Tanzanian studies showed inadequate feedback to members of the audit team to know whether recommendations have been worked on or not. There was also lack of mechanism of feedback from higher level and follow up of recommendations which were major barriers to have effective reviews (Armstrong et al., 2014; van Hamersveld et al., 2012). In contrast, findings from an earlier study in Tanzania showed that feedback to staff involved in care was given in weekly education meetings with the intention of updating knowledge and skills of providers (Nyamtema et al., 2011). An effective feedback mechanism is important because it provides a common understanding of what needs to change. This gives a sense of direction of MDR activities among the staff members thus giving them encouragement.

# Suggested solutions for effective Maternal Death Review process.

Participants of the study suggested training of committee and all staff members in maternal death review and improving feedback mechanism as important strategies to improve on maternal death reviews practices. Likewise in Tanzania, enhancing feedback to all staff and managers and training staff in concepts and principles of review were suggestions put forth by participants to make reviews effective (van Hamersveld et al., 2012). Similar suggestions were presented during a study in Uganda which included, improving implementation of recommendations to motivate the staff and need to train all health workers in MDR process (Agaro et al., 2016).

The participants also suggested inclusion of Maternal Death Reviews in nursing curriculum. Inclusion of maternal death review within the n-service curriculum will enhance the culture among students to do reviews as part of routine work expectation. This will reduce the culture of expecting monetary incentives when healthcare providers participate in a maternal death review. A study done in Tanzania showed that Maternal and Perinatal Death Reviews is part of the medical school curriculum in Dar es Salaam and Mwanza in the form of a weekly lecture and case review presentation, but it does not appear within midwifery or nursing education (Armstrong et al., 2014). When students are exposed to MDR process while in college may contribute to strong MDR because they will value its importance.

## CHAPTER SIX

# RECOMMENDATIONS AND CONCLUSION

# 6.1 Recommendations

### 6.1.1 For clinical practice

For effective Maternal Death Review more trainings and orientation on Maternal Death Review and Maternal Death Surveillance and Response need to be conducted in all facilities. Training and orientation should include all clinical staff and not only the maternal death review committee members.

The code of conduct for Maternal Death Review should be signed by all participants attending the reviews to enforce a fearless atmosphere.

Safe Motherhood Coordinators should ensure morning reports are used as a platform to give feedback to other staff members who may not have attended the MDR meetings.

The Zone Health Officer to facilitate formal criteria based clinical audits and near miss reviews in the district hospitals to improve the practice.

There is need to strengthen community awareness, education and involvement in maternal death issues to help in death notification and verbal autopsy.

### 6.1.2 For education

Preparation for healthcare providers’ attitudes and skills in maternal death review needs to start while they are in training. Nursing educators should therefore incorporate MDR competencies in the curriculum and make it part of clinical training requirement for the students.

### 6.1.3 For Research

Considering that most maternal deaths in Malawi happen unreported in the community, more research need to do conducted on how best to strengthen community Maternal Death Review.

To ensure that future nurses are adequately prepared to conduct Maternal Death Reviews, more research to investigate how student nurses are introduced to Maternal Death Reviews need to be conducted

### 6.1.4 For Policy

There is need for Safe Motherhood coordinators to reinforce the policy of conducting Maternal Death Reviews for every death of women of reproductive age including due to abortion as stipulated in the MDR guidelines. Every maternal death is worthy to learn from to improve quality of maternal care.

Since money incentive is attached when clinical staff attend MDR meetings, the hospital management in collaboration with donors should make a policy that should emphasis on professional obligation and growth. The policy may also stipulate non-monetary incentives to motivate the staff.

# 6.2 Conclusion

Maternal Death Reviews continue to play a significant role of informing quality improvement of maternal health services. The need for effective Maternal Death Review practices cannot be overemphasized. Hospitals in Northern Malawi practice Maternal Death Review. Although there is confusion between MDR and MDSR concept still MDR meetings have helped to improve quality of care, identify knowledge and skill gaps and fostered spirit of team work. Maternal Death Reviews are faced by numerous challenges including inadequate finance support, limited knowledge of MDR among healthcare providers, lack of commitment, blaming game and failure to implement action plans developed during reviews. Suggestions to improve MDR practices include improving feedback mechanism, conducting Maternal Death Review trainings, inclusion of Maternal Death Review in nursing college curriculum and ensuring adequate financial resource.

Without effective Maternal Death Reviews practices and taking beneﬁcial actions on the lessons learned, the process will be no more than a method for improving surveillance and qualitative method for identifying overall risk factors and determinants of maternal deaths.

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## APPENDICES

# Appendix I: Consent form for MDR committee members and midwives in maternity

**Introduction:** Good morning/afternoon.My name is MARLA BVUMBWE, a Master of Science (Maternal and Neonatal Health) student at College of Health Sciences, School of Nursing, Department of Midwifery and Gender, at Moi University, Eldoret, Kenya. I have gotten approval from Institutional Research and Ethics Committee (IREC) and National Research Council of Malawi.

**Purpose of the study**

The study intends to explore maternal death review practices among hospitals in the northern zone of Malawi.

**How are you going to participate?**

If you accept to participate in this research, you will be involved in focus Group Discussion (FGD) which will take about 45-60 minutes. During the discussion, the researcher will use a tape recorder and note taking to collect data related to the objectives of the study.

**What are the risks involved?**

There no risks for you to participate in this study.

**What are the benefits?**

There will be no immediate or direct benefits to you for participating in this study. However, it is hoped that your participation will in the long run help to improve maternal death review practices to help reduce maternal deaths. There is no any payment for participating in the study only refreshments will be provided during the discussion.

**Confidentiality**

Confidentiality will be ensured by using codes and name and other identifiers will not be written anywhere. The data collected will also be treated with strictest confidentiality by keeping it safe away from those not intend to see it.

**Right to participate or to withdraw**

Taking part in this study is voluntary. You have the right to accept to participate or not to participate. You have also the right to withdraw at any time or select to not participate in the entire survey. If you withdraw, there is no need to explain reasons for withdrawal and there is no penalty for withdrawal or decision to not participate in the study.

**Questions about the Research**

In case of any further inquiries, you may contact the principal investigator, Marla Bvumbwe @ +265888323441or +254715559268. If there is any problem concerning your rights to participate in this study, you can contact Office of the Institutional Research and Ethical Committee of Moi University, Eldoret, Kenya +254787723677 or call National Research Council of Malawi, Lilongwe +265 (0) 1771550

**To sign a consent to participate in this research**

Do you have any question? Have you understood the above information? Do you voluntarily agree to participate in this study? If you agree to participate in this study, you sign as an evidence, then I also sign and give to you a copy of this consent form.

I have read and understood the above consent concerning this research. I have been given enough time to ask the questions and I am satisfied with the answer I have been given. I voluntarily accept to participate in this research study.

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I declare that all information about the overall process, objective, risks and benefits to participate in this research study have been explained to this person

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Appendix II: Consent form for Zone Health officers

**Introduction:** Good morning/afternoon.My name is MARLA BVUMBWE, a Master of Science (Maternal and Neonatal Health) student at College of Health Sciences, School of Nursing, Department of Midwifery and Gender, at Moi University, Eldoret, Kenya. I have gotten approval from Institutional Research and Ethics Committee (IREC) and National Research Council of Malawi.

**Purpose of the study**

The study intends to explore maternal death review practices among hospitals in the northern zone of Malawi.

**How are you going to participate?**

If you accept to participate in this research, you will be involved in in-depth interviews which will take about 45- 60 minutes. During the interview, the researcher will use a tape recorder and note taking to collect data related to the objectives of the study.

**What are the risks involved?**

There no risks for you to participate in this study.

**What are the benefits?**

There will be no immediate or direct benefits to you for participating in this study. However, it is hoped that your participation will in the long run help to improve maternal death review practices to help reduce maternal deaths. There is no any payment for participating in the study.

**Confidentiality**

Confidentiality will be ensured by using codes and name and other identifiers will not be written anywhere. The data collected will also be treated with strictest confidentiality by keeping it safe away from those not intend to see it.

**Right to participate or to withdraw**

Taking part in this study is voluntary. You have the right to accept to participate or not to participate. You have also the right to withdraw at any time or select to not participate in the entire survey. If you withdraw, there is no need to explain reasons for withdrawal and there is no penalty for withdrawal or decision to not participate in the study.

**Questions about the Research**

In case of any further inquiries, you may contact the principal investigator, Marla Bvumbwe @ +265888323441or +254715559268. If there is any problem concerning your rights to participate in this study, you can contact Office of the Institutional Research and Ethical Committee of Moi University, Eldoret, Kenya +254787723677 or call National Research Council of Malawi, Lilongwe, at +265(0) 1771550

**To sign a consent to participate in this research**

Do you have any question? Have you understood the above information? Do you voluntarily agree to participate in this study? If you agree to participate in this study, you sign as an evidence, then I also sign and give to you a copy of this consent form.

I have read and understood the above consent concerning this research. I have been given enough time to ask the questions and I am satisfied with the answer I have been given. I voluntarily accept to participate in this research study.

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I declare that all information about the overall process, objective, risks and benefits to participate in this research study have been explained to this person

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Appendix III: Permission letter to The Northern Health Zone Supervisor

Moi University

School of Nursing

P.O. Box 4606-00100

Eldoret

20th June 2016

The Northern Zone Manager

Northern Health Zone Office

P/Bag 1

Mzuzu

Dear Sir/ Madam

**Re: Permission to conduct a study Northern Health Zone Hospitals**

I write to ask for permission to conduct an exploratory study in the zone**.**

I am a student pursuing a Masters in Science Nursing (Maternal and neonatal Health) at the School of Nursing, University of Moi, Kenya. The study is for academic purposes and aims at exploring the maternal death practices among hospital in the northern health zone.

I will purposively sample four district hospitals to conduct the study. I will conduct Focus Group Discussion (FGD) with maternal death review committee members and midwives working in maternity. On average FGD will take about 45-60 minutes.

This research is important to the facilities in northern zone because it will give feedback to key role players in maternal death review to re- plan where strategies did not do well and improve and maintain on areas that have provided positive impact.

Please find attached Institutional Research and Ethics Committee (IREC) and Malawi National Research Council approval.

Yours faithfully,

Marla Bvumbwe

E- mail: [marlayika@yahoo.com](mailto:marlayika@yahoo.com)

[marlabvumbwe@gmail.com](mailto:marlabvumbwe@gmail.com)

Tel: +265 888 323 441

+ 254 715 559 268

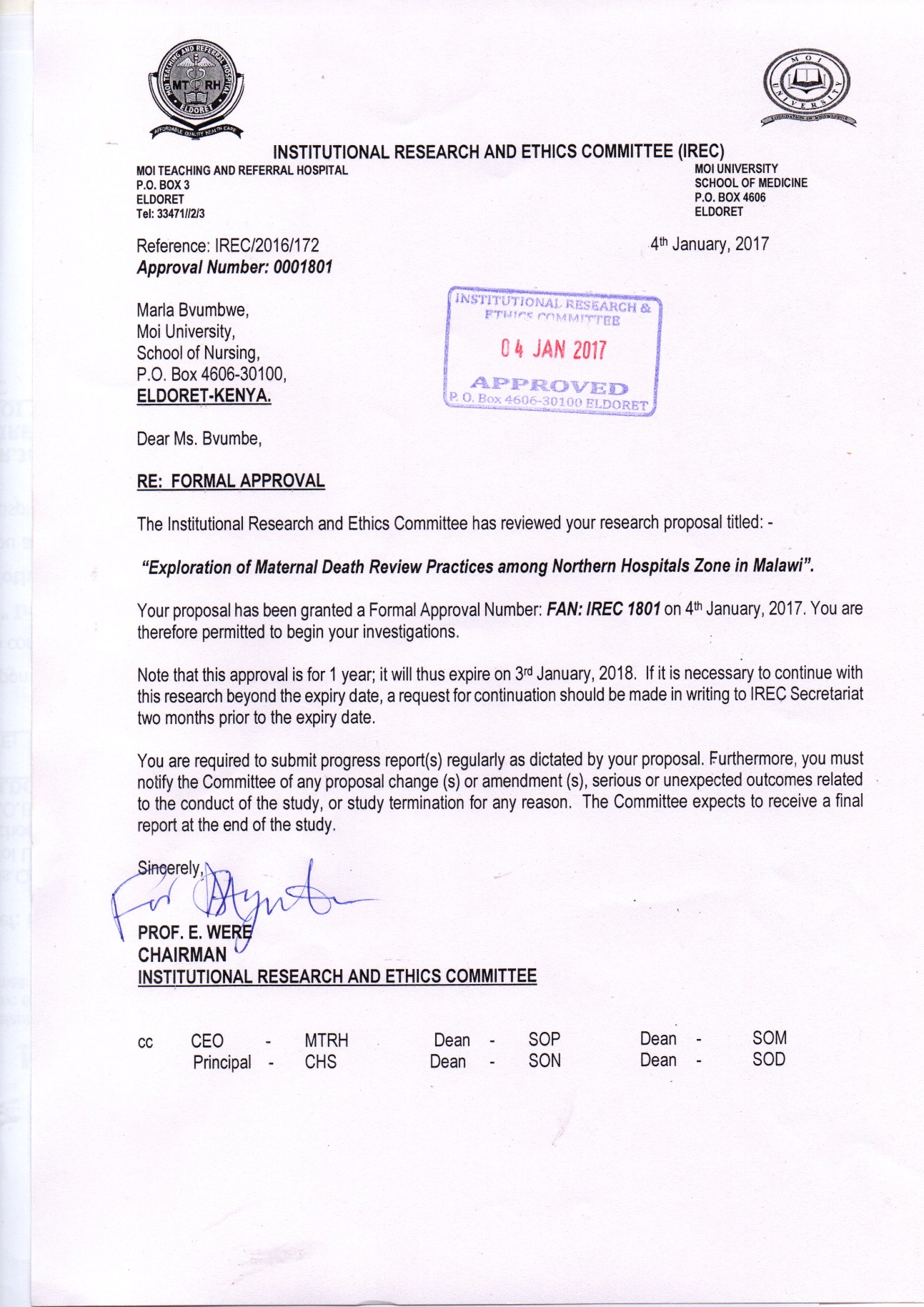
# Appendix IV: Focus Group Discussion Guide for midwives and MDR committee members

1. What do you understand by maternal death review?
2. What happens when a maternal death has occurred?
3. What are your perception about maternal death reviews?
4. What challenges have you faced with maternal death reviews?
5. How best can maternal death reviews be done?

# Appendix V: In-depth Guide for zone health officers

1. What role do you play in maternal death reviews?
2. What are your perception about maternal death reviews?
3. What challenges have you faced with maternal death reviews?
4. What do you think can be done to address the challenges you face with maternal death reviews?

# Appendix VI: IREC approval letter



# Appendix VII: NCST approval letter

