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**AN ASSESMENT OF THE IMPLEMENTATION OF THE FREE
MATERNAL SERVICES IN MURANG'A COUNTY REFERRAL
HOSPITAL**

**LEONARD GIKERA
MBA-HCM/28925/15**

A research dissertation submitted in partial fulfilment for the award of the degree of
Master of Business Administration in Healthcare Management of Strathmore University



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June 2018



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ABSTRACT

This study aimed to establish the trends of utilization of FMS services at Murang'a County Referral Hospital between 2013 and 2017, to assess the readiness of the hospital to offer FMS and to explore the contextual factors affecting the implementation of FMS.

The study adopted a mixed method design. Quantitative data on trends of the use of FMS was obtained from the hospital records. A checklist was used to assess the services availability and readiness, while a qualitative inquiry was done using semi-structured one-on-one interviews with key staff involved in the provision of maternal care at the health facilities. Quantitative data was analysed using SPSS while the qualitative data was analysed using a thematic framework analysis.

There was demonstrated initial increase in utilization of skilled care in 2013 after elimination of user fees followed by decreased utilization in 2016 and 2017 which was attributed to unavailability of the services especially during the periods of industrial unrest by health workers and quality concerns. The outcomes however did not show significant improvement. The main challenges identified were inadequate and de-motivated health care workers, shortages of inputs like drugs and other health commodities, lack of continuous quality improvements structures, overcrowding due to inadequate physical facilities and uncompensated loss of revenue.

The study recommends development of a robust and well-funded HR system at the county and facility levels. This will address recruitment, motivation, training and retention of health workers; Ring fencing health funds at the county level to ensure uninterrupted service provision; Upgrading of the physical infrastructure, especially the decongestion of the post-natal ward and establishment of an ICU; Strengthening the hospital and county Human Resource (HR) department; and Motivation of the healthcare workers through enhanced remuneration, provision of training and improved working conditions.

DEDICATION

This work is dedicated to my family members for their support and encouragement during the entire period of studies and research.



ACKNOWLEDGEMENT

I am grateful to my lecturers and especially my supervisor for guidance through my studies and research journey. I am also grateful to my fellow students in the MBA-HCM cohort 111 class for their comradeship and encouragement.



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ABBREVIATIONS AND ACRONYMS

ANC	-	Ante natal clinic
CRH	-	County Referral Hospital
CBA	-	Collective Bargain Agreement
FIDA	-	Federation of women lawyers
FMS	-	Free maternal services
HAO	-	Health Administrative Officer
HR	-	Human Resources
HMT	-	Health Management Team
IDI	-	In-depth interview
ICU	-	Intensive Care Unit
KNBS	-	Kenya National Bureau of Statistics
KDHS	-	Kenya Demographic and Health Survey
MCH	-	Maternal and Child Health
MOH	-	Ministry of Health
SGDs	-	Sustainable Development Goals
SARAM	-	Service Availability and Readiness Assessment Mapping
SPSS	-	Statistical Package for Social services
TNA	-	Training Needs Assessment
USA	-	United States of America
WHO	-	World Health Organization

DEFINITION OF TERMS

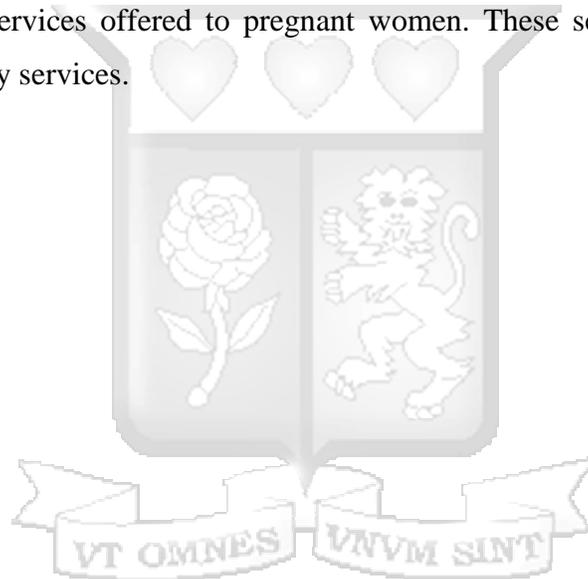
Free maternal health care: non-payment for services offered to pregnant women.

Hospital infrastructure: includes physical and organizational structures required for effective and efficient operation within the hospital set-up.

Implementation of free maternal healthcare services: The removal of service charge in public health facilities in relation to women delivering and accessing antenatal and postnatal services in these health facilities

Human resources: include all human workforce or human capital in the health facilities.

Maternal healthcare: services offered to pregnant women. These services include antenatal; delivery and post-delivery services.



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Records from the World Health Organization (WHO) show that pregnancy related issues occasion the mortality of women in the reproductive age annually with the bulk of the incidences occurring in developing countries (WHO, 2014). The main cause of the mortalities is inadequacy of birth attendants during delivery, thus calling for appropriate obstetric care to reduce the occurrence. Most of the mortalities can be prevented by provision of affordable healthcare, free maternal services and subsidized access to private healthcare providers (WHO, 2015). Hence, the need for greater investment in healthcare services by way of capacity building of birth attendants, availing the requisite resources to ensure access to maternal healthcare in developing countries and equipping the available healthcare facilities (Steinhardt, *et al*, 2013).

Maternal health relates to the pregnancy period, child bearing event and postpartum period. Complications arising from inadequate healthcare during this period may pre-dispose women to high levels of mortality. The need for reduction of complications and ensuring access to adequate and essential obstetric care is thus a universal imperative (World Health Report, 2014). Estimates show that 500,000 women are affected by complications of pregnancy and child bearing to the extent of fatalities. These complications are a big drain to the national economies, attributed to the fact that the resources expended to cater for the losses accrued to the households would be better utilized elsewhere (Eduardo, 2014). The situation of loss of livelihoods equally disenfranchises households occasioning dependence on the extended families and economic loss from the absence of productive ventures.

Investment in healthcare is much higher in the developed economies than in developing countries. In the USA for example, the amounts of money spent on ensuring access to maternal healthcare is more than investments made by countries in the third world economies for their annual budgetary appropriations (WHO, 2015). Despite this investment, women in the USA still run the risk of pregnancy related complications inducing mortalities. Similar cases abound in Europe and Asia whereby we still have cases of maternal mortality attributed to pregnancy related complications despite advances in maternal healthcare (Bennett, *et al*, 2012). The need to

invest in better services in the developing countries cannot therefore be gainsaid if reduction of maternal mortality rates is to be achieved. (Eduardo, 2014).

From a human rights perspective all women have the right to access healthcare and receive treatment with respect, responsibility and dignity without any discrimination (FIDA, 2015). The essence of ensuring equality has been a key catalyst in enhancing universal maternal healthcare for women. This is occasioned by the fact that international instruments make reference to discrimination and inequality that women face in aspects of maternal health (Steinhardt, *et al*, 2013). Article 10 of the International Covenant on Economic Social and Cultural Rights provides that special protection should be accorded to women during child birth as a matter of right. This places the obligation of ensuring access to universal maternal healthcare on governments as a basis of enhancing equality (WHO, 2014).

Affirmative action with regards to access to maternal health care services has been done in many developed jurisdictions. This has underscored the essence of the countries to ensure that women have access to better health during child bearing in adherence to international best practices and legal concerns guided by laid down protocols (UN, 2015).

This affirmative action has imposed the responsibility of ensuring access to maternal health on governments and it has facilitated the development of partnerships with development partners for resource mobilization purposes. The affirmative action has gone a long way in lessening the suffering of women during childbirth and reduction of the mortality rates, thus enhanced livelihoods for the women and larger populations (WHO, 2015).

Kenya has had a history of high maternal morbidity and mortality rates. Estimates show that the maternal mortality rate was 488 deaths per a100, 000 live births (MOH, 2013), which was inadvertently higher than the global target of 147 for every 100,000 live births (Bosire, 2014). Many women suffer from serious injuries or disability associated with complications in pregnancy and delivery (Gay, 2013). The high level of mortality has been the norm despite improvements and major strides in other indicators in the health sector over the past years. This state of affairs can be attributed to lack of access to quality maternal health services entailing antenatal, delivery and postnatal care (Nzinga, *et al*, 2013).

Despite growth in healthcare services' infrastructure many women live considerably far from the healthcare facilities, are impeded by the high fees for maternal services and face other barriers to accessing quality healthcare attributed to cultural persuasions and related factors (Chuma, *et al*, 2014). Access to skilled personnel is a challenge and many of the deliveries especially in the rural areas are attended by traditional birth attendants (TBAs), relatives and friends. In the financial year of 2013/2014 the Government of Kenya committed 3.8 billion to fund the free maternal healthcare programme and ensure free access to health centres and dispensaries, while at the same time making monetary appropriations for infrastructure and personnel in the public maternal healthcare services provision (Sihanya, 2013). The aim of this investment was to address the high maternal mortality and morbidity across the country.

Devolution of Health Service Delivery

In 2013, the health service delivery function was devolved to the County Governments with the National Government retaining the mandates for policy making, capacity building and referral hospitals. The County Governments are charged with the responsibility of ensuring achievement of the governments' aspirations with regards to healthcare services provision in line with the Constitutional provisions and policy, aligned to the country's vision 2030 (Mbugua, 2014).

The county governments have been affected by strikes by healthcare workers since the advent of devolution in 2013. This has affected service delivery tremendously. There is, therefore, a need to carry out an analysis of the implementation of free maternal healthcare services in Murang'a County Referral Hospital to assess its performance over the last 5 years of implementation.

1.2 Statement of the Problem

The Kenya Country Summary on Maternal and Child Health, of March 2017 shows that the country still has a very high maternal mortality rate estimated at 362 per 100000 live births. Use of maternal healthcare services is critical in reversing the trends of maternal and neonatal morbidity and mortality, which are more pronounced in rural economies where women's health is greatly affected by poverty and related factors. In the rural economies, the antenatal healthcare coverage is low and many women make initial visits late into the pregnancy as opposed to the recommended initial phase (Bosire, 2014). Use of skilled healthcare delivery has reduced in the developing countries in comparison to the previous decade due to increased demands for public

healthcare services provision and strained facilities due to failure to match increased population with investment in infrastructure (Sihanya, 2013). Consequently, there has been a deterioration of maternal healthcare services provision and a high risk to the wellbeing of the affected women. It is therefore important to have continuous upgrade of the existing facilities as a measure of sustainable maternal healthcare services provision (MOH, 2014).

The implementation of free maternal healthcare services has been in the context of devolved services that have been affected by intermittent strikes by doctors and nurses since 2013. The disruption of the public healthcare services provision attributed to devolving of the health function has had a shift of power and control from the National to the County Governments (Sihanya, 2013). Anecdotal reports from Murang'a County Government indicate some measure of dissatisfaction with the quality of services in the maternal healthcare provision segment (MOH, 2015). It is against this background that the study seeks to conduct an analysis of the implementation of FMS in Murang'a County Referral Hospital (CRH) over the last four years - 2013/14 to 2016/17.

1.3 Research Objectives

1.3.1 General objective

To assess the implementation of free maternal services in Murang'a County Referral Hospital, Murang'a over the period of 2013/14 to 2016/2017.

1.3.2 Specific objectives

- i. To establish the trends in utilization of FMS in Murang'a CRH between 2013/14 and 2016/17
- ii. To assess the service availability and readiness of Murang'a CRH to offer FMS.
- iii. To establish the contextual factors affecting FMS provision in Murang'a CRH.

1.4 Research questions

- i. What are the trends of utilization of FMS in Murang'a County Referral Hospital between 2013/14 and 2016/17?
- ii. What are the factors affecting the service availability and how ready is Murang'a CRH to offer FMS?

- iii. What are the contextual factors affecting provisions of FMS in Murang'a CRH?

1.5 Scope of the study

The study was conducted at Murang'a CRH maternal health department and subsidiary departments in the hospital. The respondents were personnel working in the respective departments and the key administrative staff. The study also interrogated county and the hospitals records so as to access the retrospective data on trends of utilization. The information in the records was corroborated from the data in the District Health Information Service (DHIS).

1.6 Significance of the Study

The study will inform the management and staff of the CRH and the county health department. The findings from the study will also act as an audit of the quality of care in the county's main hospital. In addition, these findings can be extrapolated to the entire county as the challenges facing the hospitals in the county are likely to be more or less similar.

Policy makers in the Ministry of health will find the findings useful in their work especially when monitoring and evaluating the program. Other counties and countries implementing similar policies will draw useful insights from the study.

The recommendations from the study, if implemented, will go a long way in improving both access and quality of care afforded to the county citizens. This will result in better quality services and subsequently reduced maternal and neonatal morbidity and mortality in the County.

The study will also be of significance to the donor agencies and institutions partnering with County Government in the provision maternal healthcare services. This is because the agencies will clearly monitor and ascertain the gaps in the healthcare sector in regard to FMS with a view of reducing the challenges in the area. They will also narrow down to specific interventions and have more impactful interventions leading to better value for the monetary resources expended.

Scholars analysing the impact of FMS in the country will also be able to draw useful insights from the study. The study will thus be of benefit to other researchers undertaking similar or related works in future.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers literature on provision of FMS. The chapter interrogates the information provided on the basis of its strengths and weaknesses. It also encompasses the theoretical review and the gaps to be filled by the study.

2.2 Theoretical framework

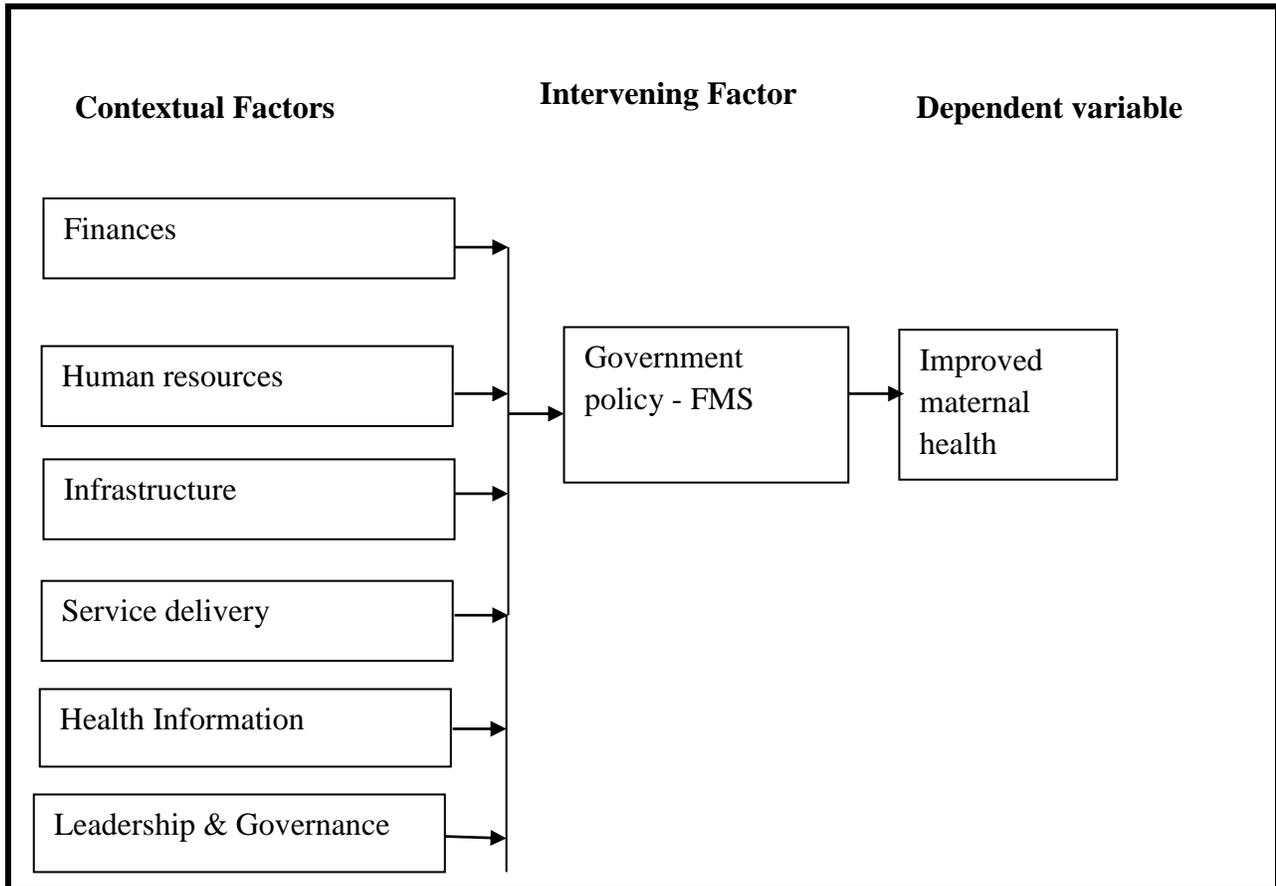
The study has espoused the realist evaluation framework premised by Pawson & Tilley (2001). Realism seeks to find out ‘what works for whom, in what circumstance and in what respects and how? The theory is in line with the implementation of the FMS in the public sector with a view of establishing the trends, the factors affecting implementation and making recommendations for improvement of the programme. Realism explains the failure and success, enabling the planners to know whether a program can be applied in another setting or not and goes further to give an explanation as to why or why not.

Realism not only focuses on the effects of a program but also on the inner workings and operations and how they are connected, which is often obscured from those who observe the outcome patterns. Mechanism forms the pivot point in a realist evaluation. Context on the other hand is not only linked to the place but also the systems, relationships, biology, technology and economic status. Context elements are those factors that are external to the intervention, present or occurring even if the intervention does not lead to an outcome, and which may have an influence on the outcome. It describes those features or the conditions in which programs are introduced that are relevant to the operation the program mechanisms. Mechanism is built on the premise that a program works not by itself but by the action elicited from the target audience or stakeholders equipped with the right resources and capabilities offered by the same program.

A realist approach looks for mechanisms at individual, group, organizational and societal levels. The mechanism for the proposed study includes the actions or change elicited and experienced by the providers and facility administrators following the elimination of user fee on maternal health services. Applying this evaluation framework, the study aimed at identifying what works

for whom, in what circumstance and in what respects and how, with reference to implementation of FMS in Murang'a CRH.

2.3 Conceptual framework



The interface between the capacities of the public hospitals to access finances for service provision, the human resource for Health component, health infrastructure provision, provision of the requisite leadership and governance, availing of health Information and improvements in service delivery affect the capacity to ensure optimal free maternal services provision. They determine the ability of the public health care facilities to realize the envisaged outcomes. In the situation of optimal improvements of all the six key health system pillars, the implementation of the free maternal services is bound to improve.

Implementation of the FMS is driven by the global desire of ensuring equality with regards to access (Ridde & Diarra, 2014). The need to enforce human rights as pertains to the right to life and affordable healthcare are the key guiding motivating parameters in the programme (WHO, 2013). International conventions affirm the essence of ensuring that no pregnant woman is exposed to the risk of failing to access maternal healthcare services due to lack of finances and distance (Burnhamet, *et al*, 2014).

Most of the developing countries have gradually adopted the practice of ensuring access to FMS for their citizenry, courtesy of budgetary appropriations to service the programmes (Nabyonga-Orem, *et al*, 2014). In Kenya, budgetary appropriations were made initially in the financial year of 2013/14 as a measure of assuring access to FMS in all public healthcare facilities (MoH, 2014). The budgetary provisions also catered for the infrastructural provisions to address gaps in service delivery.

2.4.1 Role of finances in the implementation of FMS

Several international frameworks exist to guide the implementation of the right to health and with a specific focus on the right to reproductive health. The Kenya national patients' rights charters (2013) outline the right to access healthcare and receive emergency treatment in any health facility regardless of the ability to pay and the right to the highest attainable quality of healthcare products and services (MOH, 2013). International protocols calling for increased health financing, for example the Abuja protocol (2001), place heavy financial burdens to the exchequer (Atieno, *et al*, 2014). It thus calls for optimal capitation with regards to the budgetary appropriations made to the MoH to cater for the demands accrued from the expectations of the citizens (Bennett, *et al*, 2012).

Kenya, like many other developing countries, suffers from the situation of traditional budgetary deficits associated with slump in economic performance and systemic failures in revenue collection (Mwatsuma, *et al*, 2014). These occasions the challenge of accessing the requisite resources to appropriate to the MOH for undertaking its obligations to the citizens (Nzinga, *et al*, 2013). The country made a commitment in the Abuja declaration in the year 2001 which affirms the commitment of at least 15% of the country's budget to healthcare (MOH, 2014). The

budgetary allocation for the year 2016/17 represented only 5.7% allotment of the total national budget to the health sector, which was way below the Abuja agreement

The devolution of health services provision to county governments has been blamed for misappropriation and misuse of funds (Nzinga, *et al*, 2013). This is associated to the fact that the bulk of the funds allocated to the county governments for health provision are not used entirely on health but are allocated to other functions based county specific interests and political persuasions (Sihanya, 2013). The funds end up being utilized in other areas such as infrastructure and local development at the expense of healthcare provision.

Insufficient and slow disbursement of funds from the national to the county governments has led to critical financial gaps. This has exposed the healthcare facilities to the challenge of meeting the demands of the populace (Mbugua, *et al*, 2014). The policy for free healthcare has also exposed the public healthcare facilities to the challenge of meeting the expectations of the populace even without well-defined protocols with regards to the institution financial needs (KNBS, 2013). In the event of the traditional delays in the reimbursements, the public healthcare facilities also bear the brunt of inefficiencies and gaps in operations owing to the disruptions in the cash flow cycles (Mbugua, *et al*, 2014). Murang'a CRH is a level 4 hospital run by the County Government of Murang'a and therefore affected by the challenges brought about by devolution.

2.4.2 The role of human resource component in implementation of FMS

Kenyan public healthcare facilities have suffered inadequate staffing levels for a long time. The situation of skilled personnel opting for the private sector motivated by enhanced pay perks has been a big drain nationally (Mwabu, 2012). Brain drain out of the country is yet another challenge. These factors have led to serious deficits in health personnel across the country, more so in the rural areas (Atieno, *et al*, 2014).

The Kenya Health Sector Strategic and Investment Plan for the year 2012 – 2018 estimates that the current staff levels meet only 17% of minimum requirement for effective operation for the public healthcare systems (MoH, 2012). The statistics show that Kenya has only 7 nurses for every 4,000 citizens, which half the number is recommended by the World Bank globally. The uneven distribution of the health workers countrywide has also exposed gaps in the service

delivery thresholds and disenfranchised persons in marginalized areas within the country (Gayle, *et al*, 2013). Some parts of the country, like the coastal region, north eastern, lower eastern and north rift have experienced serious shortfalls in personnel requirements to the level of having interventions by non-governmental institutions and other donor agencies to supplement government efforts. This has seriously exposed and compromised the requisite standards for the FMS programme (Bosire, 2014).

Since the advent of devolution, industrial unrests by health workers have increased. The unrests have been attributed to miscommunication between the county governments and the public healthcare facilities' administrators and failure to take cognizance of the demands of the health workers. Murang'a CRH has not been spared from the frequent industrial unrests that have been seen in the public health sector since the advent of devolution.

2.4.3 Role of infrastructural facilities in the implementation of FMS

Lack of physical facilities has been a great drawback to the provision of healthcare in Kenya. The insufficient number of facilities and the distance, coupled with inadequate transport infrastructure has greatly affected access to maternal healthcare services in most parts of the country. The KDHS (2014/15) showed that the largest percentage of women who delivered away from health facilities did so because the facilities were either too far away or there was no transport (KNBS, 2015). Most of the rural women equally cited lack of physical facilities as an impediment to them delivering in the health facilities. The former North Eastern province bears the brunt because even after the advent of devolution only 5 maternity wings are currently operational in the vast area, disenfranchising the women and occasioning them the pain of failure to access FMS (Bosire, 2014).

Demands for the FMS have had the greatest effect in Nairobi County and areas around Mt Kenya region and its environs (Atieno *et al*, 2014). This, on the other hand, has overstretched the capacities of the facilities available resulting in greater risk to the women who visit the hospitals to access the free services. It has been frustrating as the expectant women are forced to wait for the next available space in the maternity wings owing to the spiralling demand for the free services (Chuma, *et al*, 2014). The failure to match the rolling out of the FMS with enhanced infrastructural facility provision for FMS has greatly affected the realization of the ideals of the

programme (Mbugua, *et al*, 2014). The study assessed the extent to which infrastructural facilities provision affects the implementation of the FMS in Murang'a CRH.

2.4.4 The role of service delivery on the implementation of FMS

Reports of abuse, negligence and mistreatment of patients have been made from the public healthcare facilities (Atieno *et al*, 2014). Insensitivity to the culture of the people that would require women to be attended by female practitioners have also been a drawback to the implementation of FMS (FIDA,2015; Bosire, 2014). This gives rise to the situation of Kenyan women declining to seek maternal healthcare from the public facilities and resorting to TBAs for the sake of privacy and respect for their cultural persuasions (WHO, 2014).

The understaffing in the public healthcare system equally perpetuates the endemic problem of low morale. This is occasioned by the fact that the health workers are heavily taxed by the demands of working overtime and exposure to the strain of handling many clients (MOH, 2014). The heavy burdens on health workers lead to the risk of poor quality of service in the facilities. The prevailing situation acts as a significant deterrent to the populace who shun the public healthcare systems due to poor quality services (KNBS, 2013).

The increasing burden on health professionals without commensurate increases in compensation has also aggravated the quality of service delivery in the public healthcare facilities (Mbugua, *et al*, 2014). The instances of the government renegeing on the Collective Bargaining Agreements (CBA) and awards made by the industrial court to the health workers have greatly demoralized the workers in the sector (Atieno, *et al*, 2013). This has had the net effect of negatively impacting on the quality of services and it has affected the implementation FMS in some public healthcare facilities. The study assessed the extent to which service delivery had affected the implementation of FMS in Murang'a CRH.

2.4.5 The role of leadership in the implementation of FMS

The health sector comprises people, institutions and resources working in concert to promote, restore and maintain health. This calls for leadership as a measure of fostering harmony between all the entities (Nzinga, *et al*, 2014). Globally, the health sector has been going through a lot of reforms with a view of making changes in health policies, programmes and practices. Improvements of access, quality, equity, efficiency and sustainability have been central to the

reforms (WB and CMI, 2014). Provision of FMS is also directly influenced by the leadership structures and governance systems applied in the health sector.

In Kenya, the goal of ensuring access to equitable and affordable healthcare to all citizens is the mandate of the MoH. The goal of the health sector is to ensure equitable and affordable healthcare of the highest standards to the citizenry (Atieno, *et al*, 2014). The Constitution, under the Bill of Rights, envisages access to healthcare as a right to every citizen. The right to FMS has been espoused in the constitution in line with the trends taking shape globally. This is because it has been idealized as the essence of ensuring that no woman suffers during child birth.

Following the general elections held in March 2013, each of the 47 counties was given the task of health service delivery including managing pharmacies, ambulance services and primary healthcare promotion in line with the Constitution of Kenya, 2010 (Barker, 2014). The National Government was tasked with handling referral health facilities and policy (Mwatsuma, *et al*, 2014). The prevailing framework of the MoH envisages a situation whereby the decision-makers, managers, and staff in the public healthcare facilities are held accountable for their actions (Baines, 2014). This makes it a requisite to ensure that the FMS programme is administered in a manner that enhances the transparency and fiduciary standards for optimum service delivery.

Devolved government systems have invariably shifted power and control of the public health sector institutions nationally. The challenges of accountability, governance and leadership have been rife in the institutions previously built around traditional hierarchal structures (KPMG, 2015). There have been challenges of finding new ways to ensure accountability, public confidence and innovation of locally designed solutions to meet citizens' needs in the health sector. This has greatly affected the achievement of the objectives of FMS (Atieno, *et al*, 2014). A Myriad of challenges, including health staff unrests, have negatively affected service delivery standards and invariably affected meeting the objectives of FMS (Mwatsuma, *et al*, 2014).

The lack of essential drugs and consumables has occasioned health risks in hospitals and forced citizens to purchase drugs from private pharmacies. This has negative implications on the poor citizens who are dependent on subsidized government supplies. Poor treatment for emergencies, lethargy in the personnel, presence of subserviced equipment and vehicles in the public healthcare facilities pose a challenge to the effective delivery of FMS in the health facilities in

Kenya. These failures can be attributed to the weak governance systems and leadership structures in the health facilities (KPMG, 2015). The study sought to establish the extent to which the leadership and governance systems affect the implementation of FMS in Murang'a CRH.

2.4.6 The role of health information on the implementation of FMS

Globally, there is increased impetus in applying systems thinking to health programmes especially in relation to health information. Systems thinking identifies the kinds of integrated mediums that can be applied to strengthen the overall system and facilitate countries to realize the Sustainable Development Goals (SDGs) (WHO, 2015).

FMS systems require designing, implementation and evaluation of the interventions that strengthen programmes directly relevant to maternal health (Savigny, *et al*, 2014). Reduction of maternal mortality is a health-related SDG which has largely been unmet owing to inadequate health information in the target audiences (Behague, & Storeng, 2015). Inaction in the realms of strengthening health information systems has been the undoing of meeting the demands of FMS in sub-Saharan Africa. This is mainly due to the fact that current health information systems and services, in most of the countries, are too weak and inadequate to reach the beneficiaries (Behague, *et al*, 2015).

Despite the launch of the Safe Motherhood Initiative (SMI) in Kenya, maternal and neonatal mortality levels have not declined. Maternal health initiatives on family planning have been used to reduce maternal mortality by prevention of unwanted pregnancy (Atieno, *et al*, 2014). Weaknesses in the health information systems have negatively impacted on the dissemination of the requisite knowledge in the expected manner. This has resulted in failure by the targeted audiences to appreciate the dynamics and emerging issues as pertains to FMS (Mwatsuma, *et al*, 2014).

Although FMS has been implemented in all public health facilities in Kenya the practice of disseminating information to ensure that all the expectant mothers attend ANC has not been emphasized in the health care facilities (Atieno, *et al*, 2014). Inadequate access to information on integrated, affordable, quality reproductive health services as on safe motherhood have been reported to influence slow uptake of FMS especially in the rural areas in Kenya (Nzinga, *et al*,

2014). The study has established the extent to which the health information systems affect the implementation of FMS in Murang'a CRH.



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This section describes the research design, target population, sample size and sampling procedures, research instruments, validity of research instruments, reliability of research instruments, data collection procedures, data analysis techniques and ethical considerations.

3.1 Research design

The study employed a retrospective and cross sectional design to carry out an assessment of the implementation of FMS in Murang'a County Referral Hospital, Murang'a County. The study covered the period between 2013 and 2017. Data for 2012 was used as a baseline. This design enabled the collection of data by way of in-depth interviews of key hospital personnel involved in provision of FMS services, filling of a predesigned checklist and interrogation of secondary data in the form of hospital and county records. The research design was considered appropriate for the study because the researcher sought to collect, analyse and report information as it exists in the field without any undue manipulation of the variables and at the same time have it identify with other related facets of the study.

3.2 Population and sampling

All people under consideration in any field of inquiry constitute a universe or targeted population (Kombo and Trump, 2006). The study considered **all** the key and relevant members of staff involved in provision of FMS at Murang'a CRH.

Purposeful sampling was used to recruit the study participants. The inclusion criteria for the study was that one had to be a key health service provider (clinical) or a non-clinical health care worker (Health administrative officer, Health HR Officer, Hospital Accountant) who had served in the hospital for 2 or more years .

Sixteen key personnel were identified and recruited. These included the medical superintendent, chief nurse ,Health administrative officer, one consultant obstetrician, 2 medical officers, 2 charge nurses, three midwives, one pharmacist, one lab technologist , one medical records officer, hospital accountant and hospital human resources officer.

3.3 Data collection methods

The study collected both primary and secondary data. Primary data was gathered using in depth interviews of key and relevant personnel involved with FMS and filling a pre-designed check list. Secondary data was obtained from the hospital and records. Quantitative data was obtained from the hospital records with the help of a qualified medical records officer. The checklist was developed by the Researcher. It was adopted from the NHIF and Service Availability and Readiness Assessment Mapping (SARAM) tool. The qualitative data was obtained through a qualitative inquiry. This was employed to explore the perceived benefits, challenges and trends of the FMS at Murang'a CRH. An introduction letter was given to potential participants in the hospital. The letter clearly stated the study's aim and informed the potential participants that their participation in the study was voluntary and there was no consequence if they choose not to participate. The potential participants were informed that the study was to be conducted in an interview format and the interview would take between thirty and forty five minutes. Sixteen potential participants who were deemed as key staff in the provision of maternal services in the hospital agreed to participate. They were given consent forms and interview appointments booked at times favourable to them. The interviews were conducted in the hospital. Confidentiality was assured. Sixteen individual interviews were done between February 14th and March 5th. The interviews were conducted in English.

3.4 Data analysis

After collection, data cleaning was done for the purposes of identifying any incomplete, inaccurate or unreasonable data. Quantitative data was analysed using the Statistical Package for Social Sciences (SPSS). Martin and Akuna (2002) said that the SPSS package is able to handle a large amount of data and given its wide spectrum in the array of statistical procedures which are purposefully designed for social sciences; it is deemed efficient for the task. The study employed descriptive statistics.

Frequencies and percentages were used for descriptive analysis. Consequently, graphs were used for data presentation. Findings derived from the IDIs enabled the understanding of contextual factors affecting the service delivery and implementation of FMS as ascertained through the rise and drop in numbers from the tests subjected on the research variables identified in the study through SPSS. Framework analysis was employed on the qualitative data and proved effective in

establishing impact and influence of contextual factors on FMS implementation in Murang'a CRH.

3.5 Research quality validity reliability and objectivity of research instrument

Validity is the degree to which a test measures what it purports to be measuring. Validity can also be said to be the degree to which results obtained from analysis of data actually represent the phenomenon under investigation (Orodho, 2005). The researcher tested the face and content validity of the interview guide. Face validity is in relation to the misunderstanding or misinterpretation of the question. This was checked by way of employing the pre-testing method. Prior to embarking on data collection, the researcher pre-tested the questionnaires in Maragua hospital which has similar socio-demographics like Murang'a CRH in terms of the personnel. The results of the pre-test were used to improve the validity of the instruments.

Reliability is a measure of the extent to which an instrument will consistently yield similar results after being administered several times to the same respondents (Orodho, 2005). To establish the reliability of the research instruments, the test retest method whereby the pre-test respondents will be issued with questionnaires for them to fill and the same questionnaires will be subjected to a re-test to see how the response will be.

The pre-test involved conducting an in-depth interview with two medical officers at Maragua hospital at two different times. The results of the two interviews were the same.

3.6 Ethical Considerations

Before commencement of the study, a research proposal was submitted to the Strathmore Ethical Review Board for approval. Approval was granted and permission to carry the research in the hospital was given by the hospital's administration.

The researcher sought the consent of the interviewees before the commencement of the interviews. An assurance that the information provided would be used for research purposes only was proffered to the interviewees upfront.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the results of the data collected during the study. The purpose of the study was to assess the implementation of the FMS in Murang'a CRH. The study had three objectives namely to: establish the trends in utilization and outcomes of FMS in Murang'a CRH between 2013 and 2017; to assess the service availability and readiness of Murang'a CRH to offer FMS; and to establish the contextual factors affecting FMS provision.

4.2 Utilization and outcomes

4.2.1 Antenatal Care Service Utilization

Figure 1 shows the records of ANC clinic visits between 2013 and 2017 with 2012 being used as the base year. The number of women who sought antenatal care services at the facility in 2012 was 4307. There was a decline in attendance in 2013, followed by subsequent improvement with 5031 and 5698 ANC visits recorded for years 2014 and 2015, respectively. There were 395 less visits recorded in 2016 (compared to 2015), and further 25% decrease followed in 2017.

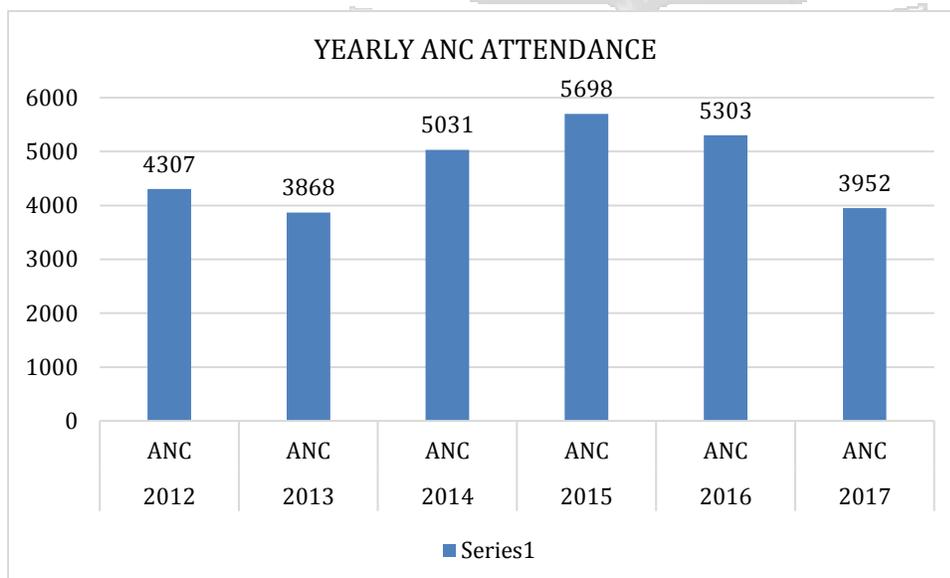


Figure 4. 1: Yearly Antenatal Care Attendance

The lowest attendance was recorded on the first and third quarter of the year as shown in Figure 4.2.

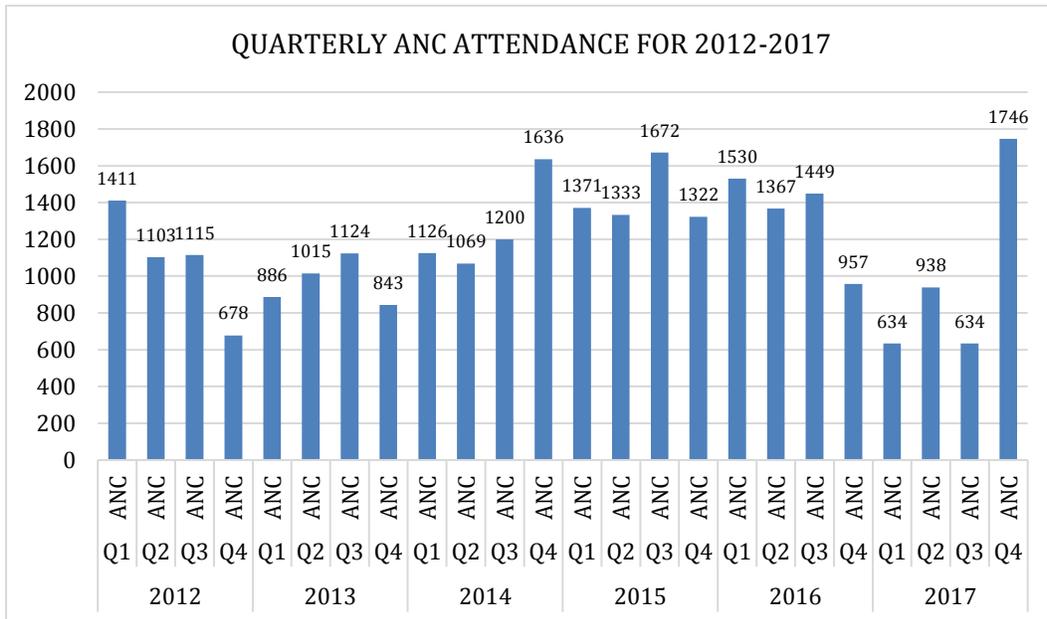


Figure 4.2: Quarterly Antenatal Care Attendance

From the qualitative inquiry it was reported FMS that resulted to increased service utilization as shown above.

“The numbers have increased over time. However, at times unavailability of services especially during industrial actions reduces these numbers. There is a disparity between those mothers attending the ANC and those who eventually turn up to deliver in the hospital.” (IDI with Gynaecologist, ANC in charge and records officer)

When we try to find out the reason for this we get varying answers but most fear crowding and perceived poor quality.

“Though our facility is ready to provide FMS, the post natal ward is too congested .We simply need more bed space .Bed sharing contributes in discouraging potential mothers from coming to our facility”(IDI with ANC and post natal ward charge nurses).

4.2.2 Number of deliveries conducted in the facility

The study further assessed the number of deliveries recorded at the facility between 2013 and 2017 with 2012 as the base year. Figure 3 presents the graphical presentation of the results.

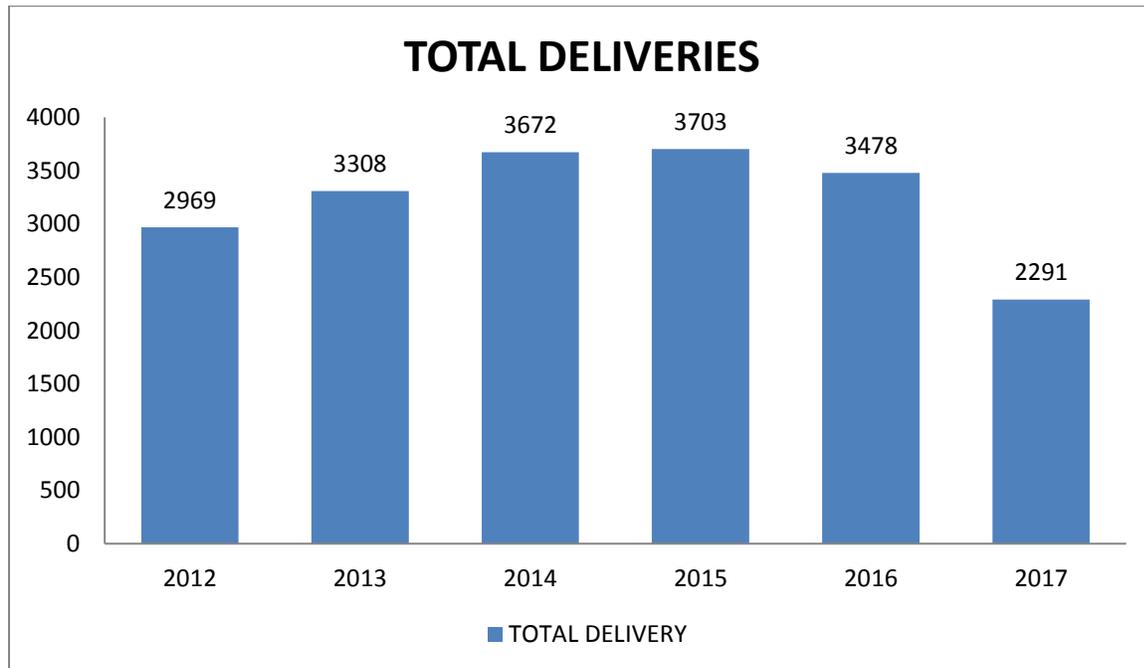


Figure 4.3: The number of deliveries conducted at the facility

There was an increasing trend in number of deliveries conducted at the facility after the introduction of FMS. However, there were declines in 2016 and 2017.

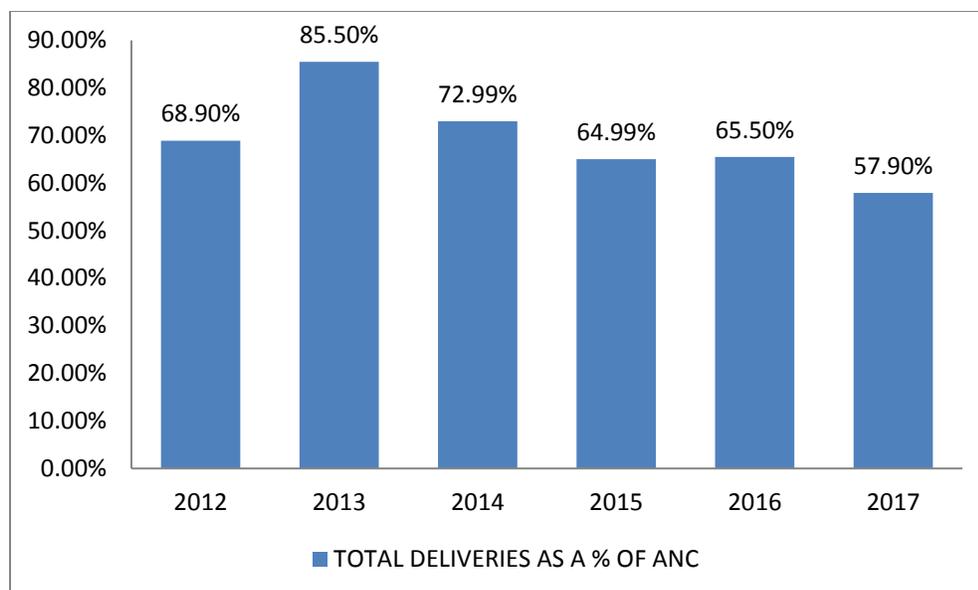


Figure 4.4: Total deliveries compared to antenatal visits (ANC)

After the introduction of FMS, the percentage of women attending ANC who turned up to deliver at the hospital shot up steeply from 68.9% in 2012 (base year) to 85.5% in 2013. Subsequently the percentage of the women attending ANC at the hospital and turning up to deliver in the facility started going down falling from 2016. The initial increase was attributed to the huge expectation the mothers had following abolition of the user charges. The decrease seen in 2016 and 2017 was attributed partially to unavailability of the services due to industrial action by the doctors and nurses and partially to quality concerns.

During the IDIs, it was reported that before the introduction of the FMS, there was marked overcrowding in the health facilities. Mothers who had been discharged but were unable to clear their bills continued to be housed in the maternity unit hence taking up space meant for those on treatment. This was a source of stress to both the clinical staff and administrators, as reported a key informant:

These days, there is no financial stress to the mothers and their families, even the previously dreaded costs of caesarean sections are no more. The financial barrier has simply been removed (IDI with midwives).

4.2.3 The number of breech deliveries

The study also sought to establish the number of breech deliveries between 2013 and 2017. The findings are presented in Figure 5.

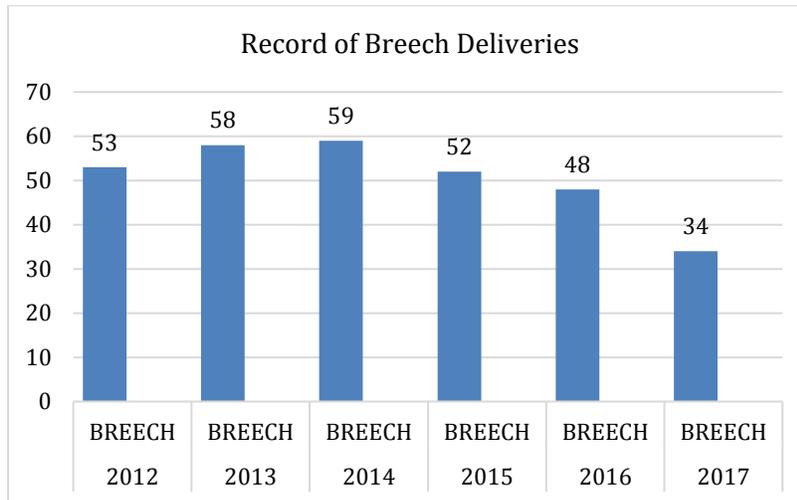


Figure 4. 5: Record of breech delivery

It is clear that there was a spike in the number of breach deliveries in 2013 and 2014, similar to the increase in use of the FMS. However, from 2015 there is a steady decline, mirroring the reduced rate of deliveries in the facility.

In the quarterly graph, there were fluctuating numbers with the third quarter of 2014 recording twice the number recorded in 2012 (12) while similarly, quarter three of 2017 registering a third of the base year (2012).

4.2.4 The number of Caesarean section births

The study sought to establish was the number of the caesarean section births conducted in the facility for this period. The two graphs (Figure 6 and 7) show the findings in yearly and quarterly periods.

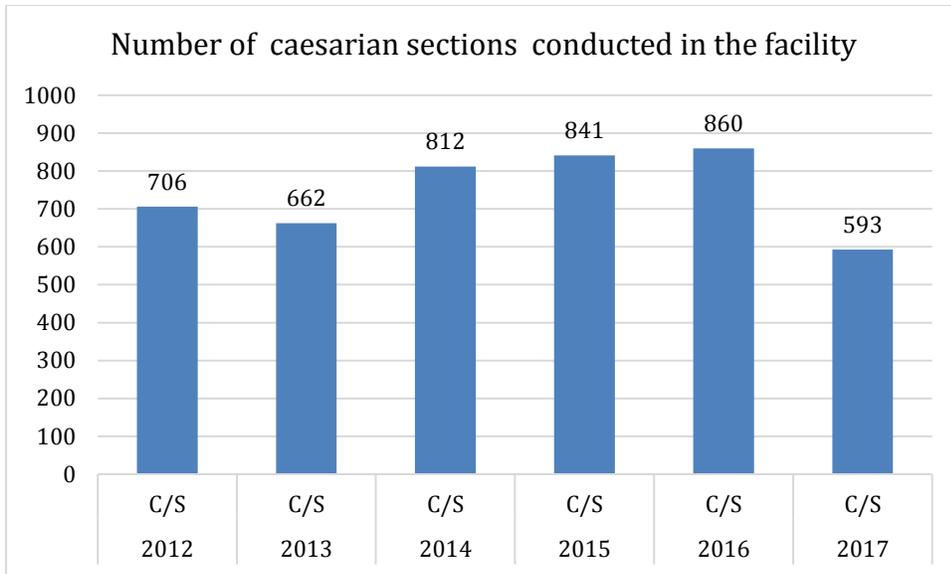


Figure 4. 6: Record of Caesarean sections conducted in the hospital during the study period

In 2012 (base year), there were 706 women who delivered through caesarean sections. These numbers dropped to 662 in 2013 before increasing to 812 in 2014 and further an upward shift to 860 in 2016. The number declined sharply by 31% to 593 in 2017. The sharp decline in 2017 was as a result of the decline in quarters 1 and quarter 3 that could have been largely influenced by the unavailability of the services due to industrial action by doctors (Q1) and nurses (Q3). The general trend of increased numbers from 2012 to 2017 was attributed to removal of financial burden.

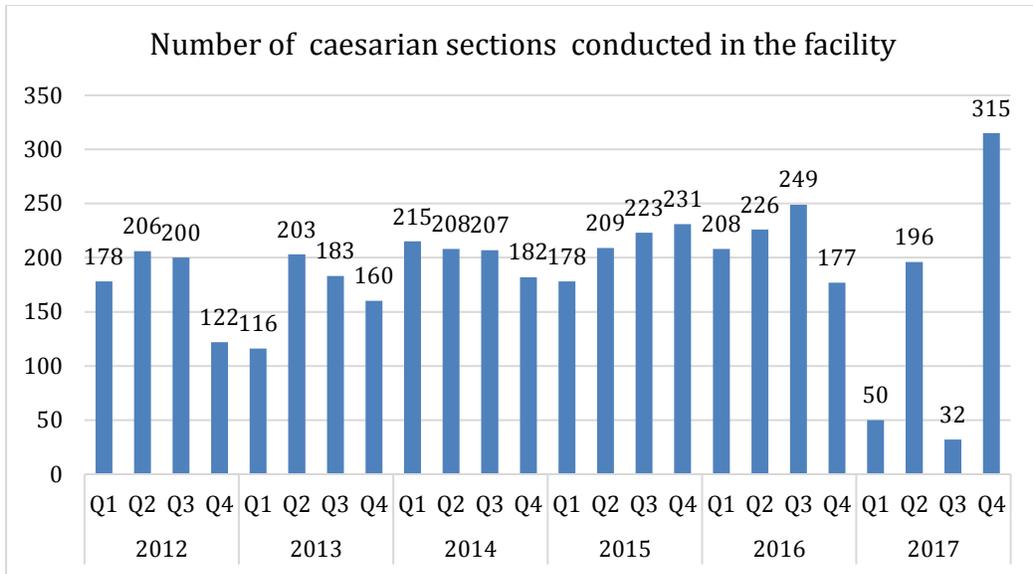


Figure 4.7: Quarterly record of Caesarean sections conducted

4.2.5 Postpartum Haemorrhage (PPH) complications

The study established the number of postpartum haemorrhage complications registered at the facility since PPH is one of the leading causes of maternal mortality. The results are presented in Figure 8.

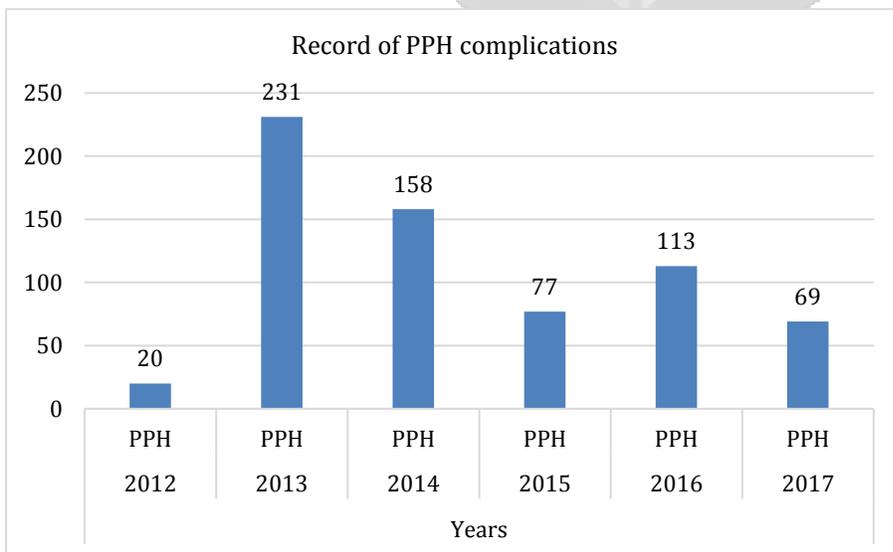


Figure 4.8: Record of PPH complications

The results show that in 2013 the number of patients with PPH complications was 231. This was a sharp increase from 20 in 2012. The lowest recorded number of complications was in 2017 (69) which was however thrice the number recorded in 2012 (as shown in Figure 9). The rising number of PPH complications, raises quality concerns. The unit, and the hospital at large, has received very few new workers despite increased number of patients. Moreover, the staff numbers have continued to reduce due to attrition. One of the key informants noted:

There are at times when more than two mothers go in labour at the same time yet there may only be two midwives on duty and this may affect the outcome of the delivery negatively (IDI with midwives).

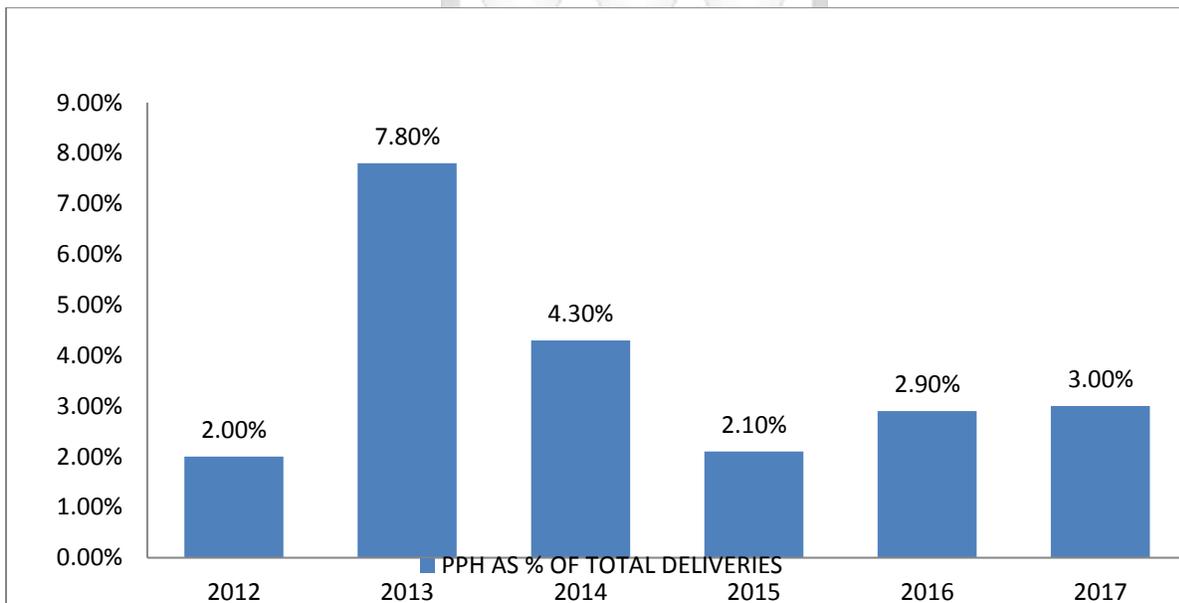


Figure 4.4: PPH as % of total deliveries

4.2.6 The Number of still births at the facility

The study further looked at the number of still births recorded at the hospital for the period between 2013 and 2017. The results are summarized in Figure 10.

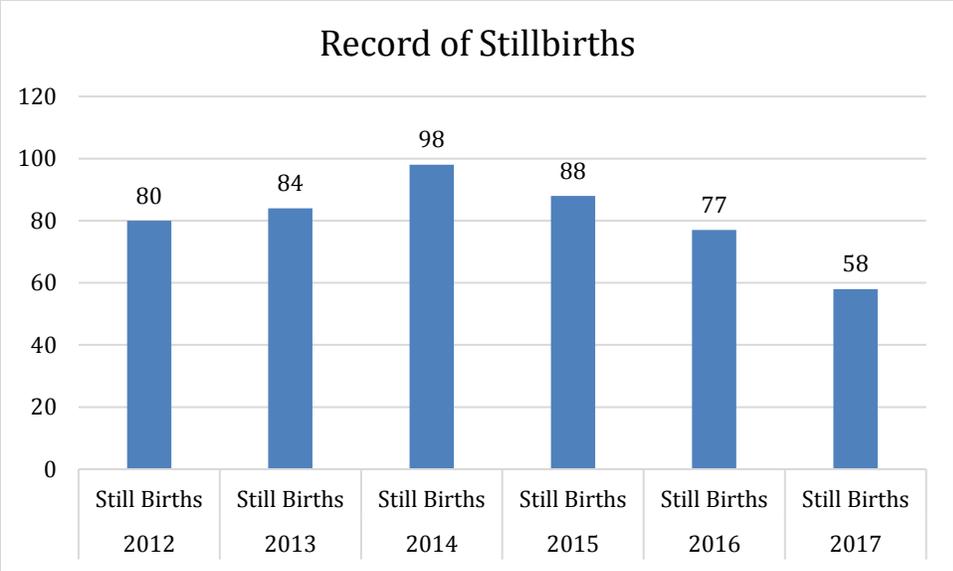


Figure 4.10: Record of Stillbirths at the facility

There was an increase in number of stillbirths in 2013 (84) compared to the year 2012. The year 2014 registered the highest number of still births during the study period (98). However, this was followed by a decline to 88 in 2015, further decline to 77 in 2016. Figure 11 provides a quarterly analysis of still births at the facility.

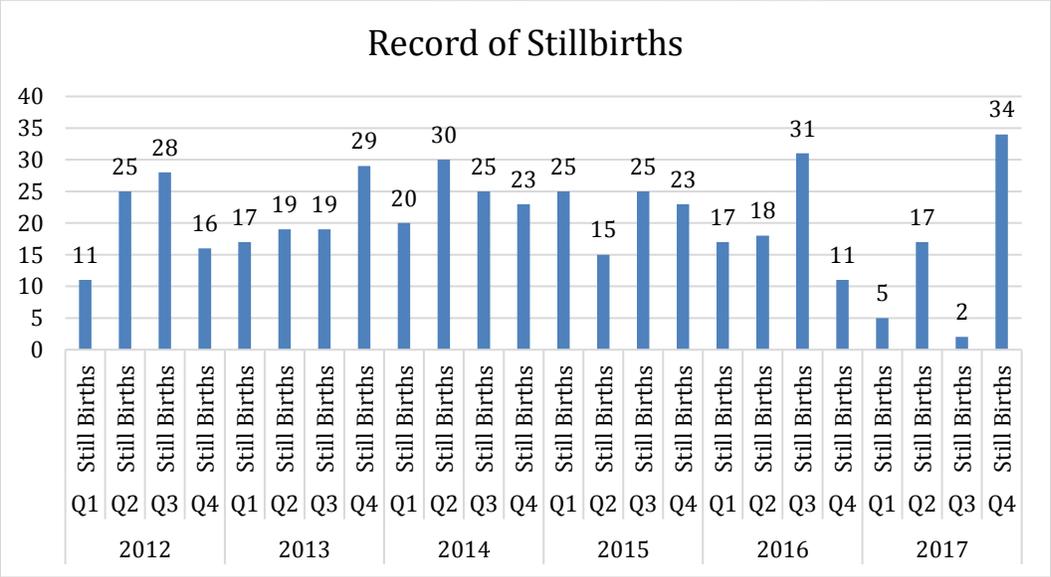


Figure 4.11: Record of Stillbirths at the facility

The quarterly graph show that the decrease in number of still births in 2017 was as a result of low numbers in the first and third quarters. A further comparison between the cases of stillbirths recorded at the facility as a percentage of the total deliveries conducted show that there were no significant variations across the years. However, the year 2016 had the greatest ratio of 3.3%. The decreased in ratio of still births in 2017 was as a result of very low numbers of deliveries in the hospital, as summarized in Figure 12.

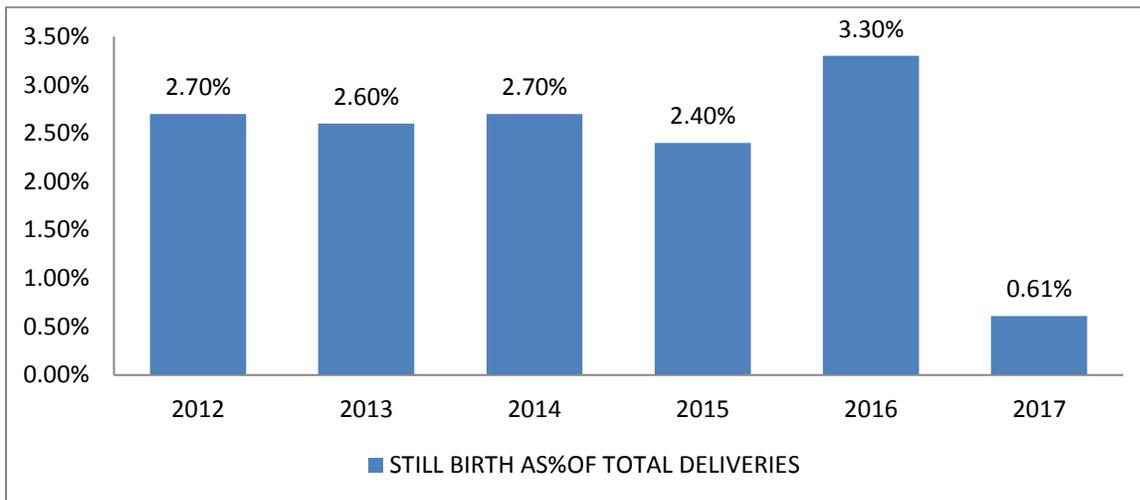


Figure 4.12: Still birth as % of total deliveries

4.2.7 The Number of maternal deaths at the facility

An assessment of the cases of maternal deaths registered at the facility was conducted. The year 2012(base year) had 1 maternal death case recorded, similar to 2013. However, 2014 registered an increase in number of deaths to six while 4 and 2 maternal deaths were recorded in years 2015 and 2016 respectively before this number increased to 7 in 2017, as illustrated in Figure 13.

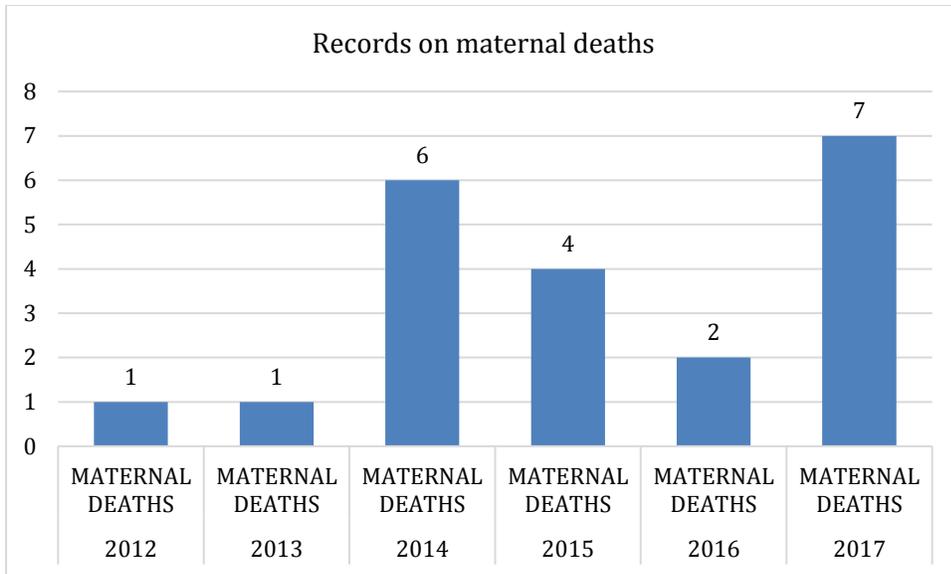


Figure 4.13: Record of maternal deaths at the facility

Comparison of the maternal deaths as a percentage of total deliveries conducted in the hospital shows an upward increase in maternal mortalities. In 2017 the rate was ten times more than the base year. This coincided with the industrial action by the health workers further illustrating the negative impact of unavailability of services, as shown in Figure 14.

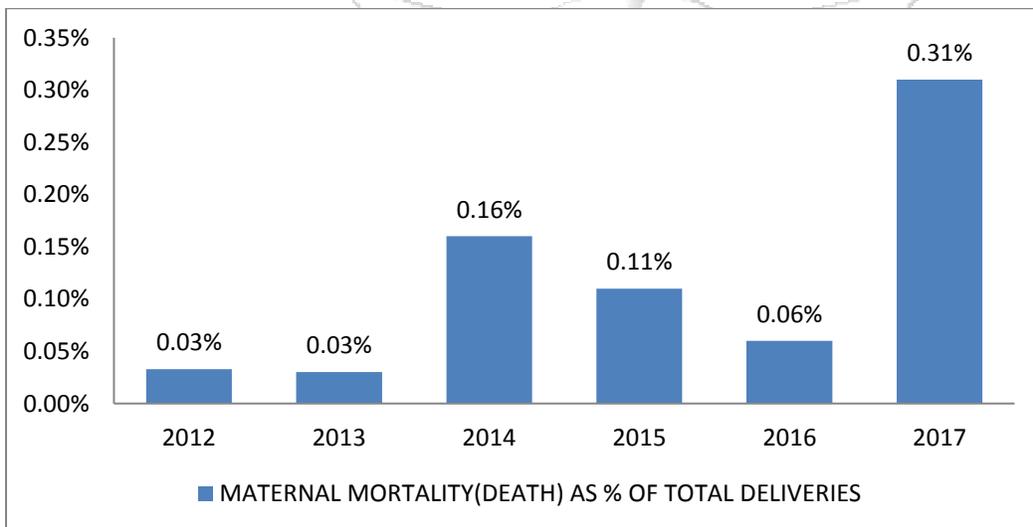


Figure 4.14: Maternal mortality (death) as % of total deliveries

The results of the qualitative inquiry suggested that FMS could result in reduction of maternal and neonatal mortality in the long-term, thus

The FMS policy will reduce maternal and neonatal mortality in due course, Mothers who were unable to access hospitals for deliveries due to lack of funds are now coming to the hospital (IDI with Hospital Administrator).

The in- charges and workers expressed concern on the quality of services provided at the facility:

Whereas the unit is fairly ready to provide FMS, staff shortages and poor motivation continue to impact negatively on service provision (IDI with medical superintendent and chief nurse).

The unit and the hospital at large has received very few new workers despite increased number of patients. Moreover, the staff numbers have continued to reduce due to natural attrition:

There are at times when more than two mothers go into labour at the same time yet there may only be two midwives on duty, which may affect the outcome of the delivery negatively (IDI with midwives).

4.2.8 The number of neonatal deaths at the facility

There were 79 registered cases of neonatal deaths, this number decreased to 55 in 2013 but with an increase in 2014. This was followed by a decline in 2015, then a further decline in 2016 before hitting the lowest number of neonatal deaths in 2017, as summarized in Figure 15.

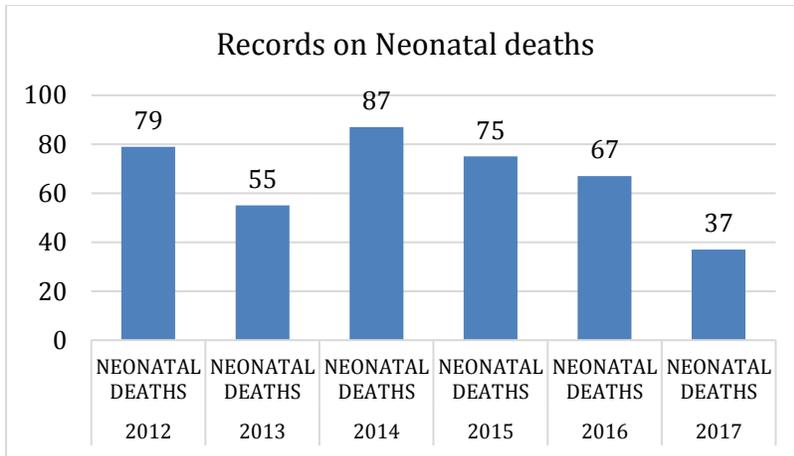


Figure 4.15: Record of neonatal deaths at the facility

The proportion of neonatal deaths compared to total deliveries was highest in the base year (2012) at 2.66%. This ratio dropped to 1.66 % in 2013 but later increased to 2.36% (2014) and later adopted a downward trend to 1.6% in 2017, as shown in Figure 16.

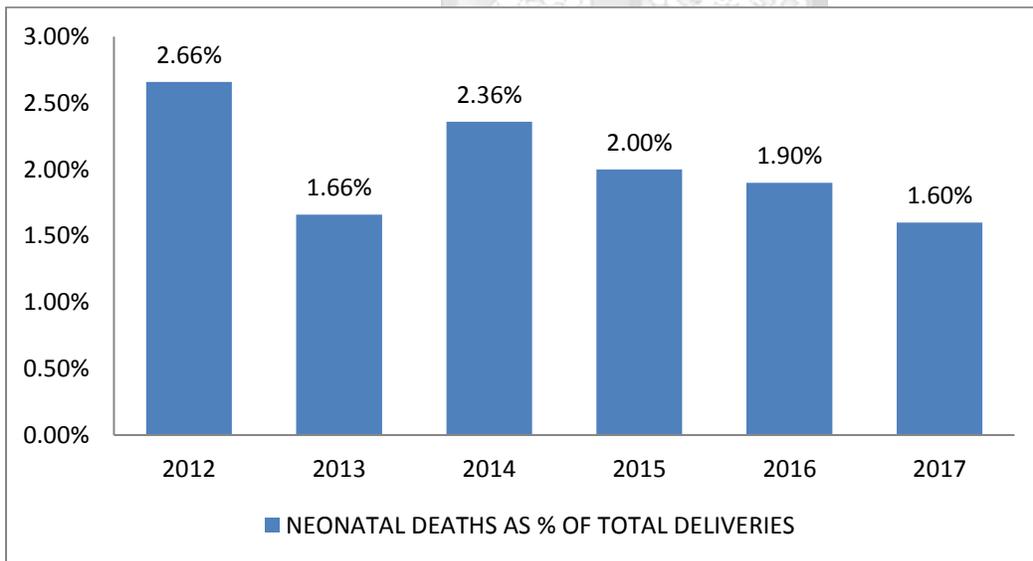


Figure 4.16: Neonatal deaths as % of total deliveries

4.3 Results from the checklist analysis

A checklist was completed, which showed that most of the equipment required for the provision of maternal services was available in the hospital and in adequate numbers. However, the hospital lacks intensive care unit (ICU) facilities and functional ambulances. Blood and blood

products availability was erratic. This was attributed to inadequate funding from the government, erratic transfer of funds from the national to the county government, and lack of clear procurement plan for purchasing supplies.

Standard operating procedures were in place and the staff indicated that these were followed. The hospital, however, lacks a continuous quality improvement infrastructure and support supervision was not provided. No support supervision or stakeholder engagement meetings have been conducted in the hospital or at the county level since the advent of FMS. Staffing was also noted to be inadequate

The hospital can therefore be said have service availability but it is sub-optimally ready to provide FMS.



CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Discussion

The elimination of user fees on maternal health services resulted in increased uptake of skilled deliveries in the first three years. There was an increase from 68.9% (2012) to 85.5% (2013) of deliveries as a percentage of mothers who visited ANC and subsequently delivered at the hospital. Similar findings have been reported by other studies across the world (Witter S, Hatt *et al*, 2013). The reducing numbers in 2016 and 2017 can be partly explained by unavailability of the services due to industrial action by the doctors and nurses and partially due to quality concerns.

The study also demonstrates that there were increased visits to the ANC clinics after the introduction of FMS. Utilization of caesarean births also increased. These findings mirror those of other studies in low and middle-income countries. The benefits include: increased number of hospital deliveries (Witter S, Khadka S, et al, 2011), increase in caesarean section rates (MOH) and an increase in antenatal visits (Steinhardt LC, Aman I et al, 2011).

The study demonstrates that the hospital has service availability to offer Free Maternal services. Most of the equipment and infrastructure are available and in adequate numbers. However the service availability is suboptimal as functional ambulance services and an intensive care unit are unavailable. This partially explains the still high maternal and neonatal mortalities despite the elimination of user fees.

Post partum haemorrhage complications remained high over the study period. In 2013, the rate was 7.8% of the total deliveries. The erratic availability of blood and blood products identified during the checklist analysis may partially be responsible for this.

The implementation of the FMS at Murang'a CRH resulted in positive improvement in utilization especially in the first three years. However, the outcomes especially maternal mortality and post partum haemorrhage complications did not show improvement. This is due to several challenges. Some of the challenges that were identified include: inadequate and de-

motivated healthcare workers, shortages of inputs like drugs and other health commodities, lack of continuous quality improvements structures, overcrowding due to inadequate physical facilities and uncompensated loss of revenue. These challenges have also been identified in other areas where FMS has been rolled out. Examples have been reported in Burundi and Ghana (Witter S, Arhinful DK et al, 2007) .In these countries, after elimination of user fees, quality of care was negatively affected by frequent stock-outs of essential supplies and staff de-motivation.

The evidence from Murang'a CRH shows that the quality of care was negatively affected by the FMS. This was particularly contributed by what the staff described as neglect of the human resources for health pillar in the health system. It was noted that maternal and neonatal mortality in the hospital has not been eliminated or satisfactorily reduced despite the elimination of user charges. For instance, in 2017, the maternal mortality rate in the hospital went up significantly. The numbers of mothers served in 2016 and 2017 were also unimpressive. This was attributed to unavailability of services due to industrial action by the nurses and doctors. This study agrees with (Mbugua, *et al*, 2014), who indicated that the increasing burden on health professionals without commensurate increases in compensation has also aggravated the quality of service delivery in the public healthcare facilities.

Similarly, Atieno, *et al*, (2013) attribute that the instances of the government renegeing on the Collective Bargaining Agreements (CBA) and awards made by the industrial court to the health workers have greatly demoralized the workers in the sector. This has had the net effect of negatively impacting on the quality of services and has affected the implementation FMS in some public healthcare facilities.

Quality is a factor that users of a service consider before seeking care (Thaddeus S, Maine D, 1994). The scenario where the number of both ANC visits and deliveries started reducing from 2015 could be related to real quality fears or perception of the same. De-motivation of staff following user fee elimination has also been observed in Nigeria (Mwabu G, Mwanzia J et al, 1995). FMS policy was introduced at the inception of devolution of healthcare services. Devolution initially led to challenges in support supervision, supply chain management and HR processes. These were identified by the staff as some of the barriers to optimal care at the Murang'a CRH. The staff also identified a weak referral system and physical infrastructural inadequacy as other challenges that face the FMS at Murang'a CRH.

5.2 Conclusion

The FMS policy has the potential to positively impact on the utilization and outcomes of maternal health at Murang'a CRH. This was the aim of user fee elimination policy. Consistent with literature, this study supports this notion if the identified challenges, especially the human resource constraints are addressed. There is an urgent need to develop a robust and well-funded HR system at the county and facility level. This will address recruitment, motivation, supervision, training and retention of health workers. De-motivation and lack of adequate support supervision were identified as the main barriers to FMS implementation at Murang'a CRH.

The study also shows that whereas utilization of the FMS improved the health results, maternal and neonatal mortalities did not significantly improve. This was attributed to quality concerns. Quality of services is an important factor in addition to user fee elimination; therefore, there is a need to address concurrently social, economic, political and the contextual factors identified. These include human resource constraints, service delivery concerns, commodity supply chain inefficiencies and leadership and governance gaps.

The study therefore provides useful information that can help policy makers and implementers of health services on what works and what does not for FMS. This information can also be used to channel efforts on what works best and what will eventually reduce the poor maternal health outcomes in the county.

5.3 Recommendations

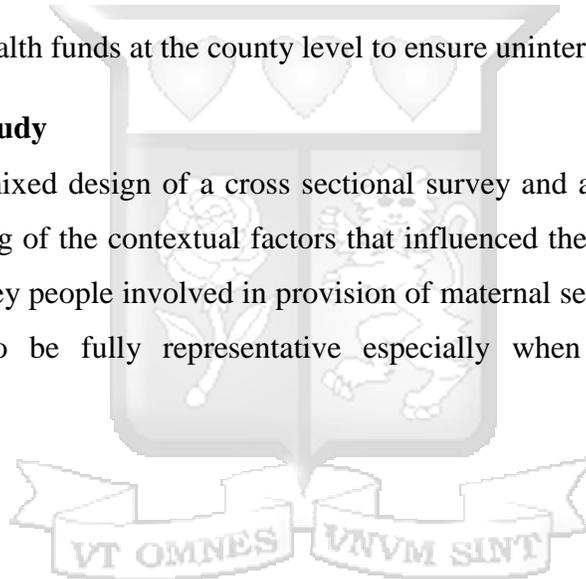
The study recommends the following to improve FMS at Murang'a CRH

- (i) Continuous sensitization of the intended beneficiaries on the availability of services and on the need to seek skilled care and the benefits package;
- (ii) Establishment of a continuous quality improvement infrastructure;
- (iii) Upgrading of the physical infrastructure, especially the decongestion of the post-natal ward, establishment of an ICU and purchasing of functional ambulances;

- (iv) Establishment of a blood bank in the hospital to address the erratic availability of blood and blood products which significantly contribute to the high maternal mortality and post partum haemorrhage complications;
- (v) The need to develop a robust and well-funded HR system at the county and facility levels. This will address recruitment, motivation, training and retention of health workers;
- (vi) Motivate the healthcare workers through enhanced remuneration, provision of training and improve working conditions to avoid industrial unrests that have contributed to unavailability of services and increased maternal mortalities; and
- (vii) Ring fence health funds at the county level to ensure uninterrupted service provision;

5.4 Limitations of the study

The study employed a mixed design of a cross sectional survey and a qualitative inquiry. This enabled the understanding of the contextual factors that influenced the observed trends. Though the participants are the key people involved in provision of maternal services in the hospital they are few in numbers to be fully representative especially when escalating the findings countrywide.



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APPENDICES

Appendix A: CHECKLIST

FILLED CHECKLIST

Adopted from NHIF facility checklist and Kenya Service Availability and Readiness Assessment Mapping (SARAM) tool.

MATERNITY

i. Labour ward Policies /SOPs

A policy that governs ante natal, intrapartum, postnatal and neonatal care exists.

Y

N

ii. Policy in place for pain management during and after delivery that is known to the staff and is implemented.

Y

N

iii. There is a maternity infection prevention programme in place.

Y

N

iv. A system is in place to monitor labour progress.

Y

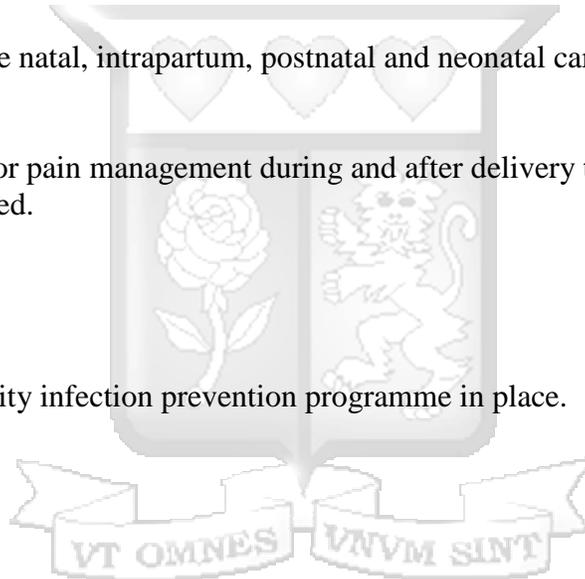
N

v. A policy on infection prevention and control is in place

Y

N

Oxygen source



vi. Does the labour ward have oxygen cylinder or piped oxygen connection?

Y

N

Procedures for obstetrics emergency

vii. Are there procedures available for handling obstructed labour, foetal distress, HELLP, Eclampsia and APH/PPH/IPH?

Y

N

viii. Is a functional resuscitator available with oxygen, suction machine and ambu bags?

Y

N

Procedure for monitoring labour

ix. Are partographs available?

Y

N

Confirm partographs have the following information:

x. Is contraction properly charted?

Y

N

xi. Is cervical dilation recorded?

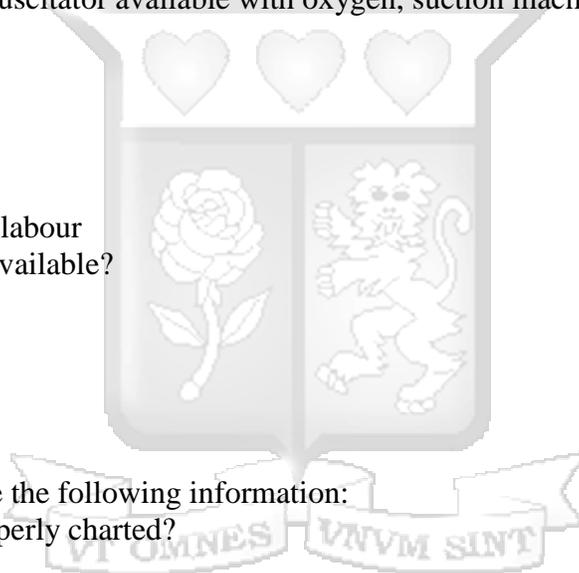
Y

N

xii. Is color coding done?

Y

N



xiii. Is TPR/BP recorded?

Y

N

xiv. Urine output/input charted?

Y

N

xv. Are drugs coded?

Y

N

New born unit

xvi. Access to a functional incubator available.

Y

N

xvii. Is there a sitting area for nursing mothers?

Y

N

Sluice Room

xviii. Is a sluice room/area available and properly located?

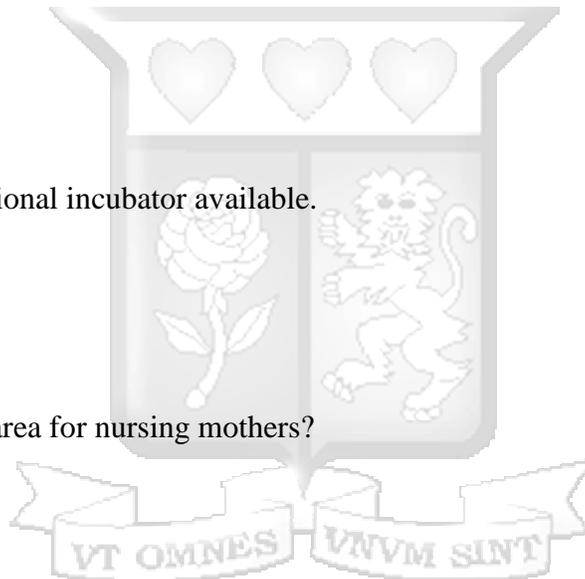
Y

N

xix. Is there a sluicing sink with running water?

Y

N



Equipment

Standard delivery bed.

Y

N

Fetosopes.

Y

N

Weighing scale.

Y

N

BP machine.

Y

N

Cord ligatures.

Y

N

Suction machine.

Y

N

Adequate source of lighting.

Y

N

Source of oxygen.

Y

N



Baby
Resuscitaire.

Y

N

Adequate sterile delivery sets.

Y

N

Delivery through Caesarean Section

Does the hospital have access to a maternity /general theatre?

Y

N

Does the facility have access to a functional ambulance?

Y

N

Does the facility have access to a blood bank?

Y

N

THEATRE

Policies/ SOPs

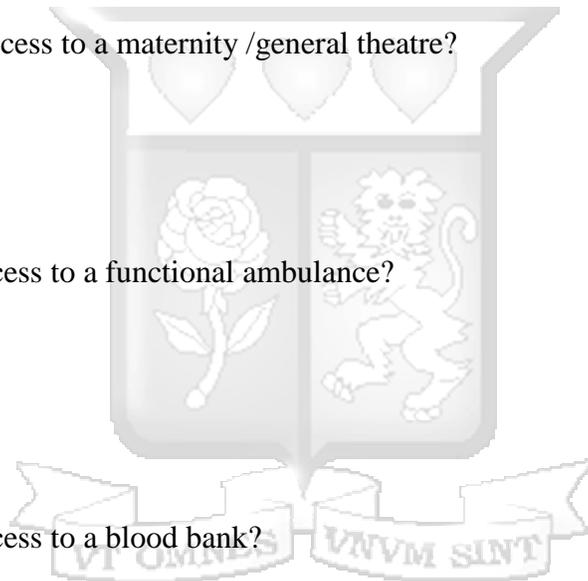
1. There is a policy on obtaining an informed consent from patients and/or their relatives who are undergoing invasive procedures.

Y

N

2. Theatre services are available 24/7.

Y



N

3. Infection prevention policies and protocols in place.

✓ Y

N

Receiving and Recovery Areas

4. There is a designated area for receiving patients and post anaesthesia recovery.

✓ Y

N

5. Availability of gender specific changing rooms and adequate linen.

✓ Y

N

6. There is a specific area set aside where staffs scrub for operations.

✓ Y

N

7. Does the receiving area have adequate lighting?

✓ Y

N

Operating Area

8. There is adequate space in the operating area allowing for free movement of theatre staff.

✓ Y

N

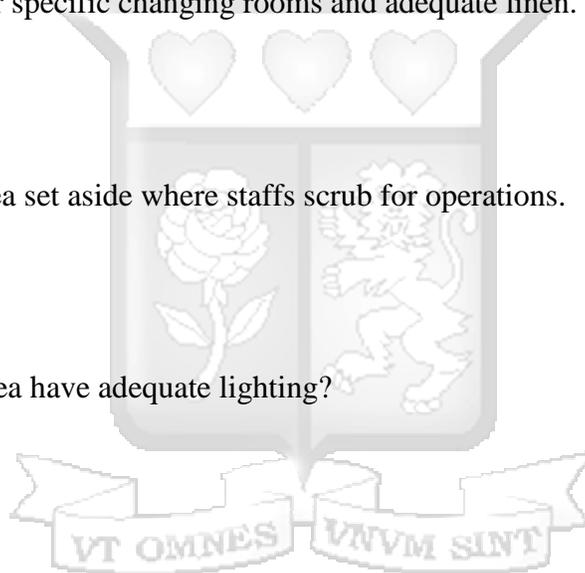
9. There is adequate lighting from both overhead and flexible light sources in operating area.

✓ Y

N

10. There are adequate sterile gloves in different sizes in the operating room.

✓ Y



N

11. There is a standard adjustable operating table.

✓ Y

N

12. There are at least two functional anaesthetic machines in the operating room.

✓ Y

N

13. There are adequate ambubags, both adult and paediatric in the Operating Room.

✓ Y

N

14. Patient monitor(s) is available and in good working condition in the Operating Room.

✓ Y

N

15. Theatre utilities, including functional laryngoscopes, endotracheal tubes, suction machines and suction tubes are available in different sizes to cater for both adult and paediatric clients.

✓ Y

N

16. There is a reliable source of back up oxygen, separate from anaesthetic machines.

✓ Y

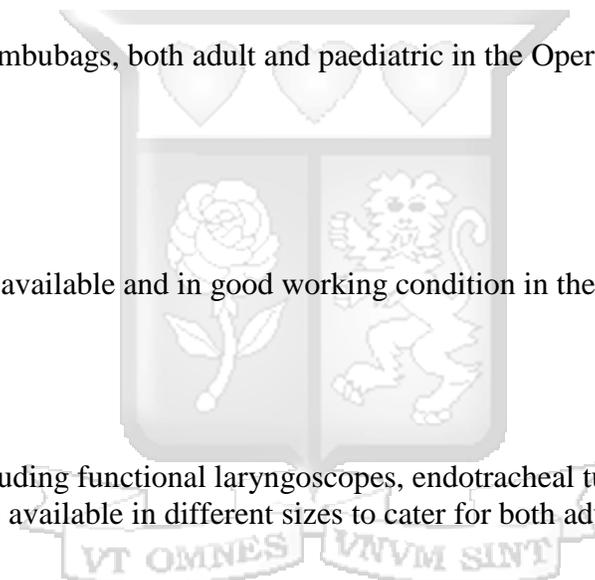
N

Y

17. There is a designated area for sterilizing equipment.

✓ Y

N



Sluice Room

18. Is a sluice room/area available and properly located?

✓ Y

N

19. Is there a sluicing sink with running water?

✓ Y

N

Staff requirements

20. Are there at least three theatre staff (scrub, runner and anaesthetist)?

✓ Y

N

HUMAN RESOURCES FOR HEALTH (STAFFING)

1. Are the staffs in the department adequate? No

2. What is the ratio of midwife to live delivery in your department? 6:12

3. How many of the staff have had refresher courses over the last 12 months? None.

HEALTH STEWARDSHIP

1. Does the unit have an Annual work Plan? No.

2. Does the unit receive supervisory visits from MOH, County Health department? No.

3. In the past 12 months, how many supervisory visits were received? None.

4. Does the unit have a functioning Infection prevention committee? Yes.

5. Does the unit have a functioning work / quality improvement team in place? No.

Appendix B: INTERVIEW GUIDE

ROLE OF FINANCES

INTERVIEWEES

Hospital's CEO
Hospital's Administrative officer (HAO)
Hospital accountant

Interview guide questions

- Who is responsible for coming up with budgets?
- Has there been a costing of the maternal services offered at the hospital?
- Is the reimbursement received adequate
- Are the monies paid into the hospital account or to the county account?
- Are the reimbursements done in full? What would work better?

Leadership and governance

Interviewees:

Hospital's CEO
Hospital's Administrative officer (HAO)
Hospital Matron

Questions

- a) How often are Management Team meetings held?
- b) Does the hospital have an Annual work Plan?
- c) Do the various departments have their own Annual work Plans?
- d) Does the hospital receive supervisory visits from MOH and County Health department?
- e) In the past 12 months, how many supervisory visits were received?
- f) Does the unit have a functioning work / quality improvement team in place?
- g) Between 2013 and 2017, has the hospital management team had an annual stakeholders meeting with stakeholders to discuss the Annual Plan and report?
- h) Are there partners directly supporting / working from the hospital in the area of maternal health?

Role of infrastructure

Interviewees:

- Hospitals med Sup/CEO
- HAO

Interview Guide

- Have there been any upgrades in the physical facilities and equipment since the advent of FMS?
- Are the current physical infrastructures adequate for the numbers?
- Who prioritizes what is to be bought?

Role of health commodities

- Interviewees
 - CEO
 - Hospital chief pharmacist
 - County chief pharmacist

Interview guide

- How is quantification of pharmaceuticals and non pharmaceuticals done?
- Who is incharge of procurement?
- Who verifies correct delivery of the commodities?
- Are there stock outs of essential medicines and how often?
- What is the advice given to the doctors/clinicians and patients incase of stock outs

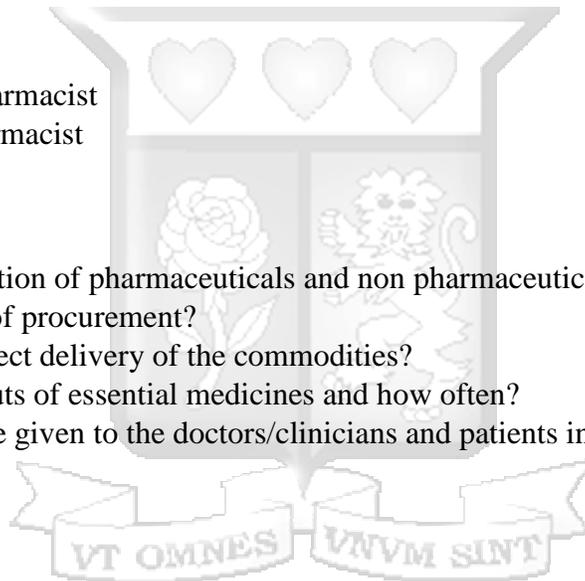
Service Delivery

Interviewees

- Gynaecologist
- Medical officer
- Chief nurse
- In charge midwife
- Charge nurse-antenatal
- Charge nurse MCH clinic
- Lab technologist

Questions

- Have the numbers of mothers delivering increased with the introduction of FMS?
- How prepared is the unit to offer FMS?
- How prepared is the unit to offer emergency obstetric care?
- Are there SOPs ?
- Are the SOPs followed?



- How available is theatre space ?
- Is laboratory and imaging support adequate?
- Are there adequate drugs?
- Are non-pharmaceutical supplies adequate?
- Is there blood and blood products stock outs?
- What are common complaints from your staff?
- What are the common complaints from your patients?
- Are mortalities audited?
- Are the audits regular?
- Are the recommendations from the audits implemented?
- Are there records of near misses?
- Are nutrition services adequate?

Health Information

Interviewee

Chief records officer

Questions

- Is the information on what is offered freely disseminated to potential beneficiaries?
- How accurate is the data recorded?

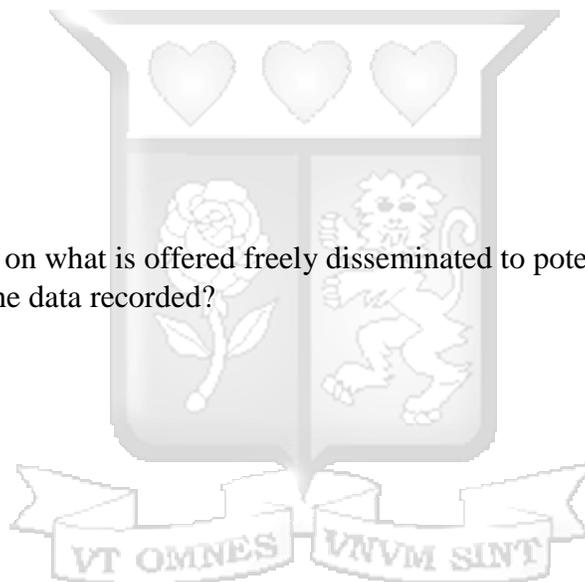
Human resources

Interviewees

- CEO
- HAO
- Chief Nurse
- HR Officer

Questions

- Do you have enough staff?
- Has there being any new hirings?
- Are the new hirings more than those exiting?
- Are there any structured motivation strategies for the staff?
- Do you have a training needs assessment (TNA) document .Is the TNA updated regularly?
- What is the main complain of your staff specifically those dealing with FMS?
- Do you have regular trainings?
- Who is responsible for hiring?
- Who is responsible for redeployment within the hospital?
- What is rate of retirements and resignations?



Appendix C: INFORMED CONSENT FORM (ICF)

I, Dr. Leonard Gikera is doing a study on the implementation of free maternal services (FMS) at Murang'a County Referral Hospital. This is Partly in fulfilment of masters degree in business administration (MBA),Health care Management of Strathmore Business School (SBS)

The study will assess the challenges encountered implementing FMS at Murang'a County Hospital with an aim of providing possible recommendations to improve the services Participation in this study is strictly optional. The study will involve interviewing key personnel in the hospital who offer or direct the implementation of FMS .No direct benefits or losses will accrue to the participants.

The information obtained from the study will be treated with confidentiality and will only be used for research purposes. The participants will be free to refuse to take part in the study and to withdraw at any stage. Should you have any further questions, contact me, Dr Leonard Gikera at SBS or by email-gacherugikera@yahoo.com or phone 0722363561.

You can also contact my supervisor, Dr Mary Nyamongo at the Strathmore Business School Nairobi, or by email-Nyamongo@gmail.com or by phone 0733366229

Should you need to ask someone independent anything about this research please contact;

The Secretary –Strathmore University Institutional Ethics Review Board ,
P.O Box 59857-00200, Nairobi

Email ethics review Strathmore .edu

Tel number:+254 703 034375

I, _____ have had the study explained to me. I have understood all that I have read and have had explained to me and had my questions answered satisfactorily I understand I can change my mind at any stage

Please tick the box that applies to you

I AGREE to take part in this research

I DON'T AGREE to take part in this research

Storage of information on the completed interview

I AGREE to have completed interview notes stored for future data analysis

I DONT AGREE to have my completed interview notes stored for future data analysis

Participant's Signature:

Date: _____ / _____ / _____

DD / MM / YEAR

Participant's Name:

I, _____ (Name of the person taking consent)

Certify that I have followed the SOP for the study and have explained the study information to the study participant named above, and that s/he has understood the nature and purpose of the study and consents to the participation in the study. S/he has been given opportunity to ask question which have been answered satisfactorily.

Investigator's Signature:

Date: _____ / _____ / _____

DD / MM / YEAR

Investigator's Name:

Appendix D: APPROVAL LETTER



Strathmore
UNIVERSITY

2nd February 2018

SU-IRB 0156/18

Dr. Leonard Gacheru Gikera
P.O Box 2318 00202
Nairobi,
Kenya.

Email: gacherugikera@yahoo.com

Dear Dr. Gikera

REF Student ID: MBA/28925; **Protocol ID:** SU-IRB 0156/18
An Assessment of the Implementation of the Free Maternal Services in Murang'a County Referral Hospital

We acknowledge receipt of your application documents to the Strathmore University Institutional Review Board (SU-IRB) which includes:

1. Study Proposal dated November 2017
2. Participant Information and Consent form dated 2nd February 2018
3. Data Collection Tools- Questionnaire and Interview Guide dated November 2017
4. CV

The committee has reviewed your application, and your study "*An Assessment of the Implementation of the Free Maternal Services in Murang'a County Referral Hospital*" has been granted **approval**.

This approval is valid for one year beginning **2nd February 2018** until **1st February 2019**.

In case the study extends beyond one year, you are required to seek an extension of the Ethics approval prior to its expiry. You are required to submit any proposed changes to this proposal to SU-IRB for review and approval prior to implementation of any change.

SU-IRB should be notified when your study is complete. You must maintain a research file for at least 3 years after completion of the study. This file should include all correspondence with SU-IRB, original signed consent forms, and study data.

Thank you

Sincerely,

Amina Salim
Regulatory Affairs Fellow

